

Clinical and Psychosocial Aspects of Juvenile Delinquency: review article

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ABSTRACT

To comprehend juvenile delinquency in a wide way is important to professionals that deal with the youth, especially under the clinical and psychosocial perspective. The objective of this study was to review the literature under the eye of the clinical and psychosocial aspects of juvenile delinquency, by selecting articles after researching in data base SciELO, Scopus and PubMed, in addition to textbooks about the subject, using the key words “Teenagers”, “Clinical Features”, “Psychosocial Aspects”, “Juvenile Delinquency” and “Adolescents”. 72 texts about the theme were analyzed. Deviant behavior prevailed in male individuals, who belonged to disadvantaged social classes. In addition, family care represented important predictor of delinquency, along with school factors, peers influence, community and violence suffered during childhood or adolescence. High rate of mental disorders was observed in this group of adolescents, especially attention deficit hyperactivity disorder, conduct disorder and substances abuse disorder. The multi-systemic therapy has showed to be an efficient intervention, such as prevention programs that focused on risk factors or protection.

KEYWORDS: juvenile delinquency, adolescent, risk factors, mental disorders, clinical features

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I. INTRODUCTION

The adolescence is a phase marked by maturing of cognitive and emotional behaviors¹. Furthermore, is characterized by a period of conflicts and development of deviant acts – contemporary vision that persists and has reached knowledge since the publication of the theory by G. Stanley Hall, in 1904. There is an increase of these conducts in the beginning of adolescence and decrease in the beginning of adult age. Therefore, they are regular and limited actions in most cases^{2,3}. However, some individuals evolve with persistent and more severe behaviors that can rebound in negative ways that have strong relevance.

The term juvenile delinquency constitutes the actions that would be considered crimes by individuals with lower age than majority⁴. Those actions would result in damage to all society⁵. In the juvenile population, there are high rates of mortality by aggression, and the adolescents also prevail as authors of aggression in Latin America, being this a question of public health⁶, furthermore, those conducts inflict financial impacts, eg: hospitalizations because of external causes and spending with the law system lead to high costs, such as the increased search for mental health services, once that the outlaw acts during adolescence are related to depression, substance abuse and other mental disorders in the early adult age⁷. In addition, these behaviors are related to decrease of productive capacity and harm the quality of life of the individual⁸. Nevertheless, juvenile delinquency is a complex manifestation. Many theories were developed to explain this phenomenon, which configurates as the sum of many aspects⁹. Adolescence is a sensitive phase to social relations, that can interfere in their behavior¹⁰. Therefore, comprehending those influences is necessary to deeper knowledge and characterization of the young delinquent.

The impact caused by adolescents in conflict with the law denote the interest in researching about this subject, once that investigating causes and developing strategies to combat those conducts in adolescence characterizes as health promotion and preventing crime in society.

Understanding delinquency in a wide way is crucial to professionals that deal with adolescents, especially in clinical and psychosocial perspective. That being put, the present article aimed to do a systematic

review about the clinical and psychosocial aspects of juvenile delinquency, in addition to risk factors associated and options of treatment and prevention.

II. METHODS

A systematic review was conducted in according to Preferred Reporting Items for Systematic Review and Meta-analysis protocols (PRISMA Statement). It was adopted as inclusion criteria: articles published in the last 10 years (2010-2020), in Portuguese, English and Spanish, with full text and free access. Were excluded of the sample those article that showed law approach, focused on social politics, penitentiary environment, specific behaviors (eg, alcohol abuse, sex offenders, gun possession) or those with ages off scenario (child or young adults).

After choosing the theme, the searching was conducted in the data base PubMed, Scopus and SciELO, also book chapters, during July to December/2020. The keywords were: "juvenile delinquency", "adolescent", "risk factors", "mental disorders" and "clinical features". The terms were located in the list of Medical Subject Headings (Mesh), available in the U.S. National Library of Medicine, and in the list of Health Sciences Descriptive (DeCS), available on the *BVS (Biblioteca Virtual em Saúde)* website. In this way, the following search equation was elaborated: "Juvenile Delinquency" AND "Adolescent" on PubMed, ("Juvenile Delinquency" OR "*Delinquência Juvenil*" OR "*Delincuencia Juvenil*") AND (Adolescent OR *Adolescente*) on SciELO and Scopus.

Those articles identified during research in the data base were selected by lecturing of the titles, followed by lecturing of the abstract. After this step, a new evaluation was made so the articles were read entirely. The references of the studies were tracked, in sight of including other articles of interest. The procedure was made by two researchers at the same time and independently, considering the criteria of inclusion and exclusion pre-defined.

The extraction of data was performed by a protocol elaborated by researchers, in which it was included the following: title of the study, authors' names, periodic and country of publication, methods, results and discussion.

III. RESULTS AND DISCUSSION

Were identified 39 and 578 studies in SciELO and PubMed, respectively, which resulted in 617 studies involving juvenile delinquency. Ten were repeated and were excluded. During the initial evaluation, in which were analyzed the title and the abstract, 158 texts were selected to be read. From this reading, 62 articles were recalled. Ten articles were added from references of those studies. In total, 72 articles were read. The majority of those (61,42%) was published in the United States, followed by England (18,57%), the Netherlands (7,14%), Brazil (4,28%), Switzerland (2,85%), Chile (1,42%), China (1,42%), Colombia (1,42%) and Croatia (1,42%). Besides, two were textbooks.

The articles were separated according to approaches in clinical and psychosocial aspects, including epidemiology, risk factors, treatment, and prevention.

Epidemiology

Adolescence is typically a period when the teenagers assume more risky behaviors, however, if those behaviors become delinquency, consequences to their lives can be serious, such as risk of being arrested, damage to physical and mental health. Risk behaviors are, for example, use of substances, inappropriate sexual behavior and delinquency¹¹. Many studies show the prevalence of delinquency in the male sex¹²⁻¹⁵. Also, many researches were made with adolescents involved with the law^{12,13,15-18}. The average age between the delinquent adolescents was 15 to 17 years^{12,13,15,16,19,20}. There was a high prevalence of mental disorders in the population of young offenders¹⁴⁻¹⁹. Most mentioned disorders are attention deficit hyperactivity disorder^{16,17,21,22}, conduct disorder^{14-18,22}, substances abuse disorder¹³⁻²⁰, oppositional defiant disorder^{17,18,22}, post-traumatic stress disorder^{13,19} and depression^{18,19}. Most common substances of abuse were cannabis^{13,16,18,21} and alcohol^{13,16,19,21}. Concerning education, a great part of the youths in conflict with the law had low education level^{16,18}. Common features among the delinquents were divorced parents, single mothers^{16,20} and exposition to violence^{16,17,19,20}. It is important to emphasize the family unsteadiness as a risk factor to delinquency^{16,17,20}. Many adolescents had some relative also in conflict with the law^{16,18,20}. Ethnical/racial characteristics vary according to country where the researches take place.

