The Relationship Between Status Variables and Criminal Thinking in an Offender Population

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The authors examined the relationship between criminal thinking factors of control, cognitive immaturity, and egocentrism, and offender characteristics (i.e., age, education, sentence length, time served, reception of mental health services) in 435 adult male offenders. Results of a canonical correlation analysis identified 1 significant and meaningful relationship between a criminal thinking set containing all 3 factors and an offender characteristic set containing all characteristics except for age. Higher levels of criminal thinking on all 3 factors were associated with more education, longer sentence length, more time served, and lack of reception of mental health services. Implications for providing treatment with offenders that targets reducing criminal recidivism and future directions for investigation into the relationship between dynamic recidivism risk factors and offender characteristics are discussed.

Keywords: criminal thinking, criminal attitudes, MOTS, RNR, canonical correlation

Although state and federal prison facilities in the United States are collectively referred to as the “correctional system,” staggering rates of criminal recidivism undermine the ability of the criminal justice system to demonstrate its ability to be correctional in nature. A dramatic example is evident in a study conducted by the U.S. Department of Justice (DOJ) Office of Justice Programs (2007). The DOJ evaluated rates of recidivism over a 3-year period for 272,111 prisoners in 15 states released into society in 1994. These data accounted for approximately two thirds of all prisoners released from U.S. custody in 1994. Within the 3-year period of the investigation, 67.5% of the prisoners received a new criminal charge, 46.9% were found guilty of the charge, and 25.4% were reincarcerated for the charge (U.S. DOJ Office of Justice Programs, 2007). In addition, several other released inmates were reincarcerated for technical violations, including violations of parole conditions. Overall, slightly over half (i.e., 51.8%) of all released prisoners in this study were reincarcerated within the 3-year period of the investigation (U.S. DOJ Office of Justice Programs, 2007).

The alarmingly high rate of criminal recidivism suggests that many of the people processed through the criminal justice system are repeat offenders. Such involvement with the criminal justice system negatively affects both the offenders and members of their social networks. At the societal level, however, consequences are even more drastic. Local, state, and federal governments spent more than $60 billion on corrections in 2005 (U.S. DOJ Office of Justice Programs, 2007). Programs to prevent criminal behavior prior to first-time offending may reduce rates of incarceration. Given such high rates of reoffending, however, reduction in criminal recidivism is important to alleviate the financial, physical, and emotional damage caused by high rates of criminal behavior in the United States.

Effectively reducing offenders’ criminal behavior, however, has proven an arduous process. In an early review of empirical studies...
focused on the effectiveness of prison reform, Martinson (1974) surmised that no effective treatment strategies for reducing criminal recidivism existed. In recent decades, however, researchers and proponents of offender rehabilitation postulated that certain types of treatment can be effective in reducing rates of recidivism with certain types of offenders (e.g., Andrews, Bonta, & Wormith, 2006; Andrews et al., 1990; Gendreau, 1996a, 1996b; Wormith et al., 2007). Andrews et al. (1990) conducted a meta-analysis of studies that examined treatment programs within prison systems and corresponding rates of criminal recidivism. They noted that differential rates of recidivism corresponded to several main aspects of both the rehabilitative programs and the offenders participating in the programs. These main aspects resulted in the development of three main principles for effective treatment in reducing criminal recidivism: the risk principle, need principle, and responsivity principle (Andrews et al., 1990).

The risk principle states that optimal gains for reducing recidivism are attained when intensive treatment is provided to offenders at a high risk for recidivism (Andrews et al., 1990). High risk should not be based solely on seriousness of offense; it is established by conducting an in-depth assessment for prediction of recidivism risk factors (Andrews et al., 1990; Gendreau, 1996a). Primary risk factors include prior criminal behavior, antisocial personality, antisocial thinking, and antisocial associates (Andrews et al., 2006). Of these risk factors, prior criminal behavior is static (i.e., unable to be changed), and antisocial thinking and antisocial associates are more dynamic than antisocial personality. The need principle asserts that, to reduce recidivism, treatment of offenders should focus on the dynamic risk factors that perpetuate criminal behavior (i.e., dynamic criminogenic needs; Andrews et al., 1990; Gendreau, 1996a). More specifically, treatment should target and alter (a) procriminal ideals, beliefs, attitudes, and reasoning; (b) cognitive and emotional states of antagonism, anger, resentment, and rebelliousness; (c) criminal self-identification; and (d) association with criminals (Andrews et al., 2006). Finally, the responsivity principle comprises two main tenets. The first, general responsivity, promotes the effectiveness of cognitive, behavioral, and social learning–based treatment (Andrews et al., 2006) that identifies and modifies criminal thinking, beliefs, and attitudes (Gendreau, 1996b). The second, specific responsivity, promotes individualization of treatment based on a three-way interaction between the type of therapy employed, the individual offender’s learning style, and techniques employed by the therapist(s).

