



The culture of honor as the best explanation for the high rates of criminal homicide in Pernambuco: A comparative study with 160 convicts and non-convicts



Monica Gomes Teixeira Campello de Souza^a, Bruno Campello de Souza^{a,*}, Wolfgang Bilsky^b, Antonio Roazzi^a

^a Universidade Federal de Pernambuco, Brazil

^b University of Muenster, Germany

ARTICLE INFO

Article history:

Received 1 December 2014

Accepted 30 March 2015

Available online 6 January 2016

Keywords:

Homicide

Criminology

Culture of honor

Models

ABSTRACT

The present work aimed to investigate the propensity towards criminal homicide using a broad approach, encompassing theories based on socioeconomic frustration, decision-making processes, emotional attachment, testosterone, moral development, moral values, and the culture of honor. A total of 160 adult Brazilian men completed a questionnaire, various psychological tests, and right-hand digit ratio measurements. The findings discarded all theories tested, except the culture of honor. It is concluded that, in the region, public policies for the reduction of the rate of homicides must be specific to that crime and address cultural issues regarding honor and moral satisfaction.

© 2015 Colegio Oficial de Psicólogos de Madrid. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

La cultura del honor como mejor explicación de los elevados índices de homicidios criminales en Pernambuco: estudio comparativo con 160 condenados y no condenados

RESUMEN

El presente trabajo tuvo como objetivo investigar la tendencia al homicidio criminal utilizando un enfoque amplio, que abarca las teorías basadas en la frustración socioeconómica, los procesos de toma de decisiones, el apego emocional, la testosterona, el desarrollo moral, los valores morales y la cultura del honor. Un total de 160 hombres brasileños adultos completaron un cuestionario, varias pruebas psicológicas, y mediciones de la relación dígitos de la mano derecha. Los resultados sugieren descartar todas las teorías evaluadas salvo la cultura del honor. Se concluye que en la región las políticas públicas para la reducción de la tasa de homicidios deben ser específicas para este tipo de delito y considerar las cuestiones relacionadas con la cultura del honor y la satisfacción moral.

© 2015 Colegio Oficial de Psicólogos de Madrid. Publicado por Elsevier España, S.L.U. Este es un artículo Open Access bajo la CC BY-NC-ND licencia (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Palabras clave:

Homicidio

Criminología

Cultura del honor

Modelos

The Culture of Honor as the Best Explanation for the High Rates of Criminal Homicide in Brazil

In the scientific studies of crime, there are many possible factors proposed as explanations for criminal behavior, including

* Corresponding author: Rua Gervásio Campello n° 102. Prado. Recife. Pernambuco, Brazil.

E-mail address: bcampello@uol.com.br (B. Campello de Souza).

<http://dx.doi.org/10.1016/j.apj.2015.03.001>

1133-0740/© 2015 Colegio Oficial de Psicólogos de Madrid. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

psychology, biology, society, and culture. However, when it comes to homicides, there are relatively few studies that address this type of crime specifically, and most of them deal each only with a small number of the large variety of possible causal factors (Brookman, 2005; Eisner, 2013). This is a regrettable state of affairs when one considers the widespread nature of the problem and its high toll for society in general, particularly in countries like Brazil, which historically has displayed a very high rate of homicides, especially in the states of Bahia, Paraíba, and

Pernambuco (United Nations Office on Drugs and Crime - [UNODC, 2013](#)).

The present paper attempts to contribute to the scientific knowledge of homicides and their causes by means of an investigation encompassing a broad variety of theories, including economic frustration, moral development, moral values, decision-making processes, emotional attachment, testosterone, and the culture of honor. Given the high prevalence of that type of crime in Brazil in general and Pernambuco in particular, the study focuses on that location.

General Theories of Crime

Economic Frustration

Inspired by an analysis of the increase in suicide during periods of rapid social change, Durkheim proposed the concept of *anomie* (lawlessness) based on the view that crime is an antisocial behavior that arises not from the individual but from the dynamics of social forces themselves ([Durkheim, 1978](#); [Merton, 1968](#)). His idea is that society's values tend to instill in its members various socio-economic goals that, given the limited structure, eventually prompt them to go outside established social norms, a state of "absence of norms". Under this kind of explanation, homicide is in part opportunities to attain them, leading to tensions of a larger set of behaviors arising from socioeconomic frustration, a form of innovation that, however lamentable, is still a force of change ([Durkheim, 1978](#); [Merton, 1968](#); [Michener, DeLamater & Myers, 2005](#); [Snell, 2006](#)).

Moral Development

[Piaget \(1994\)](#) and [Kohlberg \(1981, 1989, 1992\)](#) considered morality as a part of intelligence and, therefore, developed by means of a dynamic adaptive internal organization that occurs during interactions with the external world. Moral thinking, therefore, is considered by them as the result of the interplay between individuals and their social environment, with a predictable pattern of development (phases) as a consequence of his or her interactions with the world. [Stams et al. \(2006\)](#) did a meta-analysis of 50 well-known studies involving comparisons between juvenile delinquents and their non-delinquent peers that identified a strong tendency for the youths with criminal records to present a lower level of moral development as defined by Piaget and Kohlberg, even when one controlled for socioeconomic status, gender, age, and IQ.

Moral Values

[Gouveia, Milfonat, and Guerra \(2013\)](#) produced a typology of basic human values that identifies three major categories: personal, central, and social. Personal values involve the search for individual advantages and interests, subdivided into experimentation and realization. Central values are a mix between individual and collective perspectives, subdivided into existence and supra-personal. Social values are directed towards others, with an interpersonal focus, subdivided into normative and interactive. Studies done with adolescents suggest that personal values are associated with a greater propensity to criminal and antisocial conduct, while social values are linked to a lower disposition towards such behavior ([Formiga, 2006](#); [Formiga & Gouveia, 2005](#)).

