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FAMILY AND SOCIO-DEMOGRAPHIC RISK FACTORS FOR PSYCHOPATHY AMONG PRISON INMATES

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Abstract

A field study was conducted with prison inmates to explore to what extent family and socio-demographic characteristics represent risk factors for psychopathy and delinquent behavior. A psychopathy scale derived from Hare's Revised Psychopathy Checklist and an instrument containing questions related to family and socio-demographic characteristics were administered to 178 prison inmates. The psychopathy scale's reliability ($\alpha = .92$) and construct validity were established. A confirmatory factor analysis provided support for a model showing a negative association between psychopathy and age at which the person stopped living with his family of origin, age of first incarceration, severity of delinquent acts, length of prison sentence, and length of time spent in prison. ($\chi^2/df = 1.40$, $FD = 1.34$, $PNI = 0.38$, $RMSEA = .04$, $IFI = .94$, $CFI = .94$ and $TLI = .93$). Furthermore, the model sustained a positive association of psychopathy with income and frequency of incarceration. Level of education and age were eliminated from the model given that no significant associations were found among these variables and psychopathy. The validation of this model enables to interpret research findings in relation with attachment theory.

Keywords: psychopathy; attachment; sentenced; delinquency; family.

Resumen

Se realizó un estudio de campo con un grupo de prisioneros para investigar en qué medida las características familiares, sociales y demográficas de éstos representan factores de riesgo para la psicopatía y la delincuencia. Se administró a 178 internos en prisión una escala para medir la psicopatía derivada de la PCL-R de Hare junto con un instrumento creado ad hoc con preguntas relacionadas con sus características familiares, sociales y demográficas. Esta escala de psicopatía se mostró fiable ($\alpha = .92$) y válida, validez de constructo. Un análisis factorial confirmatorio prestó a apoyo a un modelo que sustenta una asociación negativa entre la psicopatía y la edad de abandono del hogar de su familia de origen, la edad del primer internamiento en prisión, la gravedad del delito, la longitud de la sentencia y la cantidad de tiempo que estuvo internado en prisión ($\chi^2/df = 1.40$, $FD = 1.34$, $PNCP = 0.38$, $RMSEA = .04$, $IFI = .94$, $CFI = .94$ y $TLI = .93$). Por su parte, el modelo evidenció una asociación positiva entre la psicopatía, los ingresos económicos y la frecuencia de encarcelación. El nivel educativo y la edad fueron eliminados del modelo dado que no se encontraron asociaciones significativas entre estas variables. La validación de este modelo permite interpretar los hallazgos en relación con la teoría del apego.

Palabras clave: psicopatía; apego; sentenciado; delincuencia; familia.

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Introduction

Many research studies related to psychopathy have been conducted during the last 20 years in English-speaking countries while very few have been conducted in Spanish-speaking countries (Moral, 2010; Muñoz, Khan, & Cordwell, 2011; Rodríguez et al., 2011; Rufino, Boccaccini, & Guy, 2011). Researchers were initially concerned with establishing the construct's validity and reliability so it could be clearly differentiated from other psychiatric conditions or disorders. Hare (1991, 2003) for instance, concentrated his efforts in the validation of his Revised Psychopathy Checklist to predict recidivism and reoccurring delinquent behavior.

More recent studies have explored neuropsychological perspectives that establish relations between the brain's anatomy and the psychopaths' cognitive and affective functioning. A significant finding for instance is that the deficient functioning of the tonsils is associated with psychopathy (Marsh et al., 2011). Researchers should be very careful however to assume causal relationships between a deficient neurobiological structure and psychopathy. This could lead to theoretical reductionism, which has been highly criticized in psychology.