Risk Factors

Individual, social and biological aspects of those teenagers were highlighted as risk or protective factors to juvenile delinquency. Although there is great interaction between these variants, the content in literature identified was separated in themes that concern: familiar behavior, school, friendship, community, socioeconomic status, mental health, violence, and biology.

Familial Behavior

Family behavior, related to interaction between parents or caregivers and adolescents, has shown to be an important component in developing juvenile delinquency. The bigger knowledge, by the parents, about the activities of the adolescents acted as protector against infringing acts in this population²³⁻²⁵, and, according to the findings by Bendezú *et al.*, 2018,²⁴ in a study performed in United States, this knowledge was associated with discussion (active), by the parents, about their son's daily activities, but it was less related with communication (passive), by their children. Kapetanovic *et al.* 2019²³, in a study that took place in Sweden, found that, as well as parents that ask more about their children activities, children that relate spontaneously about their activities, had less association with criminal acts, when compared between families. Therefore, the increased control by the parents diminished delinquent behaviors by their sons. It was observed also that transgression between teenagers was related in mutual way to the information shared by the adolescent, once that the decrease of offending acts increased the adolescent disclosure and the opposite also occurred, probably because adolescents that communicate more with their parents received more advices and support, however, increase in delinquent behavior could make the adolescent want to hide his activities, what would reduce communication. In agreement, Shek *et al.* 2019,²⁵ in study that took place in Hong Kong, has showed that parents who had more control and tracking of their son's activities, a good children-parent relation, children's satisfaction with this control and effort by the sons to inform about their activities, are factors that act as preventing deviant behaviors in youth. Between gang members, higher levels of monitoring by the parents, such as higher levels of parenting investment, were also related to decrease of criminal²⁶. In the same way, results of a meta-analysis showed that control and supervision by the parents were factors that had influence in the delinquent behavior. Furthermore, it was in evidence the association between delinquency and attachment to parents. This bound decreased with the increase of age in youth and was influenced by differences in gender, girls showing more relation with their mothers and boys, with their father. In this way, interventions in adolescents can be encouraged when attention has been paid to the same gender between parents and children²⁷.

Different treatment given to siblings is also associated with juvenile delinquency. Siblings treated as less loved by their mother or father showed more probability of criminal behaviors. However, this influence in children behavior depended on the family structure, once that relation was founded in families that showed more conflict and intimacy and in families with less conflict and intimacy. Furthermore, in negative family environments (with more conflict and less intimacy), the relation between different treatment and child behavior was not founded, but these environment were related to more delinquency and substance abuse in relation to other families, apart from the difference in treatment between siblings²⁸.

The relationship between siblings has been studied as to its role in juvenile delinquency. A study with siblings revealed that younger brothers admire and want to look alike their older brothers, but the opposite does not occur. In that same article, when siblings had closer ages and shared the same group of friends, behaviors tended to be more likely, including that about use of alcohol and delinquent behavior³⁰. A study from 2013 showed that the order of birth is not significant in the probability of presenting delinquency when taken in count the characteristics of the family, which goes in the opposite direction of common sense that says the older sibling has less tendencies of delinquency in comparison to the younger sibling and that the middle sibling is the one that show most delinquency²⁹.

Exposition to violence at home³¹, single parents^{16,20,31-33}, parent's low educational level¹⁶, crime^{18,20,26} and use of substances by the parents or relatives^{20,26} were associated to juvenile delinquency. Debilitated family relation, severe and inconsistent discipline were also related to negative conducts³². In agreement, adolescents that witnessed high levels of harsh parenting, during the early childhood, showed more probability of committing criminal and violent acts when compared only with non-violent acts³⁴. According to the perspective of incarcerated youths, in a qualitative study, the family environment where they were located showed fights and lack of familiar cohesion, and the parents – that worked for many hours, were single parents, abuser substances or were in jail – were indicated as absent³⁵.

School

It was demonstrated that school experience has acted as predictive and significant factor of criminal behavior and was influenced by family issues. In this way, students that showed inadequate behavior originating in their relationship with their parents or caregivers, showed a bigger difficulty in adapting in school environment, which could result in negative experiences³⁶.

Low education level has showed to be a risk factor to juvenile delinquency¹⁶⁻¹⁸. To "The Theory of Social and Personal Control of Deviant Behavior", by Marc LeBlanc, delinquent behavior is result of interaction between many aspects, including school. In this setting, the school bonding is mediated by investment (time and dedication to studying and extra activities), by commitment (acknowledging their capacity in relation to study and importance of school) and by attachment to teachers (relation and communication with them)^{37,38}. In research in Brazil, Silva *et al.*, 2016,³⁹ found that adolescents who committed offences and that left school

obtained less levels of investment, but delinquent youths that didn't leave school obtained high levels of investment, specially related to extra activities, including sports. In this way, apart from involving in extra activities, it was meaningful to consider the context that they happened (such as supervision by adults and violent acts) and behaviors that promoted it. It was also observed that juveniles delinquents that left school obtained lower levels of commitment and attachment to teachers, when compared with the group that stayed in school. Therefore, the lack in communication between the youth and teachers could lead to a bigger susceptibility to accept as model individuals with deviant behavior and withdrawal of school, which it would take the adolescent to spend more time outside of school and in contact with aspects that would increase the risk to juvenile delinquency. Therefore, the group of delinquents that left school obtained low levels of school bonding, which represented the relevance of those variants and their potential against engaging in criminal acts. In relation to academic performance, it was evident that lower grades were related with higher probability of juvenile delinquency^{32,33,40}. Barnert *et al.*, 2015, performed a qualitative study in which detained adolescents emphasized that low academic performance resulted in frustration, drop out of school and deviation to incorrect attitudes, and that school become an insecure environment due to the actions of gangs and bullying³⁵. Even between gang members, aspects related to school (reported feeling secure and higher academic involvement) acted as protective factors against delinquency²⁶. Violence in the academic field, including bullying, also contributed to many out of law actions, by distancing from school or learning of violent responses. In addition, punishments were identified as important mechanisms in controlling wrong conducts by students, however, when too severe and applied to students that already performed transgressions, it facilitated academic withdrawal and delinquency³⁶.