Theories of Violent Crimes

Forms of Decision Making

Economist George Loewenstein proposes that human behavior as a whole, and decision-making in particular, are the result

of the interaction of at least two distinct neural systems, one being the "affective" (emotion and intuition) and the other the "deliberative" (rationality and logic). According to him, one system tends to conflict with the other, becoming stronger as a consequence of the weakening of its counterpart. This is an empirically successful model that incorporates several developments in economics, psychology, and neurosciences that occurred in the last few decades ([Lobel & Loewenstein, 2005](#); [Loewenstein, Hsee, Weber, & Welch, 2001](#)). Using such descriptions, [De Melo \(2008\)](#) created a self-evaluation instrument to measure how the thinking in a decision-making situation may be more or less deliberative. The application of this score to a large sample of players in an online game produced very reliable results that were consistent with the expectations from [Lobel and Loewenstein \(2005\)](#). Assuming that human behavior is a consequence of decision-making systems, it follows that criminal behavior might be influenced by them. Indeed, [Loewenstein and O'Donoghue \(2006\)](#) found that violent crimes are associated to the workings of the affective system.

Attachment

Attachment theory proposes that human beings are programmed by natural selection to identify and follow a parent or surrogate that will act as a caregiver and protector until it is capable of fending for itself, thereby producing an advantage in probability of survival ([Bowlby, 1989](#); [Golse, 1998](#)). Relationships established with one's caregivers during childhood will influence his or her emotional and motivational structure throughout adult life ([Bowlby, 1990](#); [Cassidy, 1999](#); [Golse, 1998](#)), including both the ways they respond to the needs of their charges and the ways in which they fail to do so, with important implications for the personality being developed ([Waters, Hamilton, & Weinfield, 2000](#)).

[Ainsworth \(1978\)](#) identified patterns of attachment classified as secure (confidence in the caregiver's protection and care in stressful situation), ambivalent (lack of confidence in the caregiver and alternation between seeking help from him/her and demonstrating irritability), avoidant (feeling of being rejected by the caregiver and learning to hide one's needs). Later studies suggested a fourth type, called disorganized, usually stemming from abuse by the caregiver and characterized by lack of coherent coping strategies for situations involving stress or fear, constant impulsivity, and interactions ([Main & Hesse, 1990](#)).

Attachment theory is a perspective that has possible implications for violent crimes. [Osofsky \(1995\)](#) and [Overstreet \(2000\)](#) have associated disorganized attachment conditions in children and adolescents with aggression and anti-social behavior, while [Katz \(1999\)](#) found a significant link between avoidant attachment and felony charges for violent offenses.

Hormones

There is evidence that biology might also play a significant role in violent crimes, especially in the case of testosterone, which has been linked to "masculine" psychological and behavioral patterns regarding risk-taking and aggressiveness ([Van den Bergh & Dewitte, 2006](#)). The amount of that hormone that an individual was subject to in the womb during pregnancy, as well as blood concentrations in the adult, are associated to the ratio between the lengths of the index and annular fingers, and so is the propensity towards violent crimes ([Manning, Scutt, Wilson, & Lewis-Jones, 1998](#); [Van den Bergh & Dewitte, 2006](#)).

The Culture of Honor and Homicide

According to [Reed \(1982\)](#), in areas where the land was unfer- tile and herding was the main means of primary production

survival depended more on the individual than on the cooperation between the members of a community that was so important in more agricultural societies. Therefore, a herder, which was almost always a male, had to be aggressive and show, in words and deeds, that he was not weak, being it necessary to retaliate to even the smallest of threats to his standing. This characterizes the “culture of honor”, where an individual’s reputation is the central point of his work and self-esteem, and is associated with a high incidence of homicides. This is similar to the idea from [Wolfgang and Ferracuti \(1967\)](#) that criminality tends to be high in a subculture where violence is valued as a means of conflict resolution.

This culture of honor tends to be transmitted from one generation to the next, so that it is important to consider not only the place where an individual was born and raised, but also that of his ancestors ([Reed, 1982](#)). Indeed, there is experimental evidence that modern day individuals born and raised in places with a history of such a culture, such as the southern states of the U.S., tend to be more aggressive and confrontational in their responses to insult or intimidation than those born and raised elsewhere ([Cohen & Nisbett, 1996, 1997](#)), leading to increased homicide rates in those places where the culture of honor prevails ([Cohen, 1996, 1998](#)).

There is some criticism to the studies from [Cohen and Nisbett \(1994\)](#) and [Cohen \(1996\)](#) regarding the data sources and statistical methods used to corroborate the theory of the culture of honor as leading to an increased rate of homicides ([Chu, Rivera, & Loftin, 2000](#); [Loftin & Mcdowall, 2003](#); [Rivera, Chu, & Loftin, 2002](#)); however, these do not extend to the totality of the work done by Cohen and Nisbett in the matter, particularly the experimental investigations ([Cohen & Nisbett, 1996, 1997](#)). Also, there is some work from authors in other countries, such as [Alencar \(2006\)](#) and [Magalhães \(2009\)](#) in Brazil, suggesting honor-based motivations as the explanation for many of the homicides in northeastern portion of that country, which has a history of dry, unfertile land, and subsistence based on the herding of cattle and goat.

Research Problem

The main goal of the present paper is to contribute to the filling of the gap observed in the literature on homicide by simultaneously investigating a broad range of biological, psychological, and socio-cultural factors in an attempt to isolate the ones associated with that type of crime and sketch a more holistic model of this phenomenon.