Although implementation of any of the individual principles of risk–need–responsivity (RNR) into programs aimed at reducing recidivism will be beneficial, the best results are realized in an interactive effect when all three principles are incorporated (Andrews et al., 1990). Succinctly stated, effective programs to reduce recidivism use cognitive–behavioral methods to address criminogenic needs of offenders who are at high risk of recidivism (Gendreau, 1996a). Unfortunately, optimal reduction of recidivism associated with RNR has not been widely realized because of problems with implementation of these principles properly into actual practice with offenders (Andrews, 2006). In a correctional system marked by an increasing population of offenders and scarce resources, it is not practical to provide intense, individualized services to the highest risk offenders (Andrews & Dowden, 2006). With such difficulty reconciling differences between ideal treatment methods and constraints in the correctional environment, using assessment measures to identify offenders who will benefit most from treatment consistent with RNR principles is imperative (Gendreau, 1996a). To be consistent with RNR-based treatment, therefore, such assessments must focus on the previously discussed dynamic criminogenic risk factors, including dysfunctional thinking patterns.

The most efficient means of determining to whom treatment should be provided is to identify groups of offenders at higher risk for reoffending by evaluating dynamic criminogenic needs. In accordance with the principle of specific responsibility, Akers and Jensen (2003) suggested that age, race, and gender may influence risk of recidivism on the basis of different social learning experiences associated with these demographic variables. In their meta-analytic study of treatment effectiveness in recidivism reduction associated with RNR principles, Andrews and Dowden (2006) predicted that demographic characteristics would not be associated with risk of recidivism. Although the meta-analysis demonstrated no
association between ethnicity and risk for recidivism, both age and gender were significantly associated with risk of recidivism (Andrews & Dowden, 2006). These results suggest that groups of offenders at higher risk of recidivism can be identified by basic offender characteristics.

Few studies, however, have examined the extent to which differing characteristics (e.g., demographic variables, incarceration variables, mental health status variables) relate to these dysfunctional styles of thinking in an offender population. In a study of adolescents, Dembo, Turner, and Jainchill (2007) found that higher levels of criminal thinking are associated with criminal history, drug use, familial dysfunction, and behavioral disorders in adolescents, and found that adolescents had higher levels of criminal thinking than adults had. In another study with juvenile offenders, Dembo, Jainchill, et al. (2007) found that juveniles categorized as having greater psychopathy demonstrated more criminal thinking. In adults, higher levels of criminal thinking have been associated with a history of non–white-collar offending (vs. a history of only white-collar offending; Walters & Geyer, 2004), incarceration in maximum security facilities (vs. medium and minimum security facilities; Walters, 1995), prior incarceration experience (Walters, 2003), substance use disorders (Lacy, 2000), and non-sex offending (vs. offenders with a history of child molestation; Hatch-Maillette, Scalora, Huss, & Baumgartner, 2001).

Not all examinations of criminal thinking, however, have provided such clear results. In a study of male and female offenders, Walters (2001) found a complex relationship between masculinity (in males) and femininity (in females) and criminal thinking. More specifically, a higher level of masculinity in males was associated with higher criminal thinking styles of assertion and self-deception but a lower criminal thinking style of avoidance. In females, higher levels of femininity were associated with a higher criminal thinking style of denying harm to others. Although the research literature illuminates the relationship between some aspects of offenders’ history and characteristics, several basic offender characteristics have not yet been examined as they relate to criminal thinking. Thus, the purpose of this study was to expand the knowledge of the relationships between offender characteristics and criminal thinking styles. An established relationship between previously unexamined offender characteristics and dysfunctional thinking may prove useful in predicting differential levels of faulty criminal thinking based on easily obtained status information.