Friendships

It is evidenced that the behavior of friends influences the adolescents^{41,42}. Moffitt's Taxonomic Theory of antisocial behavior indicated that the beginning of juvenile delinquency was related with maturity gap (difference between biological and social development). While the youths were going through the puberty process, they recognized that they didn't have freedom to do their own decisions and must follow rules dictated by adults, and, that way, consider the autonomy of life-course-persistent-delinquents as a valuable social behavior. They start to imitate socially harmful behaviors, in search for privileges². In direction to this theory, there are indicatives that persistent delinquents appeared, in some moment, as a higher source of friendship attractors^{32,40}. In addition, a qualitative study showed the perspective of incarcerated youths, who noticed some social pressure, by their friends, that lead them into practicing delinquent acts, being that boys felt more need to demonstrate manliness and girls were leaded by the desire of popularity and attraction to the opposite sex³⁵.

Adolescents revealed as with higher probability of choosing and relating with friends that had shown similar behavior and also developed more similarities between themselves with time^{40,41}. According to that, there was some correspondence between high level of juvenile delinquency in friendships: higher levels in best friend were associated with higher levels of delinquency⁴². Selection of friendships and their interference in the teen's actions were measured by individual factors, such as puberty and self-concept clarity, in a way that higher levels of puberty were related to higher chances of maintaining or rejecting friendships, from similarities or differences in externalizing behavior, respectively⁴¹, in addition, lower levels of self-concept clarity were associated with higher homogeneity in relation to intensity of delinquency among adolescents and best friends⁴². Others aspects can also interfere in relationships between peers, such as academic achievement, once that there was tendency of association between friends with lower grades and higher probability of engaging in juvenile delinquency⁴⁰.

Community and neighborhood

Determined characteristics of neighborhoods are related to bigger chances of juvenile delinquency⁴³. In a qualitative analysis, in relation to perception by incarcerated youths, the districts stimulated a lot the crime, as it is where they stay for the majority of time, when they aren't at home or school. Community poverty was said, by these adolescents, as a strong influence in criminal behaviors. Racial questions were also commented, showing that the prevalence of ethnical minorities in districts was related to presence of police, number of arrests and affliction in gangs by colored youths³⁵. Between member of gangs, bigger number of interactions with the police (as being stopped without a motive, being assaulted and witness persecution or aggression in known people by police officers) and bigger disorder in the neighborhood (such as shooting and drug traffic) were related to higher levels of delinquency in teenagers²⁶.

A study conducted in Colombia showed evidences that the neighborhood did not influenced directly behavior in adolescents. However, this influence occurred in an indirect way, once that the resources of the community contributed to a good relation between residents and reduced stress by the parents, which improved the care of parents to their sons, reduced contact with deviant peers and resulted in less criminal behaviors⁴⁴. It goes as seen by Tompsett *et al.*, 2014, where social cohesion and also others variants, as informal social control,

values and normative by adults and presence of drugs and guns in the neighborhood in which the adolescent lives were associated with delinquent behavior. However, adolescents that moved to other districts suffered less influence of those aspects. In this way, it is valuable to consider that, beyond of the characteristics found in the neighborhood where the youth lived, it was important to analyze the shift and influence of other neighborhood in juvenile delinquency⁴⁵.

Socioeconomic Status

A factor that came out to be very powerful in the behavior of offenders was socioeconomic status. Lower income family was related to juvenile delinquency^{16,46}. This relation was seen in comparisons between individuals and in relation to changes in the same individual, in a way that adolescents with lower social status presented bigger chance of criminal conducts, compared to those with higher income, in addition, adolescents showed higher probability of delinquency during the years of bigger poverty, compared to those with higher incomes⁴⁶. Sitnick *et al.*, 2017,³⁴ found that family income in the first three years of youths lives as the most significant aspect to differ between teenagers that committed criminal acts violent or not in relation to those that never committed any criminal act. Belonging to a minority group also differed youths that performed violent acts to those that did not, characterizing that as a predictor to criminal violent behavior.

Mental health

Mental disorders have been constantly associated with delinquent behaviors and as predictors of delinquency^{12,13,16,17,19}. The majority of studies about the prevalence of mental diseases in youth is developed with adolescents involved in law issues^{12,13,16,17}. The most cited actions by the articles were robbery, assault, use of illegal substances, selling or dealing drugs, sexual violence/rape and homicide^{14,33,46}. It was verified a high prevalence of mental illness in young transgressors, with important part of the samples filling criteria to at least one mental disorder^{14,16-19}, as in a research developed in Chile, in which 86.3% of the participants in this study showed this characteristic¹⁸. The most frequent disorders listed in the studies were behavior disorders, especially attention deficit hyperactivity disorder (ADHD) and conduct disorder (CD), aside from substance abuse disorder (SAD)^{16,17}.

The conduct disorder is characterized by continuous disrespect to social rules and other people's rights¹⁷. The presence of conduct disorder was related not only with a bigger tendency to reoccurrence and committing violent crimes¹⁴, but also to a bigger chance of presenting with SAD^{14,17,18} and antisocial personality traces¹⁵. In a study made in 2020, in Corea, it was established the relation between conduct disorder, depression and delinquency, being pointed that the conduct disorders along with delinquency create a psychosocial environment that leads to developing depression¹². In another study made in 2020, also in Corea, it was established the relation among conduct disorder, depression and delinquency, being pointed that the conduct disorders along with delinquency create a psychosocial environment that leads to developing depression¹⁷.

ADHD was associated with high risk to delinquency between the teenagers^{12,21}. It also predisposed to the use of substances, specially alcohol^{12,21} and cannabis²¹, and had a relation with high levels of depression and low self esteem¹², which are risk factors to delinquency. In 2012, a study conducted in Pittsburgh, USA, verified that parents of adolescents with ADHD that kept informed about their son's activities and the places that they went during their adolescence diminished the delinquency rates and use of alcohol by them when compared to adolescents in the same conditions, except for the fact that their parents did not control those aspects. Still in accordance with the same source, it was presented that adolescents with ADHD had more conflicts with their parents and less support from them²¹.