Method

Participants

The sample studied was comprised of 160 male volunteers from Northeastern Brazil, approached between the months of September and November of 2009. The average age was 28.8 years ($SD = 8.09$), ranging individually from 18.1 to 77.3. Approximately 8% were illiterate, 49% had basic education, 42% high school level education, and 1% had gone to the university (without achieving a degree). Their mean income was of 1.8 minimum wages ($SD = 1.60$), varying individually from 0 to 10.

Of the total, 120 had been convicted and sentenced for various crimes and were doing time at a state penitentiary, while the remaining 40 had no criminal charge or conviction whatsoever. Both groups were statistically paired for age, income, and education.

Materials

- One form containing questions regarding the sociodemographic profile of the respondent, as well as socioeconomic frustration (difference between material aspirations and possessions) and motivation for the real (convicts) or hypothetical (non-convicts) crimes.
- A Brazilian version of the Experiences in Close Relationships-Revised (ECR-R) test of emotional attachment by [Fraley, Waller, and Brennan \(2000\)](#), validated by Roazzi (under preparation).
- A version of the Sociomoral Reflection Objective Measure (SROM) test of moral development created originally by [Gibbs et al. \(1984\)](#) and adapted and validated in Brazil by [Biaggio and Barreto \(1991\)](#).
- A deliberativeness test based on Loewenstein’s Dual Theory of Decision created by [De Melo \(2008\)](#) and adapted to the context of committing a crime (real or hypothetical).
- The Questionário dos Valores Básicos - QVB (Basic Moral Values Form) test of moral values by [Gouveia \(2013\)](#).
- One digital photograph machine, one plate of transparent glass measuring 30 × 30 cm in area and one cm in width, and an image processing software.

Procedures

With the support from the administrations of the penal correction facility, the 120 convicted criminals were interviewed in an administrative office room inside the penitentiary. Afterwards, age, income, and education figures were calculated so that a comparable group of 40 individuals with no criminal history could be interviewed in their homes, places of work, or in a discreet public location. All participants were volunteers and assured as to the absolute anonymity and confidentiality of their responses.

Each participant initially answered the forms for sociodemographic, economic frustration, and motivations for the crime (real one for the convicts and a hypothetical one for non-convicts). Then the tests for attachment (ECR-R), moral development (SROM), moral values (QVB), and deliberativeness were applied in a random order according to a Latin square. Finally, each participant was asked to place their right hand on the glass plate so that a digital picture (1600 × 1200 pixels) from a distance of 30 cm should be taken, with the images submitted later to image processing techniques to measure the lengths of the index and annular digits.

Results

Convictions

Roughly 46.7% of the convicts had committed intentional homicide, 5.8% homicide during a robbery, 37.5% non-fatal violent crimes, and 44.2% non-violent crimes, with 30.8% having more than one type of conviction. Out of the 47.5% that had committed homicide of any type, 87.7% did so intentionally, 1.8% during a robbery, and 10.5% in both situations.

Reliability Analysis

The Cronbach alpha for the tests and indexes used were fairly high (alpha > .70) for Deliberativeness (.83), Economic Frustration (.86), Basic Values-QVB (.73), and Attachment-ECR (.77). Regarding Moral Development, the SROM score had the lowest alpha of .36, though the Moralism score (additional items on the SROM test) had an alpha of .76.

Table 1
Age, Education, and Income for the Convicts that Committed or not a Homicide

| Variable | Homicide (n=57) | | No homicide (n=63) | | Mann-Whitney U | |
|-------------------------------|-----------------|-------|--------------------|-------|----------------|-------|
| | Mean | SD | Mean | SD | z | p |
| Age (Years) | 30.51 | 6.864 | 26.39 | 8.253 | 4.107 | < .01 |
| Level education (ordinal 1-8) | 4.16 | 1.424 | 4.11 | 1.309 | 0.432 | .68 |
| Income (minimum wages) | 1.96 | 1.967 | 1.83 | 1.614 | -0.181 | .87 |

Table 2
Psychological Tests, Socioeconomic Frustration, and Digit Ratio for the Convicts that Committed or not a Homicide

| Variable | Homicide (n=57) | | No homicide (n=63) | | Mann-Whitney U | |
|------------------------------------|-----------------|--------|--------------------|--------|----------------|-----|
| | Mean | SD | Mean | SD | z | p |
| <i>Deliberativeness (0-4)</i> | 2.07 | 1.252 | 2.40 | 1.277 | -1.348 | .19 |
| <i>Digit ratio</i> | 94.50% | 3.239% | 94.97% | 3.312% | -0.681 | .50 |
| <i>Economic Frustration (0-14)</i> | | | | | | |
| Possessions | 6.19 | 2.812 | 6.16 | 2.818 | 0.257 | .80 |
| Aspirations | 10.37 | 2.980 | 10.42 | 2.855 | 0.026 | .98 |
| Frustration | 4.18 | 2.765 | 4.25 | 2.994 | -0.236 | .82 |
| <i>Moral development</i> | | | | | | |
| SROM score | 275.88 | 43.868 | 269.44 | 38.250 | 0.508 | .62 |
| Moralism | 15.05 | 4.295 | 15.48 | 3.918 | 0.127 | .90 |
| <i>Moral values (1-7)</i> | | | | | | |
| Personal | 5.00 | 0.739 | 5.04 | 0.863 | -0.379 | .71 |
| Central | 6.02 | 0.611 | 6.05 | 0.655 | -0.353 | .73 |
| Social | 5.97 | 0.601 | 5.98 | 0.685 | -0.493 | .63 |
| <i>Attachment (1-7)</i> | | | | | | |
| Avoidance | 3.56 | 0.789 | 3.58 | 0.798 | -0.360 | .72 |
| Anxiety | 5.05 | 0.895 | 4.98 | 0.786 | 0.712 | .48 |

Group Comparisons

Table 1 compares, within the participants with a criminal history, those convicted of homicide to those convicted for some other type of crime regarding age, education, and income.