It is made theoretical reductionism whenever it is proposed a cause stemming from a dimension different from that of the effect under consideration. Studies related to conditioning for psychopathy, for instance, seek to find causes for this disorder in the same psychological realm in which it takes place. Attachment theory, in turn (Van der Horst, 2011) proposes that the psychopath personality develops when family members and caretakers fail to provide children with a sound support system that enables them to feel understood and accepted. Such proposition implies that said childhood experiences as well as the psychopathy take place in the psychological realm. The findings of recent research studies strongly suggest significant associations between early abusive experiences, neglect, parental conflicts, authoritarianism in the family, and subsequent problems of social adaptation and onset of psychiatric disorders (Dunst & Kassow, 2008; Gao, Raine, Chan, Venables, & Mednick, 2010; Mack, Hackney, & Pyle, 2011).

There are genetic, environmental and/or demographic risk factors that may contribute to psychopathy (Gunther, Vaughn, & Philibert, 2010) such as male gender (Guillet & Tamatea, 2012; Seara-Cardoso, Neumann, Roiser, McCrory, & Viding 2012), being one of the youngest siblings among a large number of brothers and sisters (Khan & Cooke, 2008; Lalumière, Harris, Quinsey, & Rice, 1998), academic failure

(Juárez, Villatoro, Gutiérrez, Fleiz, & Medina, 2005), family disintegration (McDonald, Dodson, Rosenfield, & Jouriles, 2011), alcoholism or antisocial behavior of the father (Moffitt, 2005; Rodríguez et al., 2011), low socio-economic status (Silva, 2003), presence of gangs in the neighborhood (Mobilli & Rojas, 2006), minority status (Ullrich, Farrington, & Coid, 2008), and school violence (Merrell, Buchanan, & Tran, 2006). An early onset of the problem is often manifested through antisocial behavior, academic failure, cruelty, recidivism of delinquent behavior, and failure of rehabilitation programs provided by the prisons. The previously-mentioned factors are also significant indicators of psychopathy among adult prisoners (e.g., Verona, Patrick, Curtin, Bradley, & Lang, 2004).

This study was conducted on a group of prison inmates and sought to explore the associations between family dynamics, age at which the inmates stopped living with their parents, age at initial imprisonment, current age, number of years of formal education, income, and psychopathy. At the same time, the study seeks to discover the effect of psychopathy on delinquent or illegal behaviors that lead to the subject's imprisonment, length of the prison sentence, the actual length of time spent in prison, and the frequency or number of the subject's imprisonment. Ultimately, the study aims at proposing a model to help to predict the onset of psychopathy. Such model will include familial, social and demographic characteristics including age of initial imprisonment. The model will hopefully also enable to determine how psychopathy can lead to eventual involvement with the judicial and law enforcement systems.

Method

Participants

This study relied on a cross-sectional survey administered to a convenience sample of 178 prison inmates in the city of Apodaca, Nuevo León, México. Study participants were male inmates currently serving sentences in a medium security prison. The mean age of participants is 34.6 years, ($SEM = 0.57$), with a range going from 22 to 58 years of age. The mean level of education is 7.52 years ($SEM = 0.17$), which is equivalent to one and a half years of education beyond elementary school. The level of education on study participants ranged from 1 to 11 years.

Procedure

In most instances, a questionnaire that included questions related to family background, history of delinquent or criminal behavior, and a psychopathy scale was administered to prison inmates in the institution's common dining area. In very few occasions the instrument was administered to inmates in their respective cells. Four university students from the Autonomous University of Nuevo León (México) served as interviewers and were responsible for data collection under the supervision of the first author. These included two undergraduate students from the criminology and psychology departments as well as two graduate students. Data collection was conducted during a two day period after obtaining the necessary authorization from the department of prisons and corrections of the State of Nuevo León (Subsecretaría de Administración Penitenciaria del Gobierno del Estado de Nuevo León) and after obtaining informed consent forms from all subjects or participants. Prison guards and administrators facilitated access to all prison inmates willing to participate in this study who were not busy working or subjected to some type of institutional punishment. Inmates were transferred to the institution's common dining area by the prison guards to be interviewed during the times of the day that the study interviewers had authorization to visit.