Delinquent adolescents presented higher rates of post-traumatic stress disorder (PTSD), major depression and alcohol abuse^{13,19}. A significant quantity of delinquent youths related experiences of interpersonal violence and exposition to other traumatic situations^{19,20}. It was investigated that witnessing violence was relevant to presenting PTSD in the juvenile delinquents¹⁹. In 2019 a study, performed in the USA, it was noted that symptoms of PTSD were predictors of delinquency¹³. PTSD appears to be a risk factor to substances abuse, and the association between these comorbidities elevated the risk of delinquency^{13,19}. It was established that the lesser symptoms of PTSD related lower tendencies to criminal behavior¹³. The elevated risk of psychiatric problems observed between delinquent adolescents can be attributed to the increase rates of trauma exposition, and not to delinquency¹⁹. In a general way, the conclusion was that delinquency increased the probability of attending traumatic events and so developing PTSD, and the presence of PTSD can culminate in delinquency^{13,19}.

Intoxication by substances reduces inhibition, which harms judgment and increases compliance to delinquent acts, especially violent crimes. In addition, when there is addiction, the addicted needs an increased quantity of money to maintain consume, and that leads to robbery and drug dealing¹⁷. In many groups, the prevalence of SAD in the sample of young offenders was much bigger than in the groups of non-delinquent

youths^{13,16,18}, being considered a pattern in this population^{13,17,18,26}. In addition, externalizing behaviors were vinculated to higher consume of illegal substances in relation to adolescents that have more behavioral control⁴⁷. The association between CD and SAD was evidenced in many studies¹⁵⁻¹⁸ and with PTSD^{13,19}. Abuse of alcohol had negative impacts in academic performance, physical, psychological and social development, in addition to predisposing to risky sexual behavior, delinquency and increase the rate of suicide¹². Premature use of alcohol in adolescence was associated with behavior problems in boys and girls. In addition, it was associated with problems of externalizing behavior such as delinquency, hyperactivity and opposition behavior in boys, and internalizing behaviors such as depression and anxiety in girls⁴⁸. The use of more than one substance was associated with lower rates of intellectual and higher symptoms of externalizing and internalizing behavior⁴⁹. In contrary to what was expected, the use of only cannabis was not associated with bigger incidences of delinquency, especially because its effects are more linked to paranoid behavior, concentration and confusion problems, and alcohol effects are linked to bigger rates of delinquent behavior as violence, destruction of property and injury⁵⁰. The exposition to violence, in a direct^{20,51} and indirect way was related to the use of substances²⁰. Most cited substances of abuse by the studies were alcohol^{13,16,19,33} and cannabis^{13,16,33}, followed by cigarettes and inhalant substances^{16,33}.

Another factor related to criminal conduct was the callous-unemotional trait, a condition characterized by lack of empathy, blame and remorse⁵². The presence of those manifested as a risk factor and, when evaluated by the Inventory of Callous-Unemotional Traits (filled by the adolescent's parents or caregivers), it was possible to differentiate arrested adolescents and students⁵³.

Aside from the behavior disorders, PTSD and SAD, other conditions have been listed as risk factors to delinquency. Reduced levels of self-concept clarity⁴² and self esteem¹² were linked to the increase of delinquency and major depression was very common among delinquent adolescents, especially girls¹⁹, being those from high risk groups¹². In addition, the intelligence quotient of adolescents in conflict with the law was considerably inferior when compared to the general population¹⁵. Low ability in regulation of emotions, together with defiant behavior, in the first three years of life, also acted as a risk factor to committing violent crimes during adolescence³⁴.

Substances use

The use of substances was pointed as being a frequent pattern of behavior among young offenders^{17,18}. According to a research performed of telephone interviews made to 3614 adolescents living in the USA, it was acknowledged that crime authors were 11 times more tendency of using alcohol or drugs¹⁹. Another study points out the difference between using and effects, being that the results exposed the association of effect of using alcohol and criminal acts in youth, but not the use of alcohol or cannabis, because, according to Hunter *et al.*, 2014, the effects of using cannabis are paranoia, confusion and concentration problems, symptoms less related to delinquent common behaviors, like injury, violence and destruction of property⁵⁰. In addition, the use of substances has revealed, many times, as a mediator between negative experiences of the youths and criminal acts, in agreement, a research also in the USA, showed that girls that suffered sexual abuse had 2.3 more chances of using drugs and doing criminal actions after⁵¹, such as Quinn *et al.*, 2019,²⁶ that exposed the relation between having family members that were members of gangs and abuse and traffic of drugs, besides demonstration high prevalence (44%) of use of worst drugs between teenagers interviewed. Another study that also confirmed association was that from Peterson *et al.*, 2019,²⁰ which interviewed girls, authors of criminal acts, in the juvenile justice department of South Carolina (USA), and it was pointed that having suffered violence in a direct or indirect way increased the probability of using substances, as changing school was also related to that. The temper in early adolescence was also studied as predictor of transgressional behavior by teens related to use of substances, according to a longitudinal study in Michigan (USA), behavioral control was associated with lower rates of substance abuse, but on the other hand externalizing behavior was associated with high use⁴⁷.

Most used substances among adolescents authors of crimes were cannabis and alcohol, according to a study developed in the middle-west part of the USA, in which were evaluated youths involved with the law, and it showed that 87.5% used some substance, and, between them, 83.3% used cannabis and 57.1% alcohol¹³. Another analysis concerning the same subject brought the relation about the types of substances used by teenagers involved with the Brazilian law, having as result 37.7% of them using cannabis, 24.6% crack, 8.7% inhalant and 2.9% cocaine, being that high rate of substance use between those authors of criminal acts explained by the homes of those adolescents that, many times, had easy access to drugs, besides being exposed to hostiles environments frequently¹⁶.