There was no statistical difference between the two groups regarding level of education or income, but those convicted of homicide were, on average, a little older than the other convicts.

Table 2 shows the comparison between convicts that committed or not homicides as to the results on the psychological tests, economic frustration, and right-hand digit ratio.

No significant differences were found between the convicts who had or not committed homicide in regards to any of the biological, social, and psychological variables studied.

Table 3 presents a comparison between the convicts and non-convicts regarding the results on the psychological tests, economic frustration, and right-hand digit ratio (testosterone index).

The convicts revealed themselves to be statistically more deliberative than the non-convicts, as well as to assign greater importance to social values. On the other hand, the economic frustration was statistically lower among the convicts than among the non-convicts, due to similar possessions but lower aspirations.

Motivations and Crimes

Table 4 compares the convicts who committed or not homicide of any type (either intentional or robbery-related) as to their motivations.

Table 3
Psychological Tests, Socioeconomic Frustration, and Digit Ratio for Convicts and Non-Convicts

| Variable | Convicts (n=120) | | Non-convicts (n=40) | | Mann-Whitney U | |
|------------------------------------|------------------|--------|---------------------|--------|----------------|-------|
| | Mean | SD | Mean | SD | z | p |
| <i>Deliberativeness (0-4)</i> | 2.24 | 1.270 | 1.63 | 1.497 | 2.579 | .01 |
| <i>Digit ratio</i> | 94.75% | 3.272% | 94.51% | 4.108% | 0.216 | .83 |
| <i>Economic frustration (0-14)</i> | | | | | | |
| Possessions | 6.18 | 2.804 | 6.70 | 1.951 | -1.073 | .29 |
| Aspirations | 10.39 | 2.903 | 11.90 | 2.836 | -3.463 | < .01 |
| Frustration | 4.22 | 2.876 | 5.20 | 2.875 | -2.099 | .04 |
| <i>Moral development</i> | | | | | | |
| SROM Score | 272.50 | 40.967 | 267.34 | 41.566 | 0.412 | .68 |
| Moralism | 15.28 | 4.089 | 15.25 | 6.192 | 0.933 | .35 |
| <i>Moral values (1-7)</i> | | | | | | |
| Personal | 5.02 | 0.803 | 5.00 | 0.948 | -0.213 | .83 |
| Central | 6.04 | 0.632 | 5.96 | 0.401 | 1.020 | .31 |
| Social | 5.98 | 0.644 | 5.46 | 0.587 | 4.546 | < .01 |
| <i>Attachment (1-7)</i> | | | | | | |
| Avoidance | 3.57 | 0.790 | 3.59 | 0.617 | -0.018 | .99 |
| Anxiety | 5.02 | 0.837 | 4.96 | 0.659 | 0.897 | .37 |

Table 4
Comparison between Convicts Who Had or Not Committed Homicide of Any Type as to the Motivations for their Crimes

| Motivation | Homicide (n = 57) | Non-homicide (n = 63) | Canonic test (p) |
|----------------|-------------------|-----------------------|------------------|
| Honor | 63.2% | 4.8% | < .01 |
| Material gains | 19.3% | 82.5% | < .01 |
| Social status | 15.8% | 9.5% | .30 |
| Other | 5.3% | 7.9% | .56 |

Table 5
Motivation towards Honor vs. Motivation towards Gains among the Convicts

| | | Motivation towards gains | |
|--------------------------|-----|--------------------------|----|
| | | Yes | No |
| Motivation Towards honor | Yes | 0 | 39 |
| | No | 63 | 18 |

Most of the convicts who had committed homicide presented “honor” as a motivation, whereas most of those who committed other crimes had “material gains” as a motivation, both differences being statistically significant. There were no significant differences regarding the other types of motivation.

Table 5 shows the relationship between motivation towards “honor” and motivation towards “gains” among the convicts on a 2 × 2 matrix.

There was a significant negative association between motivation towards “honor” and motivation towards “gains”, with no cases of both these motivations occurring simultaneously (though there were situations where neither were mentioned).

Logit Regressions

Table 6 shows, for the convicts, the best logit regression model obtained for having committed a homicide after successive attempts at using the remaining variables as predictors.

The model obtained was quite successful in differentiating the convicts that had or not committed homicide, being right in over 80% of the cases. Only two independent variables were identified as being statistically associated to homicides, one being “motivation towards honor” (positive association) and the other “motivation towards gains” (negative association).

Table 7 shows, for the whole of the sample (all, convicts and non-convicts), the best logit regression model obtained for having committed or not a homicide.

The model obtained for the whole sample is fairly similar to the one obtained for just the convicts, with a comparable overall

Table 6
Best Logit Model for the Convicts with Homicide as the Dependent Variable (n = 120)

| Independent variables | Coefficient | Impact on DV | Odds-ratio | Wald (p) |
|-----------------------------------|-------------|--------------|------------|----------|
| Motivation towards honor (0 or 1) | 2.26 | Positive | 9.56 | < .01 |
| Motivation towards gains (0 or 1) | -1.78 | Negative | 0.17 | < .01 |
| Constant | 0.22 | | | .64 |

Note. Correct = 81.7%; sensitivity = 80.7%; specificity = 82.5%; odds ratio = 19.69.
p < .01

Table 7
Best Logit Model for the Sample as a Whole with Homicide as the Dependent Variable (N = 160)

| Independent variables | Coefficient | Impact on DV | Odds ratio | Wald (p) |
|-----------------------------------|-------------|--------------|------------|----------|
| Motivation towards honor (0 or 1) | 1.70 | Positive | 5.48 | < .01 |
| Motivation towards gains (0 or 1) | -1.47 | Negative | 0.23 | < .01 |
| Interactional basic values | 0.52 | Positive | 13.23 | .04 |
| Constant | -3.83 | | | .01 |

Note. Correct = 80.0%; sensitivity = 64.9%; specificity = 88.3%; odds-ratio = 14.029
p < .01

success rate, including the associations with “motivation towards honor” and “motivation towards gains”. The main difference is the inclusion of the interactional basic values, with a positive association.