Method

Participants

Participants consisted of 435 male offenders (mean age = 36.6 years, \(SD = 11.5\)) from the Texas Department of Criminal Justice. Participants were generally either Black (32.1%, \(n = 139\)), Hispanic (32.1%, \(n = 139\)), or White (27.5%, \(n = 119\)), and averaged 10.9 years of formal education (\(SD = 2.3\)). The index crimes for which participants were incarcerated varied (e.g., property crimes, drug crimes, violent crimes, sexual crimes). Participants’ mean sentence already served at the time of data collection was 5.5 years (\(SD = 5.3\)), and their mean total sentence length was 20.2 years (\(SD = 24.5\); range = 0.5–100 years). Most participants (83.2%, \(n = 362\)) denied reception of mental health services.

Materials

A standard consent form was used to inform potential participants about the nature and purpose of the study and for participants to provide consent to participate in the study. A demographic form included items regarding the participant’s demographic information (e.g., race, age, educational attainment), incarceration information (e.g., index offense, time served on sentence, sentence length), and an item regarding reception of mental health services.

Measure of Offender Thinking Styles

The Measure of Offender Thinking Styles (MOTS; Mandracchia, Morgan, Garos, & Garland, 2007) was created to empirically investigate the structure of criminal thinking, and was based on maladaptive cognition theories for both criminals (i.e., Samenow & Yochelson, 1976; Walters, 1990) and noncriminals (i.e., Beck, 1976; Ellis, 1992). See Mandracchia et al. (2007) for an in-depth description of the development of the MOTS. An exploratory factor
analysis of 77 thinking errors derived from these maladaptive cognition theories yielded a three-factor model for dysfunctional thinking of offenders. These three factors included Control (i.e., avoidance of fear; past and present yearning for power over others, oneself, and the environment), Cognitive Immaturity (i.e., reliance on cognitive shortcuts, including generalizing, categorizing, and judging; pattern of self-pitying), and Egocentrism (i.e., overly focused on one’s own importance; unrealistic expectations for oneself).

**Procedure**

Texas Department of Criminal Justice officials identified potential participants from the general prison population, and data collection sessions were conducted in a group setting. Participants were asked to complete the consent and demographic forms and the MOTS. See Mandracchia et al. (2007) for a more complete description of the data collection procedures.

**Results**

In the current investigation, we used a canonical correlation to examine the relationship between offender characteristics and criminal thinking. A canonical correlation is a statistical technique that allows an analysis of the relationship between two sets of variables and is similar to a multiple regression (Tabachnick & Fidell, 2001). In a canonical correlation, the values on several variables (together as a set) are used to predict the values on several other variables (also together as a set). Because both sets consist of several variables, many combinations of the variables in one set may relate to many combinations of variables in the other set. Therefore, whereas one combination of variables is sufficient to predict a single variable in a multiple regression analysis, multiple combinations of variables in each set may significantly predict one another in a canonical correlation (Tabachnick & Fidell, 2001).

A canonical correlation analysis was performed to evaluate the relationship between a set of status variables (i.e., age, time served in prison, sentence length, reception of mental health services) and scores for the criminal thinking factors of the MOTS (i.e., Control, Cognitive Immaturity, Egocentrism). Other status variables were not selected for data analysis because only interval data are appropriate for a canonical correlation. Reception of mental health services, however, was included in the analyses despite being a categorical variable because it is dichotomous and could be treated as interval data (i.e., 1 = yes, 2 = no).

Assumption of normality was met (i.e., based on examination of histograms and boxplots) for these data. Both sentence length and time served, however, were mildly skewed because of the nature of sentencing (i.e., more individuals incarcerated for less serious offenses and, therefore, relatively few long-term sentences issued and served). No variables demonstrated problematic multicollinearity on the basis of examination of Pearson correlations, and no problematic outliers were identified by use of histograms and box plots. Thus, no data were excluded from the analyses.