Violence

Suffering some form of violence during childhood or adolescence presented significant relation with juvenile delinquency^{20,51,54,55}. In that sense, high percentage of being mistreated was observed between the youths who were authors of crimes. King *et al.*, 2011,⁵⁵ found that, between 1829 adolescents locked in jail, 76% of girls and 68% of boys had suffered some form of physical violence and 41% of girls and 11% of boys, sexual violence. It was also observed relation between mistreating and psychiatric disorders. In addition to that, the relation between being victim of violence and the increase of delinquent attitudes contributed to the perpetuation of mistreating in the next generation⁵⁶.

Among girls in conflict with the law, direct victimization was related to deviant behaviors, especially, aggressiveness, running away and sexual work. Indirect victimization (such as watching a murder) was also associated with higher probability of using substances and running away from home, but suffering some form of violence was predictor much more expressive to the criminal conducts, when compared to witnessing violence²⁰. In accordance, girls with history of sexual abuse during childhood presented higher probability of new sexual aggression, use of alcohol and other drugs and delinquent behavior. That relation between child sexual assault and delinquency was mediated, partially, with symptoms of post-traumatic stress disorder⁵¹. In addition, it was verified that the association between suffering violence and criminal acts was related to problems in quality and quantity of sleep and sleeping one hour less than needed in a night was related to delinquency⁵⁴.

Violence by peers presented frequently in adolescents, in study conducted in the USA, and occurred, mostly, in school environment and, in minor proportion, at home, neighborhood or community. This form of aggression, as much as history of physical abuse and witnessing violence at school, by peers, presented a higher probability of developing criminal acts in adolescence⁵⁷.

Biology

Pre-natal exposition to substances was associated with delinquent behaviors in adolescents^{11,58,59}. Being exposed to cocaine inside the uterus in the first trimester of pregnancy has predisposed the youth to present delinquent behavior, low capacity to resolve problems and ratiocinate, besides the effects on physical development, such as lower weight, height and cephalic perimeter of birth when compared to children of non-user of cocaine mothers⁵⁹. A 2013 study that took place in the USA, showed the association between intra-uterus exposition to cocaine and increased chances of teenager being arrested¹¹. In another study, use of cocaine during pregnancy did not showed significant association with delinquent behavior of children, but the use of half a pack or more of cigarettes per day pointed to most likely juvenile delinquency⁵⁸. The effects over the development of delinquent behavior in this population may also be linked to hostile family environment⁵⁹ and more exposition to violence^{58,59}.

Investigation about neuroanatomic alterations related to deviant behaviors has grown in the past few years⁶⁰⁻⁶². A 2020 study investigated the relation between the rates of psychopathy and the structural integrity of the uncinated fasciculus in young boys locked in jail. The higher rates of psychopathy (as sense of grandiosity, pathological lying and manipulating for their own benefit) were related to lower density and myelination of fibers that compose the white substance of the right uncinated fasciculus⁶⁰. Other article demonstrated that persistent youth delinquent posses less gray matter and lower volumes in the left hippocampus, alterations that were also found in people with psychopathy traces, conduct disorder and non-delinquent youth submitted to mistreat⁶¹. Neuroanatomic differences visualized by imaging methods will soon be able to be used as a criterion of risky diagnosis to psychopathy^{61,62}.

Sleep was also a point of investigation as to its relation with delinquent behavior^{63,64}. A finnish study of 2015 showed that problems in quality and quantity of sleep in teenagers had a strong relation to violent behavior, contributing to delinquency⁶³. Another research evaluated problems with sleep in pre-adolescents that went through experiences and were under provisory custody of caregivers (in fostercare). The conclusion was almost the same as the finnish study: even after controlling the variables, it was evidenced that problems in sleep are risk factors to delinquent behavior^{63,64}.

Premature puberty was related to increase of deviant behaviors in this population⁶⁵⁻⁶⁷. Adolescents that initiated puberty earlier than their peers presented higher rate of misalignment⁶⁵, with higher levels of depression, anxiety, substance abuse, delinquent behavior and premature sexual life, especially because these adolescents are not prepared to emotional and social demands that come with puberty. Premature puberty (7th grade in the USA schools) was associated with negative outcomes in adolescence to boys and girls, and it was evidenced psychological suffering in this group and higher rates of delinquency, substance use and bigger number of sexual partners⁶⁷.

A prospective study made with girls who had premature puberty around 11 years old, showed increase in physical violence and elevated levels of delinquent behavior, especially if their best friends presented that deviant behavior, putting to light the susceptibility of youth with premature puberty to bad influences⁶⁶. In two of the studies cited, there was not association with persistency of delinquent behavior and bad adjustment as the

adolescents got older and adults^{66,67}. However, in 2012 study, the effects of premature puberty in girls showed negative outcomes in adolescence and adult life, with persistent delinquent behavior. In this study, about epigenetic, the relation between biological and environmental susceptibility influenced the delinquent behavior of girls with premature menarche. The genes involved in premature puberty, according to the research, predicted significantly the violent and non-violent delinquent behavior, suggesting that the biological interaction between those factors makes girls with premature puberty more vulnerable to deviant behavior⁶⁵.

Treatment

The multisystemic therapy (MST) is an intervention widely used to juvenile delinquents, and it is based in the social ecological model of Bronfenbrenner, which indicates that behaviors are related to systems that involve the individual, and in the case of adolescents it includes family, school, friends and community⁶⁸. In order to avoid barriers, as problems with moving, and creating a better interaction with the family or caregivers of the delinquent, the MST is a model of treatment that can be done in the individual's home. Also, the therapist is at the disposition to attend in the family available hours and the treatment endures 4 to 6 months. It focuses in finding factors that increase or reduce such behavior in the adolescent, the drivers, and, consequently, perform interventions based on the findings. There are common focus on MST: family dynamics, reduction of contact with peers that cause bad influence and improving communication between family and school. The procedure is developed with basis on attempt and error, once that, if the interventions are not being efficient, the therapist searches for new "drivers". In addition, the MST emphasizes the qualities of the family and has as objective developing abilities of problems resolution. That helps to sustain the results of the treatment even after its finished⁶⁹.

MST was associated with decrease in the probability of negative results (as reduction on the sentence determined by the court of youths that committed crimes), for an extended period, in high risk adolescents⁷⁰. The intervention also showed to be effective to specific groups of hard treatment, with or without adaptation from therapy. Extremely violent adolescents showed a patten with initially worst behavior, followed by decrease of externalizing behavior problems, which had put in evidence that this group also received benefits with the MST⁷¹. In addition, patients with intellectual deficiency showed good results with an adapted version of MST⁷².