Multivariate Analysis

Diagram in Figure 1 shows the dendrogram for a cluster analysis of the main variables and indexes of the study for the convicts, using variables that are either dichotomous in nature or that have been dichotomized using the median as a cutoff point.

The graph clearly points to a structure where the crimes involving homicide (intentional homicide and robbery-related homicide) are clearly dissociated from the other types of crime (violent crimes without death and non-violent crimes), belonging to different clusters.

Diagram in Figure 2 shows the dendrogram for a cluster analysis of the main variables and indexes of the study for the whole sample, similarly to what was computed in diagram in Figure 1, adding the variables “convict” and “non-convict”.

The graph shows that the crimes involving homicide are in the same major cluster as being a “non-convict”, while the other types of crime are in the “convict” cluster.

Discussion

Failure of the General Theories

In the present study, no significant difference was found between the convicts who had or not committed homicide with regards to income, level of education, or economic frustration (Tables 1 and 2). Statistical differences in economic frustration were found between convicts and non-convicts (Table 3), but they were in the direction of the former having lower levels of frustration and not higher, because of lower aspirations on behalf of the convicts, as shown in the analysis (possibly due to diminished expectations resulting from the state of incarceration).

There was also no statistical difference found between convicts that had or not committed homicide as to their level of development (Table 2), nor did it find any difference between convicts and non-convicts in that regard (Table 3). It is important to note, however, that the poor reliability of the SROM score makes it possible that this absence of a finding might be due to an inadequacy of the instrument as applied in the present case.

Additionally, the results of the current investigation indicated no difference between the moral values of the convicts who had

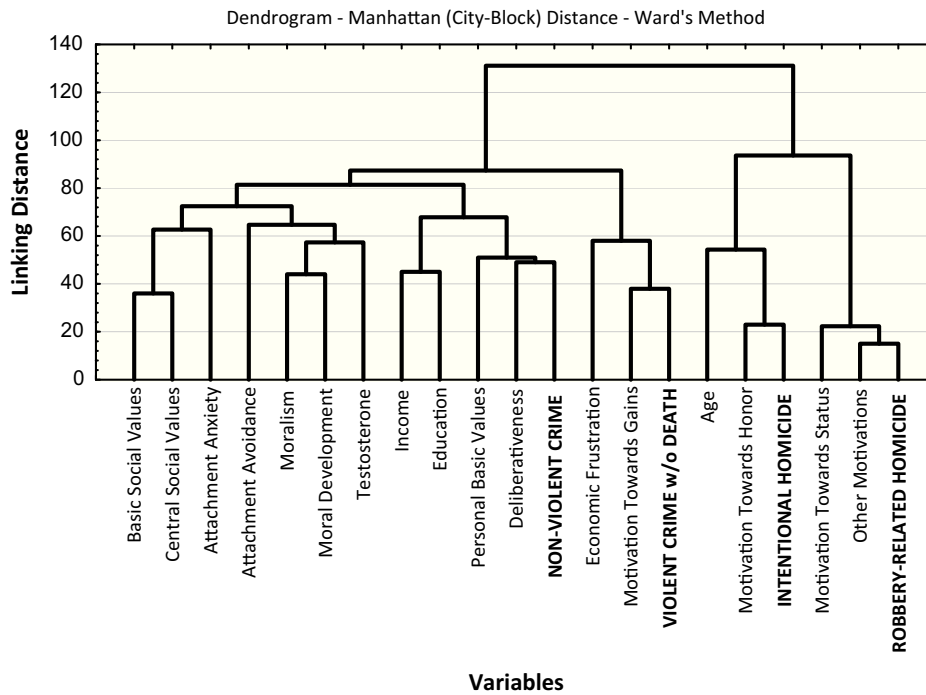


Figure 1. Dendrogram of the Variables in the Study for the Convicts (n = 120).

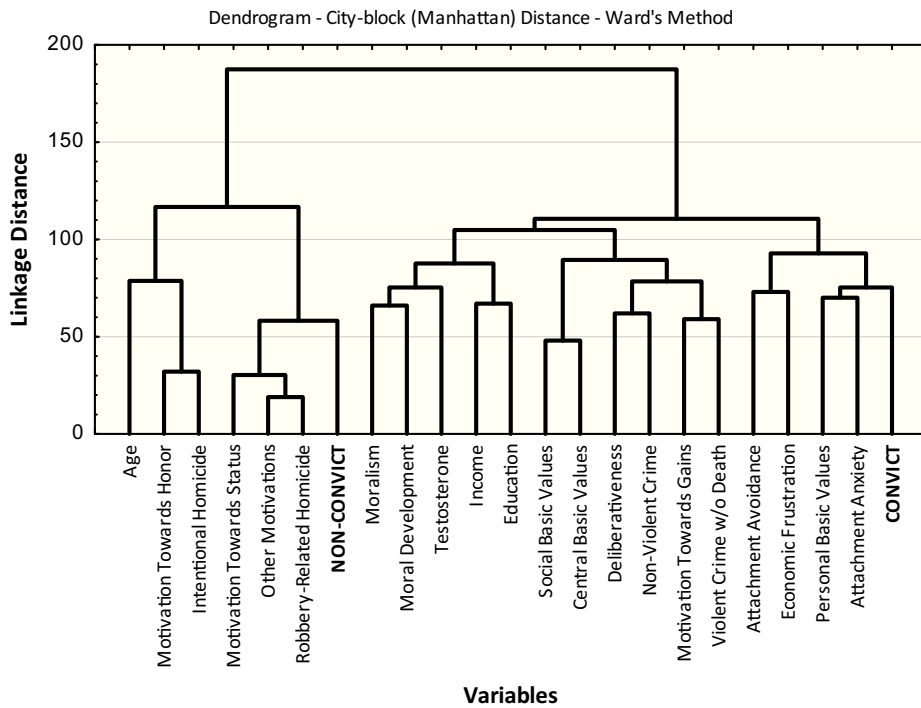


Figure 2. Dendrogram of the Variables in the Study for the Whole Sample (N = 160)