Instruments

A socio-demographic questionnaire was used to collect data and information related to criminal behaviors, family background, age, level of formal education, marital status, occupation, income earned prior to imprisonment (see Appendix A). A 36 item Likert type scale to measure psychopathy was developed and validated using question items from the Hare Revised Psychopathy Checklist (see Appendix B). Participants were asked to answer all questions in a four point scale: 1 (*Definitively, no*), 2 (*I do not think so*), 3 (*I think so*) and 4 (*Yes, of course*).

The two negative items were scored using a reverse scoring method. The items in this scale cover the affective and interpersonal dimensions of Hare's Revised Psychopathy Checklist, which possesses a very high Alpha Coefficient ($\alpha = .84$) (Hare, 2003). This Checklist is lowly correlated ($r < .30$) with intelligence, anxiety and depression tests. This is indicative of the instrument's validity and reliability (Campbell & Russo, 2001; García-Cadena, 2009).

A team of four master's level psychology students from the Autonomous University of Nuevo León, a psychiatrist and this study's principal investigator worked on the development of items for the psychopathy scale. Three additional independent experts were asked to rank order the severity of criminal offenses committed by the inmates in the study. The resulting items were included in the study's survey questionnaire. One of these three experts is a social psychologist with more than 25 years of experience in public safety issues. The second one is a young criminologist and the third is a researcher in the legal and forensic psychology. None of them were informed about the objectives of the research study or the study's theoretical model. Researchers averaged the severity rankings of the criminal offenses provided by these three experts and proceeded to include those mean ranking scores in subsequent analyses.

Data Analysis

The severity of the criminal offenses committed by the prison inmates was evaluated using a 1 to 30 scale utilizing a *Thurstone* approach. The resulting evaluations are considered reliable given that all scores are found within one quartile of the scale. The construct validity of the psychopathy instrument was determined through an exploratory factor analysis by principal components. This method seemed appropriate given the 5:1 subjects/variable ratio, which is a conventional standard in research (Henson & Roberts, 2006). Moreover, the instrument's reliability was determined through the calculation of Cronbach Alphas. Structural equation modeling was used to measure the effect of the independent variables (age at which they left the parents' home, current age, income, level of education, age of first imprisonment related to the psychopathy) on the dependent variables (total number of imprisonments, severity of criminal offenses, length of sentences, and actual amount of time spent in prison). Structural equation modeling was appropriate given that the number of elements in the matrix is greater than the number of parameters to be calculated (Kline, 2010). Data were analyzed with the assistance of SPSS 15 and AMOS 16.

Results

Table 1 identifies the criminal offenses that lead to the sentencing of subjects in this study, the score assigned to the severity of each offense by each of the three experts, and the mean scores assigned to each offense.

Table 1. Experts' Evaluation of the Severity of Criminal Offenses.

Criminal Offense	<i>M</i>
Homicide	28.33
Homicide and offenses against someone's health	28.33
Homicide and rape	28
Theft and homicide	27.33
Kidnapping and possession of weapons	27
Homicide and carrying firearms	26.67
Theft with violence and depriving others of their freedom	23.67
Comparable rape	22
Complicity in a homicide	21.67
Theft and rape	21.67
Theft with violence and homicide attempt	21.33
Domestic violence and rape	21
Theft with violence and shooting a firearm	19.67
Theft with violence	18.67
Attacks against someone's modesty or shame, theft, injuries and offenses against one's health	18
Offenses against one's health	17.67
Marihuana's trafficking, possession and sale	17.33
Theft and offenses against one's health	16.67
Theft and injuries	16
Theft and carrying firearms	14
Fraud	12.67
Carrying firearms	12.33
Injuries	12.33
Attacks against someone's modesty or shame	11.67
Simple theft	9.67
Damages to someone else's property	9
Traffic accidents	9
Damages	8.67

Note. *M* = Mean evaluation score of the severity of criminal offenses provided by three experts using the Thurstone approach. The range of scores was in all the crimes assessed within one quartile of the measurement scale (7.5).