Currently there isn't medication to treat delinquency, however, many young delinquents are submitted to medical treatments because of psychiatric comorbidities, which are frequently associated with delinquent behavior.

Prevention

A longitudinal study of 15 years analyzed the ways in which the Fast Track project (a program for children in high risk performed in the 1990's in the United States) acted. Children that received interventions from program, during the elementary school, showed less chances of committing criminal acts, of being arrested when becoming adolescents and young adults (20 years) and presenting mental and health issues in general. Also, capacities developed with intervention during childhood were related to better outcomes. This way, the components of the intervention, as parent-behavior-management training, social group skills training, and peer pairing programs increased the control of their emotions, thoughts, behavior and their interpersonal capacities – which reduced delinquency. Furthermore, the training of cognitive capacities increased the academic abilities of those children, which prevented mental health issues posteriorly⁷³. Others prevention programs were competent in reducing problems of conduct in adolescents, and were more efficient in adolescents that initiated use of drugs before the programs like All Starts, Life Skills Training, Project ALERT and Strengthening Families Program: For Parents and Youth 10-14 – offered by the delivery system PROSPER (PROmoting School-community-university Partnership to Enhance Resilience), in the United States. These are interventions that developed skills in parents and adolescents, with focus on family (like better communication, establishment of rules and coherent discipline) and school (like learning about drug abuse and its consequences, management of emotions and development of adequate friendships)⁷⁴.

De Vries *et al.*, 2018, when investigating the effects of New Perspective (NP), in Amsterdam, a prevention program based on RNR model⁷⁵ – which related the intensity of the program to the risks of the adolescent (risk), focused on multisystem risk factors (need) and adapted the model to the characteristics of the teenager (responsivity) – found that the results of NP were not different from those of Care As Usual (CAU), in secondary prevention, that is, prevent recurrence⁷⁶. However, other studies showed good results in prevention, with programs that focus on family risk factors⁷⁷ and social skills⁷⁸.

A Dutch intervention based on sports, "Only You Decide Who You Are" [AlleenJijBepaaltWie Je Bent (AJB)], also presented satisfactory results. AJB showed positive advances in conditions associated to delinquent behaviors (conduct problems, aggression, denying authority, lack of academic engagement, including others) in adolescents. Those improvements were measured by characteristics of the adolescent, the coach and the context,

such as levels of education by the professional, quality of relation between the coach and the student and the social moral atmosphere in the sports club. The type of sports also interfered, and basketball was better related with better results, and soccer with the worst. Besides, those registered in special education showed bigger gains in relation to those in regular education ⁷⁹.

Implementing programs based on evidence of preventing violence had difficulties, such as lack of conditions and infrastructure ⁸⁰. Experiences with the National Centers of Excellence in Youth Violence Prevention (YVPC) showed the role of community and researchers, who have given information and data to the selection and realization of programs that were better suited to the resources and needs of the place. It became evident the importance of trust between the parts, and it was necessary to adjust to the community needs, develop capacity to prevention programs, demonstrate that results were good for both, using strategies in long term, but that offered excellent possibilities to decrease negative repercussions in the adolescents behavior ⁸¹.

IV. CONCLUSION:

The present article has embraced studies about juvenile delinquency and factors associated. Many themes inside that were resumed and integrated in order to provide a wide and competent vision about the phenomenon. In summary, from the compilation, it was noted that criminal conduct was more frequent in the male sex. In relation to family, it was observed that higher monitoring by the parents and caregivers and better family cohesion appeared as protective factors against criminal behavior. Family aspects can also contribute to the development of other risk factors. An adequate school experience allowed less commitment in criminal acts. This was even more negative when related to low academic outcome, disharmonic relation with teachers and school violence. In addition, the living with peers interfered in the attitudes of the adolescents. Characteristics of the communities in which they lived or used to attend were related to juvenile delinquency, such as disorder, drug traffic, police actions, lack of values and some control by residents of place. In addition, occurred higher prevalence of teenagers in conflict with the law in the lower social classes.

Delinquent adolescents showed high rates of mental disorders, especially attention deficit hyperactivity disorder (ADHD), conduct disorder (CD) and substance abuse disorder (SAD). Alcohol and cannabis were predominant. Depression, PTSD, individual characteristics as reduction of emotional intelligence and intelligence quotient also configurated as comorbidities showed in this group. An alarming quantity of adolescents with criminal acts related to have suffered or witnessed some kind of violence, like physical or sexual. Finally, multisystemic therapy (MST) appears as an effective treatment for deviant behavior, including in groups with difficult treatment. Likely, programs of primary and secondary prevention, that focused on risk factors, obtained good results.

This review article presented some limitations. First, were evaluated only open access articles in English, Portuguese and Spanish languages, any other studies in other languages were excluded, therefore many could not be analyzed. Second, the literature selected was only a small percentage of articles that were found in the research. Furthermore, juvenile delinquency is a wide theme that can be analyzed by many angles. This article chose themes related to clinical and psychosocial aspects of delinquency, excluding articles that were about law aspect, for example. However, the selection of literature was careful to choose a good number of texts inside the themes. Lastly, it is important to emphasize that juvenile delinquency can be understood in many ways depending on the culture that analyzes it, which has not been discussed in this article, once that the objective of this article was to make a wide review. In addition, many articles showed results that were likely, without great contradictions depending on population particularities. Finally, most articles used were from the United States, especially because they correspond to a significant part of publications. In this way, it is relevant the need to induce the production of more studies, by other nations, about this theme – in a global perspective, and in one directed to the characteristics of each country.

With the results of the present research, it was possible to conclude that juvenile delinquency configurates as a complex syndrome, that results of multifactorial interposition. Comprehending the individual characteristics and the environments where these adolescents are inserted represents one important instrument in reducing “crimes” committed by them, providing them better health and well-being. In this way, this knowledge is good to servers that manage and execute prevention programs, and also to all the professional that deal with teenagers, such as teachers, psychiatrist and pediatricians, nurses, social assistants, psychologists and others.