or not committed homicide (Table 2), and the difference that was found between convicts and non-convicts (Table 3) was in terms of the former having stronger social values (possibly a consequence of the incarceration, where forced cohabitation with potentially dangerous inmates could increase one’s appreciation of social harmony).

The logit regression models of homicide were able to account for more than 80% of the perpetrators of homicide, but discarded the measurements of economic frustration and moral development

as predictive variables (Tables 6 and 7). All the moral values were absent from the model obtained for the convicts, though the model for the whole sample included interactional basic values, but this last result is very likely a consequence of the difference between convicts and non-convicts resulting from incarceration, rather than a causal explanation *per se*.

The evidence found here suggests that three general theories of crime that were investigated, namely, economic frustration (Merton, 1968; Michener et al., 2005; Snell, 2006), moral

development (Stams et al., 2006), and moral values (Formiga, 2006; Formiga & Gouveia, 2005) are unable to account for the homicides found in Pernambuco.

Failure of the Theories of Violent Crimes

No difference was found in the present investigation between the deliberativeness or decision-making rationality of the convicts who had or not committed homicide (Table 2), and the difference that was found between convicts and non-convicts (Table 3) was in terms of the former displaying more intense deliberativeness (likely due to the fact that the convicts were answering questions referring to an actual decision made that led to an actual crime, whereas the non-convicts were answering questions regarding a hypothetical crime). There were also no differences between the groups compared in terms of attachment patterns or digit-ratio.

Deliberativeness, attachment patterns, and digit-ratio were also completely absent from the logit regression models of homicide found in the present study (Tables 6 and 7).

It would seem that the theories that attempt to explain violent crimes as a whole, such as decision-making (Loewenstein & O'Donoghue, 2006), attachment (Katz, 1999; Osofsky, 1995; Overstreet, 2000), and testosterone (Manning et al., 1998; Van den Bergh & Dewitte, 2006), apparently did not do any better than the general theories of crime in explaining homicidal behavior in the present investigation.

Homicide as a Crime Apart

The results of the cluster analysis of the variables studied in this paper in the context of the convicts (Figure 1) suggest that homicide is a peculiar type of crime which differs significantly from violent crimes without death and non-violent crimes. This would explain why the general theories of crime and the theories of violent crimes investigated here have all failed to explain the findings obtained, i.e., such theories might be successful in accounting for most crimes, but not this very different type. It also indicates that the understanding of the phenomenon of homicide requires an approach that is significantly different from the ones needed for other crimes.

Honor and Homicide

Of the individuals convicted for homicide, nearly 88% declared it to be intentional and 63% cited honor as a motivation, this being by far the most frequent motivation for that group (Table 4). In both logit regressions obtained (Tables 6 and 7), the motivation towards honor was positively associated with a conviction for homicide, and there was a close proximity between these two variables in both of the cluster analyses that were done (Figures 1 and 2), particularly when it came to intentional homicide. It appears that the perpetrators of homicide show a clear tendency to explain their actions by means of a need for moral satisfaction.

The motivation towards material gain was negatively associated with the motivation towards honor, to the point that the two motivations seem to be mutually exclusive (Table 5). In fact, both in a direct comparison (Table 4) and in the logit models (Tables 6 and 7), the motivation towards gain was associated to a reduced chance of having committed a homicide. It is as if, in the context of perpetrating crimes, seeking honor is antagonistic to seeking material gain, which is very consistent with the idea of “nobility” underlying the commonsense notion of “honor”. This interpretation is further corroborated by the results of the cluster analysis of the whole sample (Figure 2) where homicide was more associated with being a non-convict than to being a convict, almost as if it were not really a crime in the eyes of the men in the sample.

Of course, one could argue that the findings of the present study might be explained by murderers being prone to lying about the motives for their crime in order to obtain sympathy from society and a more lenient treatment from the authorities, with “honor” being a more acceptable motivation than things like greed, envy, anger, hate, disdain, etc. Such a possibility, however, has been, if not eliminated, at least minimized by the fact that all of the convicts participating in the research had already been judged and sentenced, as well as been assured the secrecy and anonymity of their individual responses to this study, therefore having no legal or social advantage in lying. Besides, it would be difficult for one to purposefully lie about their motivations in a way as to produce the impacts that were observed in the more complex statistical analysis involving numerous variables, such as cluster analysis and logit regressions.

The results of the present study seem to be in fairly good agreement with what one would expect from the theory of the culture of honor (Cohen & Nisbett, 1996, 1997; Reed, 1982), especially considering the geography, history, and culture of the Brazilian Northeast (Alencar, 2006; Magalhães, 2009).

The theory of the culture of honor is one of the few criminological models aimed specifically at homicide. The bulk of evidence shown in the present paper indicates that it is also the only theory, out of the seven that were investigated, that is capable of providing a satisfactory explanation of what has been observed.