The psychopathy scale has 36 items and was validated through an exploratory factor analysis of principal components resulting in a single 13 item dimension (see table 2). We selected the items with the highest factor loadings ($>.50$) in order to get the best construct indicators and to facilitate the necessary adjustments to the structural model we seek to develop. The internal consistency of the 13 items is ($\alpha = .92$). The mean score of all subjects on this scale is 2.28 with a standard deviation of 0.83, an asymmetry of -0.08, and a kurtosis of -1.56. Table 2 shows the factor loadings and the final communalities estimates (portion of the variance of the item explained by the factor or shared variance) of the 13 items. This factor explains 52.54% of the total variance. The correlations matrix for the 13 items enabled to extract the main factors: Its KMO index value was very high (.94), the Bartlett test enabled to reject its equivalency to an identity matrix, $\chi^2(70) = 995.12$, $p < .01$ and its determinant was close to zero ($< .01$) while reaching 91% (71 out of 78) of medium strength correlations (from .30 to .69) with a variation from .13 to .70 and a mean of .47.

Table 2. Final Communalities Estimates and Factor Loadings of Items Extracted from a Single Dimension of Psychopathy.

Items	Final Communalities	Factor Loadings
12. It is justified to lie to protect yourself	.71	.84
24. I enjoy deceiving others	.71	.84
17. If I do harm to others is because they deserve it	.69	.83
10. I enjoy lying	.67	.82
28. I manipulate other people to get what I want	.67	.82
15. Lying is justified in order to get what you want	.63	.80
27. It is correct to make others suffer if they deserve it	.62	.79
19. I feel the pain of others in my own flesh	.45	.67
8. The best thing I can do is to tell the truth	.43	.66
30. I am surrounded by lot's of dumb and stupid people	.36	.60
34. Only dumb people get robbed	.31	.56
29. I reach my goals taking other people into account	.30	.55
36. Dumb people deserve to be deceived	.26	.51

Note. Extraction Method: Principal Components.

In the initial structural model two variables assumed to be predictors of psychopathy were found not to be significant and were consequently excluded. These included: level of education ($\beta = -.02, p = .81$) and age ($\beta = -.07, p = .42$). The degrees of freedom of the final model finally reached values from good ($\chi^2/df = 1.40 < 2, df = 1.34 < 2, PNI = 0.38 < 1, \text{ and RMSEA} = .04 < .05$) to adequate ($IFI = .94 > .90, CFI = .94 > .90, \text{ and TLI} = .93 > .90$) (Moral, 2006). In this model, age of initial imprisonment ($\beta = -.35, p < .01$) and age until which inmates lived with their parents ($\beta = -.25, p < .01$) showed significant negative correlations with psychopathy. Further analyses, revealed a significant positive association between income and psychopathy ($\beta = .17, p < .05$). Significant negative associations were also found between psychopathy and severity of criminal offenses ($\beta = -.25, p < .05$), length of sentence ($\beta = -.55, p < .01$) and actual length of imprisonment ($\beta = .36, p < .01$). A significant positive association was found between psychopathy and frequency of imprisonment ($\beta = .22, p < .01$). Psychopathy accounted for 21% of the variance in this model while it also explained 31% of the variance of the length of the sentence, 13% of the variance of the actual length of time spent in prison, 6% of the variance of the severity of the criminal offense, and 5% of the variance of frequency of imprisonment (see Figure 1).