REFERENCES

- [1]. Yurgelun-Todd D. Emotional and cognitive changes during adolescence. *Curr Opin Neurobiol.* 2007;17(2):251-257. doi:10.1016/j.conb.2007.03.009
- [2]. Moffitt TE, Achenbach T, Cairns R, et al. *Adolescence-Limited and Life-Course-Persistent Antisocial Behavior: A Developmental Taxonomy.* Vol 100. Warren; 1993.
- [3]. Odgers CL, Moffitt TE, Broadbent JM, et al. Female and male antisocial trajectories: From childhood origins to adult outcomes. *Dev Psychopathol.* 2008;20(2):673-716. doi:10.1017/S0954579408000333
- [4]. Shoemaker DJ. Delinquency. Published online 2017. doi:10.1002/9781118524275.ejdj0060
- [5]. Regoli RM, Hewitt JD, DeLisi M. *Delinquency in Society.* Jones & Bartlett Learning; 2016.

- [6]. Krug EG, Dahlberg LL, Mercy J a, Zwi AB, Lozano R. Relatório mundial sobre violência e saúde. *Organ Mund da Saúde*. Published online 2002:380.
- [7]. Azur MJ, Garraza LG, Goldweber A. Violent and nonviolent delinquent behavior among caucasian and hispanic youth in mental health systems-of-care programs. *Youth Violence Juv Justice*. 2011;9(2):134-149. doi:10.1177/1541204010374460
- [8]. Assis SG, Deslandes SF, Santos NC. Violência na adolescência: sementes e frutos de uma sociedade desigual. *Impacto da violência na saúde dos Bras*. Published online 2005:79-106.
- [9]. Shoemaker DJ. *Theories of Delinquency: An Examination of Explanations of Delinquent Behavior*. Oxford University Press; 2018.
- [10]. Blakemore SJ, Mills KL. Is adolescence a sensitive period for sociocultural processing? *Annu Rev Psychol*. 2014;65(August 2013):187-207. doi:10.1146/annurev-psych-010213-115202
- [11]. Lambert BL, Bann CM, Bauer CR, et al. Risk-taking behavior among adolescents with prenatal drug exposure and extrauterine environmental adversity. *J Dev Behav Pediatr*. 2013;34(9):669-679. doi:10.1097/01.DBP.0000437726.16588.e2
- [12]. Chung YR, Hong JW, Kim BB, et al. ADHD, suicidal ideation, depression, anxiety, self-esteem, and alcohol problem in Korean juvenile delinquency. *Medicine (Baltimore)*. 2020;99(11):e19423. doi:10.1097/MD.00000000000019423
- [13]. Wittingham RD, Banks DE, Buetlich MR, Aalsma MC, Zapolski TCB. Substance use disorder and posttraumatic stress disorder symptomology on behavioral outcomes among juvenile justice youth. *Am J Addict*. 2019;28(1):29-35. doi:10.1111/ajad.12831
- [14]. Mariano MP V. Moral competence and conduct disorder among Filipino children in conflict with the law. *Neuropsychopharmacol Reports*. 2019;39(3):194-202. doi:10.1002/npr2.12071
- [15]. Kahn RE, Ermer E, Salovey P, Kiehl KA. Emotional Intelligence and Callous-Unemotional Traits in Incarcerated Adolescents. *Child Psychiatry Hum Dev*. 2016;47(6):903-917. doi:10.1007/s10578-015-0621-4
- [16]. Dória GMS, Antoniuk SA, Assumpção FB, Fajardo DN, Ehlke MN. Delinquency and association with behavioral disorders and substance abuse. *Rev Assoc Med Bras*. 2015;61(1):51-57. doi:10.1590/1806-9282.61.01.051
- [17]. Zhou J, Cai W, Chen C, et al. Prevalence of mental disorders in the male juvenile detention centers of Hunan and Sichuan. *J Cent South Univ (Medical Sci)*. 2012;37(3):217-221. doi:10.3969/j.issn.1672-7347.2012.03.001
- [18]. Gaete J, Labbé N, del Villar P, Allende C, Valenzuela E. Prevalencia de trastornos psiquiátricos en adolescentes infractores de ley en Chile. *Rev Med Chil*. 2014;142(11):1377-1384. doi:10.4067/S0034-98872014001100003
- [19]. Adams ZW, McCart MR, Zajac K, et al. Psychiatric Problems and Trauma Exposure in Nondetained Delinquent and Nondelinquent Adolescents. *J Clin Child Adolesc Psychol*. 2013;42(3):323-331. doi:10.1080/15374416.2012.749786
- [20]. Peterson J, Dehart D, Wright E. Examining the impact of victimization on girls' delinquency: A study of direct and indirect effects. *Int J Environ Res Public Health*. 2019;16(11). doi:10.3390/ijerph16111873
- [21]. Walther CAP, Cheong J, Molina BSG, et al. Substance use and delinquency among adolescents with childhood ADHD: The protective role of parenting. *Psychol Addict Behav*. 2012;26(3):585-598. doi:10.1037/a0026818
- [22]. Byrd AL, Loeber N, Pardini DA. Understanding desisting and persisting forms of delinquency: the unique contributions of disruptive behavior disorders and interpersonal callousness. *J Child Psychol Psychiatry*. 2012;53(4):371-380. doi:10.1111/j.1469-7610.2011.02504.x
- [23]. Kapetanovic S, Boele S, Skoog T. Parent-Adolescent Communication and Adolescent Delinquency: Unraveling Within-Family Processes from Between-Family Differences. *J Youth Adolesc*. 2019;48(9):1707-1723. doi:10.1007/s10964-019-01043-w
- [24]. Bendezi JJ, Pinderhughes EE, Hurley SM, McMahon RJ, Racz SJ. Longitudinal Relations Among Parental Monitoring Strategies, Knowledge, and Adolescent Delinquency in a Racially Diverse At-Risk Sample. *J Clin Child Adolesc Psychol*. 2018;47(sup1):S21-S34. doi:10.1080/15374416.2016.1141358
- [25]. Shek DTL, Zhu X. Paternal and maternal influence on delinquency among early adolescents in Hong Kong. *Int J Environ Res Public Health*. 2019;16(8). doi:10.3390/ijerph16081338
- [26]. Quinn K, Walsh JL, Dickson-Gomez J. Multiple Marginality and the Variation in Delinquency and Substance use Among Adolescent Gang Members. *Subst Use Misuse*. 2019;54(4):612-627. doi:10.1080/10826084.2018.1528465
- [27]. Hoeve M, Stams GJJM, Van Der Put CE, Dubas JS, Van Der Laan PH, Gerris JRM. A meta-analysis of attachment to parents and delinquency. *J Abnorm Child Psychol*. 2012;40(5):771-785. doi:10.1007/s10802-011-9608-1
- [28]. Jensen AC, Whiteman SD. Parents' differential treatment and adolescents' delinquent behaviors: Direct and indirect effects of difference-score and perception-based measures. *J Fam Psychol*. 2014;28(4):549-559. doi:10.1037/a0036888
- [29]. Cundiff PR. Ordered delinquency: the "effects" of birth order on delinquency. *Pers Soc Psychol Bull*. 2013;39(8):1017-1029. doi:10.1177/0146167213488215
- [30]. Whiteman SD, Jensen AC, Maggs JL. Similarities and differences in adolescent siblings' alcohol-related attitudes, use, and delinquency: evidence for convergent and divergent influence processes. *J Youth Adolesc*. 2014;43(5):687-697. doi:10.1007/s10964-013-9971-z
- [31]. Erdelja S, Vokal P, Bolfan M, Erdelja SA, Begovac B, Begovac I. Delinquency in incarcerated male adolescents is associated with single parenthood, exposure to more violence at home and in the community, and poorer self-image. *Croat Med J*. 2013;54(5):460-468. doi:10.3325/cmj.2013.54.460
- [32]. Rulison KL, Kreager DA, Wayne Osgood D. Delinquency and peer acceptance in adolescence: A within-person test of Moffitt's hypotheses. *Dev Psychol*. 2014;50(11):2437-2448. doi:10.1037/a0037966
- [33]. Nakawaki B, Crano W. Patterns of substance use, delinquency, and risk factors among adolescent inhalant users. *Subst Use Misuse*. 2015;50(1):114-122. doi:10.3109/10826084.2014.961611
- [34]. Sitnick SL, Shaw DS, Weaver CM, et al. Early Childhood Predictors of Severe Youth Violence in Low-Income Male Adolescents. *Child Dev*. 2017;88(1):27-40. doi:10.1111/cdev.12680
- [35]. Barnert ES, Perry R, Azzi VF, et al. Incarcerated youths' perspectives on protective factors and risk factors for Juvenile offending: A qualitative analysis. *Am J Public Health*. 2015;105(7):1365-1371. doi:10.2105/AJPH.2014.302228
- [36]. Luiz J, Marina S, Bazon R. *Políticas Sociais, Direitos Humanos e Prática Do Psicólogo Educação Escolar e Conduta Infracional Em Adolescentes: Revisão Integrativa Da Literatura*. www.scielo.br/epsic
- [37]. LeBlanc M. La régulation sociale et personnelle de la conduite marginale [Social and personal control of delinquent behavior]. In: *MASPAQ, manuel sur des mesures de l'adaptation sociale et personnelle pour les adolescents québécois : [manuel et guide d'utilisation]*. École de psychoéducation, Groupe de recherche sur les adolescents en difficulté, Université de Montréal; 1997:3-22.
- [38]. Le Blanc M, Ouimet M SD. *Traité de Criminologie Empirique*. 3th ed. Le Presses de l'Université de Montréal; 2003.
- [39]. Da Silva JL, Cianflone ARL, Bazon MR. School bonding of adolescent offenders. *Paideia*. 2016;26(63):91-100. doi:10.1590/1982-43272663201611
- [40]. Gremmen MC, Berger C, Ryan AM, Steglich CEG, Veenstra R, Dijkstra JK. Adolescents' Friendships, Academic Achievement, and Risk Behaviors: Same-Behavior and Cross-Behavior Selection and Influence Processes. *Child Dev*. 2019;90(2):e192-e211. doi:10.1111/cdev.13045