Conclusions

The present paper attempted to study criminal homicide in Pernambuco, Brazil, from a broad perspective, encompassing prediction from seven theories, namely, economic frustration (Merton, 1968), moral development (Stams et al., 2006), moral values (Gouveia, 1998), decision-making processes (Loewenstein & O'Donoghue, 2006), emotional attachment (Katz, 1999), testosterone (Van den Bergh & Dewitte, 2006), and the culture of honor (Cohen & Nisbett, 1996; Reed, 1982).

The expectations from the general theories of crime (economic frustration, moral development, moral values) and the theories of criminal violence (decision-making, emotional attachment, testosterone) were contradicted by the absence of differences between the convicts that had committed or not homicide regarding the related variables. The few differences that were found between convicts and non-convicts (greater deliberativeness and social values, less economic frustration) can be considered as a consequence of the incarceration of the first more than causal factors. On the other hand, there were results in full agreement with the tenets of the theory of the culture of honor, with homicides being explained mainly by the motivation towards honor and a lack of motivation towards material gain. There was also a strong negative association between these motivations towards honor and towards material gain, a clear distinction between homicide and other types of crime, and homicides tending to be perceived as being outside of the normal sphere of crime (or as a “non-crime”).

It is concluded that, at least within the context of the Brazilian Northeast, homicide is a peculiar type of crime that cannot be explained by traditional or generic theories of crime, but can be well understood by considering cultural factors associated with honor and the seeking of moral satisfaction, rather than by a specific biological, psychological, or socioeconomic profile. Future studies on the subject should focus on detailing the process of how the “culture of honor” contributes to an increase in homicides, the mechanisms that originate such a culture and transmit it between generations, and the possible interventions that might be made in locations where such a culture is prevalent in order to reduce the occurrence of homicides.

Conflict of Interest

The authors of this article declare no conflict of interest.