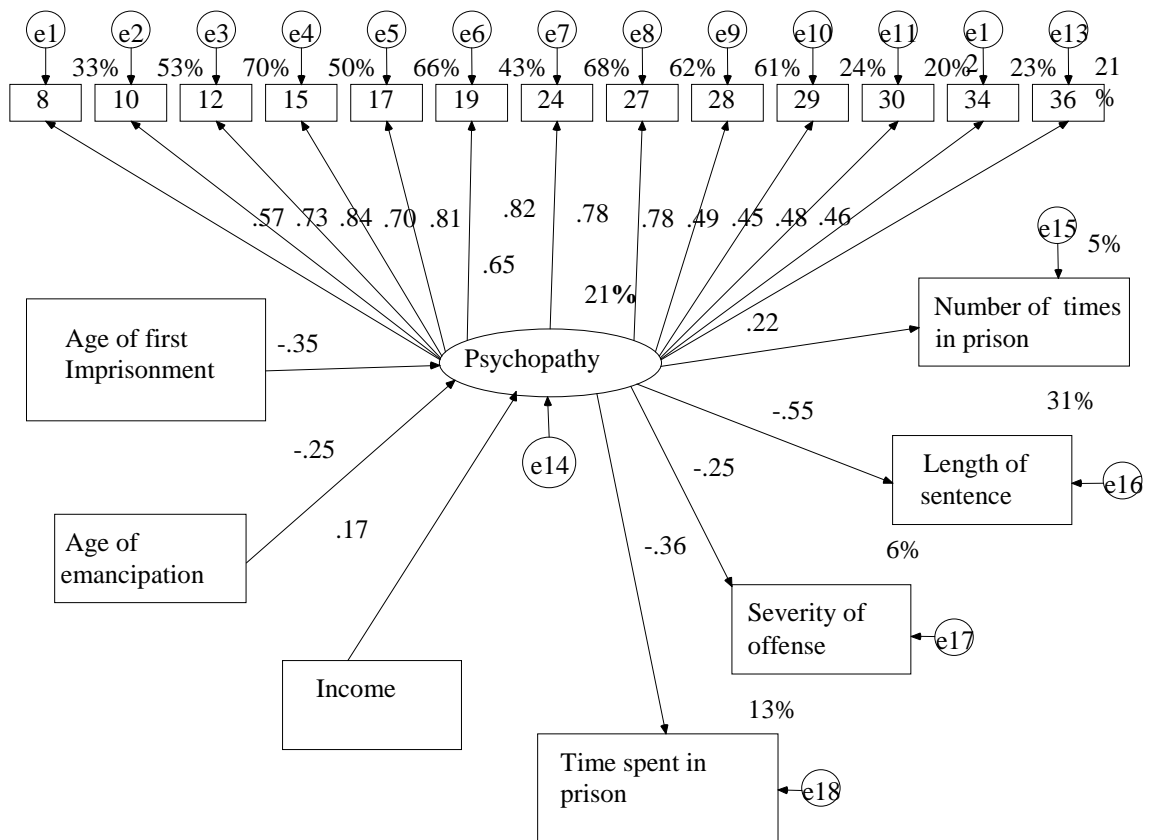


Figure 1. Standardized Model Estimated by the Maximum Likelihood Method.

Discussion

Most explanations of personality disorders focus on early stages of development and assume problems in child rearing and family structure that resulted from the loss of one of the parents through divorce or death (Rutter, 2005). According to attachment theory, children lacking the attachment to a significant adult figure are unable to empathize and care about others (Van der Horst, 2011). It is difficult to objectively track down early experiences and even more difficult to measure the effects of those experiences on people's current thoughts and feelings.

This study found a significant association between the age at which prison inmates left their parents' homes and psychopathy among a group of prison inmates in a medium security prison in Apodaca, Nuevo León, México. Findings suggest that the lesser the time subjects spent in their homes of origin, the higher their level of psychopathy will be. The subgroup of subjects diagnosed as psychopaths lived at their homes of origin an average of 13 years while inmates not diagnosed as psychopaths lived at their homes of origin an average of 18 years. This finding suggests the possibility that the previously mentioned 5 year difference enabled inmates without psychopathy to develop the capacity to empathize and care about others, even though our study design does not enable us to clearly establish cause and effect relationships. It is possible that separating too early from the protection of one's family of origin may be a risk factor for psychopathology and more specifically for psychopathy.