The canonical correlation analysis yielded three statistically significant canonical correlates (i.e., $p < .001$, $p = .001$, $p = .037$, respectively). Only the first of these, however, demonstrated a high enough correlation (i.e., .35; 12.3% variance explained between the two sets) between the set of status variables and the set of criminal thinking factors to be considered a meaningful relationship (using a typical cutoff correlation in canonical correlation analyses of .30; Tabachnick & Fidell, 2001). The other two correlates demonstrated well below 10% of the variance explained between the two canonical sets (i.e., 4.6% and 2.2%, respectively), and thus do not signify meaningful relationships between the sets of variables in the canonical correlates. The statistical significance of the two latter canonical correlates, despite the low proportion of variance explained, is likely attributed to the high number of participants in the investigation. Therefore, only the first canonical correlation is considered to represent a meaningful relationship between two sets of variables, and thus is the only canonical correlation appropriate for interpretation.

In the solitary meaningful canonical correlation, the status variables that loaded significantly to the set (i.e., those variables that yielded a loading of at least .300 to the set of status variables; Tabachnick & Fidell, 2001) were education, sentence length, time served, and reception of mental health services. Specifically, this canonical set was characterized by
more education, longer sentences, more time served, and absence of mental health services, and was therefore labeled Educated, Seasoned Criminals Without Psychological Services. None of the cross-loadings (i.e., association to the criminal thinking canonical set) were significant (i.e., all were below .300). Therefore, the variables in the status variable set did not account for a significant proportion of variance in the criminal thinking set. See Table 1 for canonical loadings and cross-loadings of the status variable set.

The other set in the canonical correlation included all three of the criminal thinking factor scores (i.e., Control, Cognitive Immaturity, and Egocentrism scores all demonstrated loadings above .300 to the set of criminal thinking variables). This canonical set was characterized by more need for control and reduction of fear, lazier thinking and decision-making strategies, and an intense focus on building up one’s self-esteem and self-image. As such, this canonical variate was labeled “Overall Maladaptive Thinking.” Only the Cognitive Immaturity cross-loading was significant (i.e., above .300), suggesting that Cognitive Immaturity accounts for a significant proportion of variance Educated, Seasoned Criminals Without Psychological Services See Table 1 for canonical loadings and cross-loadings of the criminal thinking factor set.

Table 1
Canonical Correlation and Canonical Loadings and Cross-Loadings for the Status Variables and Criminal Thinking Factors

<table>
<thead>
<tr>
<th>Measure</th>
<th>Canonical correlation</th>
<th>Canonical loading</th>
<th>Cross-loading</th>
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<tr>
<td><strong>Status variables</strong></td>
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<tr>
<td>Age</td>
<td>.164</td>
<td>.058</td>
<td></td>
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<tr>
<td>Education</td>
<td>.452*</td>
<td>.159</td>
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<tr>
<td>Sentence length</td>
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<td></td>
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<tr>
<td>Time served</td>
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<td>.163</td>
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</tr>
<tr>
<td>Mental health services</td>
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<td>.281</td>
<td></td>
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<tr>
<td><strong>Criminal thinking factors</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Control</td>
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<td>.195</td>
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<tr>
<td>Cognitive immaturity</td>
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<td>.349*</td>
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<tr>
<td>Egocentrism</td>
<td>.640*</td>
<td>.225</td>
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* Significant loading (i.e., above .300).

Discussion

The purpose of the current study was to investigate the relationship between offender characteristics and criminal thinking. Specifically, we used a canonical correlation analysis to examine the relationship between a set of status variables (i.e., age, education, incarceration sentence length, time already served, and reception of mental health services) and a set of criminal thinking factors (i.e., the Control, Cognitive Immaturity, and Egocentrism factor scale scores of the MOTS). Results of the canonical correlation demonstrated three statistically significant correlations between canonical sets (i.e., sets of status variables and sets of criminal thinking factors).