References

- Ainsworth, M. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale: Erlbaum.
- Alencar, M. H. (2006). Moralidade e Homicídio: Um Estudo sobre a Motivação do Transgressor. *Psicologia: Reflexão e Crítica*, 19, 451–459. SSN 0102-7972. <http://dx.doi.org/10.1590/S0102-79722006000300014>.
- Biaggio, A., & Barreto, M. S. L. (1991). Adaptação brasileira de uma medida objetiva de julgamento moral. *Arquivos Brasileiros de Psicologia*, 43, 107–119.
- Bowlby, J. (1989). As origens do apego. In J. Bowlby (Ed.), *Uma base segura: aplicações clínicas da teoria do apego* (pp. 33–47). Porto Alegre: Artes Médicas.
- Bowlby, J. (1990). *Apego e perda: Apego - A natureza do vínculo* (Vol. 1) São Paulo: Martins Fontes.
- Brookman, F. (2005). *Understanding Homicide*. London: Sage Publications Ltda.
- Cassidy, J. (1999). The nature of child's ties. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 3–20). New York: The Guilford Press.
- Chu, R., Rivera, C., & Loftin, C. (2000). Herding and homicide: An examination of the Nisbett-Reaves hypothesis. *Social Forces*, 78, 971–987.
- Cohen, D. (1996). Law, social policy, and violence: The impact of regional cultures. *Journal of Personality and Social Psychology*, 70, 961–978. <http://dx.doi.org/10.1037/0022-3514.70.5.961>
- Cohen, D. (1998). Culture, social organization, and patterns of violence. *Journal of Personality and Social Psychology*, 75, 408–419. <http://dx.doi.org/10.1037/0022-3514.75.2.408>
- Cohen, D., & Nisbett, R. E. (1994). Self-protection and the culture of honor: Explaining southern homicide. *Personality and Social Psychology Bulletin*, 20, 551–567. <http://dx.doi.org/10.1177/0146167294205012>
- Cohen, D., & Nisbett, R. E. (1996). *Culture of Honor: The Psychology of Violence in the South*. Boulder, CO: Westview Press.
- Cohen, D., & Nisbett, R. E. (1997). Field experiments examining the culture of honor: The role of institutions in perpetuating norms about violence. *Personality and Social Psychology Bulletin*, 23, 1188–1199. <http://dx.doi.org/10.1177/01461672972311006>
- Durkheim, E. (1978). *O Suicídio*. São Paulo: Coleção Pensadores.
- Eisner, M. (2013). What Causes Large-scale Variation in Homicide Rates? In H. Kortüm & J. Heinze (Eds.), *Aggression in Humans and Other Primates: Biology, Psychology, Sociology*. Berlin/Boston: Walter de Gruyter.
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item-response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78, 350–365. <http://dx.doi.org/10.1037/0022-3514.78.2.350>
- Formiga, N. S. (2006). *Valores Humanos e Condutas Delinquentes: As Bases Normativas da Conduta Anti-Social e Delitiva em Jovens Brasileiros*. Retrieved from <http://www.psicolatina.org/Siete/valores.html>. Accessed October 2007.
- Formiga, N. S., & Gouveia, V. V. (2005). Valores humanos e condutas anti-sociais e delitivas. *Psicologia: Teoria e Prática*, 7, 134–170. Retrieved from <http://pepsic.bvs-psi.org.br/scielo.php?script=sci.arttext&pid=S1516-36872005000200006&lng=pt&nrm=iso>
- Gibbs, J. C., Arnold, K. D., Morgan, R. L., Schwartz, E. S., Gavaghan, M. P., & Tappan, M. B. (1984). Constructing and Validation of a Multiple-Choice Measure of Moral Reasoning. *Child Development*, 55, 527–536. <http://dx.doi.org/10.1111/j.1467-8624.1984.tb00312.x>
- Golse, B. (1998). *O desenvolvimento afetivo e intelectual da criança*. Porto Alegre: Artes Médicas.
- Gouveia, V. V. (1998). *La naturaleza de los valores descriptores del individualismo y del colectivismo: una comparación intra e intercultural* (Tese de doutorado não publicada). Universidade Complutense de Madrid, Espanha.
- Gouveia, V. V. (2013). *Teoria funcionalista dos valores humanos: Fundamentos. In aplicações e perspectivas*. São Paulo, SP: Casa do Psicólogo.
- Gouveia, V. V., Milfont, T. L., & Guerra, V. M. (2013). Functional theory of human values: Testing its content and structure hypotheses. *Personality & Individual Differences*, 60, 41–47. <http://dx.doi.org/10.1016/j.paid.2013.12.012>
- Katz, R. (1999). Building the Foundation for a Side-by-Side Explanatory Model: A General Theory of Crime, the Age-Graded Life-Course Theory, and Attachment Theory. *Western Criminology Review*, 1(2). Retrieved from <http://wcr.sonoma.edu/v1n2/katz.html>. Accessed July 2009.
- Kohlberg, L. (1981). *The philosophy of moral development*. San Francisco: Harper & Row.
- Kohlberg, L. (1989). Estádios Morales y Moralización. El Enfoque Cognitivo-evolutivo. In E. Turiel, I. Enesco, & J. Linaza (Eds.), *El Mundo Social en la Mente Infantil*. Madrid: Alianza Editorial S. A.
- Kohlberg, L. (1992). *Psicologia del Desarrollo Mental*. Bilbao: Desclée de Brouwer.
- Lobel, J., & Loewenstein, G. F. (2005). Emote Control: The Substitution of Symbol for Substance in Foreign Policy and International Law. *Chicago Kent Law Review*, 80, July. Retrieved from SSRN: <http://ssrn.com/abstract=757208>.
- Loewenstein, G. F., Hsee, C. K., Weber, E. U., & Welch, N. (2001). Risk as Feelings. *Psychological Bulletin*, 127, 267–286. <http://dx.doi.org/10.1037/0033-2909.127.2.267>
- Loewenstein, G., & O'Donoghue, T. (2006). We can do this the easy way or the hard way: Negative emotions, self-regulation and the law. *University of Chicago Law*, 73, 183–206.
- Loftin, C., & Mcdowall, D. (2003). Regional Culture and Patterns of Homicide. *Homicide Studies*, 7, 353–367. <http://dx.doi.org/10.1177/1088767903256553>
- Magalhães, C. L. (2009). A influência da vergonha no fenômeno da violência. *Revista do Tribunal Regional Federal da 1ª Região*, 21(1), 35–54.
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: is frightened and/or frightening parental behavior the linking mechanism? In M. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: theory, research and intervention* (pp. 161–184). Chicago: University of Chicago Press.
- Manning, J. T., Scutt, D., Wilson, J., & Lewis-Jones, D. I. (1998). The ratio of 2nd to 4th digit length: A predictor of sperm numbers and concentrations of testosterone, luteinizing hormone and oestrogen. *Human Reproduction*, 13, 3000–3004. <http://dx.doi.org/10.1093/humrep/13.11.3000>
- De Melo, C. (2008). *Emoção, intuição e deliberação na tomada de decisão: George Loewenstein em World of Warcraft (Dissertação, Mestrado)*. Recife: Programa de Pós-Graduação em Psicologia, Departamento de Psicologia, Universidade Federal de Pernambuco.
- Merton, R. (1968). *Sociologia: Teoria e estrutura*. São Paulo: Mestre Jou.
- Michener, H. A., DeLamater, J. D., & Myers, D. J. (2005). *Psicologia Social*. São Paulo: Thompson.
- Osofsky, J. D. (1995). The effects of exposure to violence on young children. *American Psychologist*, 50, 782–788.
- Overstreet, S. (2000). Exposure to community violence: Defining the problem and understanding the consequences. *Journal of Child and Family Studies*, 9, 7–25. <http://dx.doi.org/10.1023/A:1009403530517>
- Piaget, J. (1994). In L. Tradução Elzon (Ed.), *O juízo moral na criança*. São Paulo: Summus.
- Reed, J. S. (1982). *One South: An Ethnic Approach to Regional Culture*. Baton Rouge: Louisiana State University Press.
- Rivera, C., Chu, R., & Loftin, C. (2002). Do strong communities increase homicide? An evaluation of the Nisbett-Cohen Thesis. *International Journal of Sociology and Social Policy*, 22, 109–121. <http://dx.doi.org/10.1108/01443330210790111>
- Snell, J. C. (2006). Robert Merton dies at 92. *College Student Journal*, 40, 250–252.
- Stams, G. J. S., Brugman, D., Deković, M., von Rosmalen, L., van der Laan, P., & Gibbs, J. C. (2006). The Moral Judgment of Juvenile Delinquents: A Meta-Analysis. *Journal of Abnormal Child Psychology*, 34, 692–708. <http://dx.doi.org/10.1007/s10802-006-9056-5>
- UNODC (2013). *Global Study on Homicide 2013: Trends, Context, Data*. United Nations Office on Drugs and Crime (UNODC). Retrieved from http://www.unodc.org/documents/gsh/pdfs/2014.GLOBAL_HOMICIDE_BOOK_web.pdf.
- Van den Bergh, B., & Dewitte, S. (2006). Digit ratio (2D: 4D) moderates the impact of sexual cues on men's decisions in ultimatum games. *Proceedings of the Royal Society B*, 273, 2091–2095. <http://dx.doi.org/10.1098/rspb.2006.3550>
- Waters, H. C., Hamilton, C. E., & Weinfield, N. (2000). The stability of attachment security from infancy to adolescence and early adulthood: General introduction. *Child Development*, 71, 678–683. <http://10.1111/1467-8624.00175>
- Wolfgang, M. E., & Ferracuti, F. (1967). *The subculture of violence: Towards an integrated theory in criminology*. London: Tavistock Publications.