Available psychological literature proposes that definite detachment could develop after prolonged separation from an attachment figure during the first three years of life (Dunst & Kassow, 2008). This study however did not attempt to test this proposition, which in our opinion deserves more rigorous research. It would be worth discovering to what extent the prolonged lack of access of children to attachment figures may contribute to psychopathy and to what extent psychopathy may lead to criminal behavior. By attachment figures we mean persons to which normally children become attached and who children prefer over other individuals.

The findings about the negative associations between psychopathy and the severity of criminal offenses, the length of the sentence, and the actual length of time spent in prison are consistent with those reported by Verona et al. (2004) and support their conclusions that there is no cause and effect relationship between psychopathy and

violence, and that the delinquent acts of psychopaths tend to be instrumental in nature and they do not necessarily cause harm to their victims.

The findings of this study also support studies conducted in English speaking countries showing a negative association between age of initial imprisonment and the degree of psychopathy, and a positive association between psychopathy and the number of imprisonments and the recidivism of juvenile delinquency (Hart & Hare, 1997, Hemphill, Hare, & Wong, 1998). All the previous findings are related to factor 1 of the psychopathy scale covering the socio-affective dimension.

Finally, we recommend the use of our psychopathy scale in penal institutions in order to separate or differentiate between psychopath and non-psychopath inmates. This would enable such institutions to provide inmates with appropriate and necessary education and treatment. Different living spaces could be designated for members of these two groups. Services could also be provided to psychopath inmates to help them with their social and affective functioning and development. Therapy sessions could focus on the role of the therapist as an attachment figure who provides unconditional acceptance. The therapeutic relationship would help create a solid emotional and interpersonal foundation, which psychopath inmates very much need (Ansbro, 2008). Obviously, it would be best to simultaneously research the potential positive effects of the previous recommendations in a long term study in at least a medium security prison.

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Appendix A

Potential predictors and indicators of psychopathy

1. What was your estimated weekly gross income prior to imprisonment? _____
2. Until what age did you live with your parents? ____
3. How many times have you been in prison? ____
4. At what age were you imprisoned for the first time? ____
5. How many consecutive years and months have you spent in prison? _____
6. What criminal offense were you accused of? _____
7. If you have already been sentenced, how many years have you been sentenced to? _____

Appendix B

Psychopathy Scale

1. The worst is to deceive others.
2. I m not at fault when I destroy the belongings of others, if they deserve it.
3. I always get what I want even if doing so damages other people.
4. People who do not take care of their belongings at responsible for having them stolen.
5. Almost nobody loves other people.
6. I have sometimes loved another person.
7. Do unto others as you would like for them to do unto you.
8. The best thing I can do is to tell the truth.
9. I worry about the feelings of others.
10. I enjoy lying.
11. I have to be careful about what I say because I could offend others.
12. Lying is justified if you do it to protect yourself.
13. I do not experience remorse when I harm other people
14. I do not worry about what happens to other people.
15. Lying is justified in order to get what you want.
16. It is just for others to make me suffer if I made them suffer first.
17. If I do harm to others is because they deserve it.
18. People who lye are intelligent.
19. I feel the pain of others in my own flesh.
20. Almost nobody hates other people.
21. Almost nobody experiences fear.
22. When somebody neglects his/her belongings, he/she is responsible for their theft.
23. It is immoral to deceive others.
24. I enjoy deceiving others.
25. I will do anything in order to get what I want.
26. The greatest thing is to lye without getting caught.
27. It is correct to make others suffer if they deserve it.

28. I manipulate other people to get what I want.
29. I reach my goals taking other people into account.
30. I am surrounded by lots of dumb and stupid people.
31. I have sometimes hated other people.
32. It is not my problem if others suffer because of what I do.
33. I have sometimes been afraid of something or someone.
34. Only dumb people get robbed.
35. It is people's fault if others take advantage of them because they are stupid.
36. Dumb people deserve to be deceived.

Instructions

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