Only one of these statistically significant canonical correlations demonstrated utility in accounting for a substantial portion of variance between the two canonical sets. As such, only this canonical correlation was interpreted. The status variable set in this canonical correlation included all of the status variables except for age (i.e., education, sentence length, time served, reception of mental health services), and was labeled Educated, Seasoned Criminals Without Psychological Services. The criminal thinking set included all three of the MOTS criminal thinking factor scores (i.e., Control, Cognitive Immaturity, Egocentrism), and was thus labeled Overall Maladaptive Thinking. Together, the relationship between these sets represents a general conceptualization that could be considered “lifestyle criminals,” as the included variables suggest that a current problematic cognitive style that perpetuates criminal behavior is significantly associated with educated, untreated (by mental health professionals) offenders who have been in prison longer and are serving longer sentences.

RNR states that criminal recidivism can be effectively reduced by treating offenders who are at high risk for recidivism (Andrews et al., 1990). RNR further states that a procriminal thinking style is a major indicator of recidivism (Andrews et al., 2006). The limited resources in U.S. correctional systems (McGrath, Hoke, & Vojtisek, 1998), however, preclude in-depth individual assessment of offenders’ criminal thinking. Therefore, it is simpler and more practical to identify offenders with higher risk for criminal recidivism by using readily available
status information. The results of this study are particularly helpful for clinicians in determining which offenders will participate in recidivism-reducing intervention programming because the results show that offenders who endorse higher levels of criminal thinking typically (a) are not receiving mental health services, (b) have completed more years of education, (c) have received longer sentences, and (d) have served more time on their current sentence. Essentially, clinicians in correctional settings can use these four status variables to identify offenders who may be more likely to recidivate.

The results of this study identify several important individual characteristics in offenders that had not previously been linked with criminal thinking. In a correctional system with strained resources, strides toward being able to identify offenders at a high risk for criminal recidivism on the basis of easily attainable characteristics is promising. Although such simple means of identifying offenders with high levels of criminal thinking have not yet been realized, increasing knowledge in this area will alleviate demands on mental health treatment providers who are charged with the task of implementing programs toward reducing future criminal recidivism.

Despite the apparent practical benefits of identifying offenders with higher levels of criminal thinking, the underlying nature of the relationship between these status variables and criminal thinking factors remains unknown. Specifically, understanding that offenders who are more educated, have longer sentences, have served more time on their current sentence, and are not receiving mental health services demonstrated higher levels of criminal thinking does not explain why offenders with these characteristics demonstrated higher levels of criminal thinking. Feasible interpretations of the results of the current investigation may be that higher levels of criminal thinking are associated with (a) longer sentences because more serious offenses result from more procriminal thinking, (b) more time served because of the prisonization process that offenders undergo during their incarceration, and (c) lack of reception of mental health services because offenders’ dysfunctional thinking processes have not been challenged and reconstructed in a more positive manner.

These results are also important for clinicians who conduct treatment with incarcerated offenders. Consistent with RNR, these results emphasize the need to provide cognitive–behavioral interventions that are designed to alter antisocial cognitions to offenders who have experienced longer periods of incarceration without appropriate mental health services. In fact, given that these results resonate with other evidence that longer periods of incarceration can result in increased criminal thinking and attitudes (see Morgan et al., 2008), clinicians must be cognizant of the impact of incarceration on offenders’ antisocial cognitions, and clinicians should provide services accordingly. For example, offenders who have served longer sentences with no mental health contact should be evaluated for an overall maladaptive cognitive process prior to release and should receive appropriate cognitive–behavioral programming (e.g., the National Institute of Corrections Thinking for a Change program; Bush, Glick, & Tymans, 2006).

The current study has increased our understanding of which offender characteristics are related to criminal thinking; however, future studies need to examine the relationship between additional characteristics such as race, gender, spirituality/religiosity, relationships (e.g., family, friends, romantic partners), criminal behavior (e.g., onset, severity, type), and mental illness (e.g., onset, severity, type, past treatment). In addition, future study in this area should include an examination of other dynamic risk factors associated with criminal recidivism, including associating with other criminals (criminal associates), substance use, and criminal self-identification. Nevertheless, the results of the current study provide mental health practitioners with information about the relationship between several offender characteristics (i.e., education, time served, sentence length, reception of mental health services) and criminal thinking. Continued study of the relationships between offender characteristics and criminal thinking may assist practitioners in easily identifying offenders who are at higher risk of criminal recidivating, thus allowing scant resources to be most effectively used toward reducing criminal recidivism.

References