- [41]. Franken A, Prinstein MJ, Dijkstra JK, Steglich CEG, Harakeh Z, Vollebergh WAM. Early Adolescent Friendship Selection Based on Externalizing Behavior: the Moderating Role of Pubertal Development. The SNARE Study. *J Abnorm Child Psychol*. 2016;44(8):1647-1657. doi:10.1007/s10802-016-0134-z
- [42]. Levey EKV, Garandeau CF, Meeus W, Branje S. The Longitudinal Role of Self-Concept Clarity and Best Friend Delinquency in Adolescent Delinquent Behavior. *J Youth Adolesc*. 2019;48(6):1068-1081. doi:10.1007/s10964-019-00997-1
- [43]. Leventhal T, Brooks-Gunn J. The Neighborhoods They Live in: The Effects of Neighborhood Residence on Child and Adolescent Outcomes. *Psychol Bull*. 2000;126(2):309-337. doi:10.1037/0033-2909.126.2.309
- [44]. Caicedo B, Jones K. Contexto social y comportamiento agresivo en adolescentes colombianos: El rol del barrio, la familia y los amigos. *Rev Salud Publica*. 2014;16(2):208-220. doi:10.15446/rsap.v16n2.38983
- [45]. Tompsett CJ, Amrhein KE, Hassan S. Travel beyond the home neighborhood for delinquent behaviors: Moderation of home neighborhood influences. *J Adolesc*. 2014;37(4):325-333. doi:10.1016/j.adolescence.2014.02.001
- [46]. Rekker R, Pardini D, Keijsers L, Branje S, Loeber R, Meeus W. Moving in and out of poverty: The within-individual association between socioeconomic status and juvenile delinquency. *PLoS One*. 2015;10(11). doi:10.1371/journal.pone.0136461
- [47]. Trucco EM, Hicks BM, Villafuerte S, Nigg JT, Burmeister M, Zucker RA. Temperament and externalizing behavior as mediators of genetic risk on adolescent substance use. *J Abnorm Psychol*. 2016;125(4):565-575. doi:10.1037/abn0000143
- [48]. Jun H-J, Sacco P, Bright CL, Camlin EAS. Relations Among Internalizing and Externalizing Symptoms and Drinking Frequency During Adolescence. *Subst Use Misuse*. 2015;50(14):1814-1825. doi:10.3109/10826084.2015.1058826
- [49]. Banks DE, Hershberger AR, Pemberton T, Clifton RL, Aalsma MC, Zapolski TCB. Poly-use of cannabis and other substances among juvenile-justice involved youth: variations in psychological and substance-related problems by typology. *Am J Drug Alcohol Abuse*. 2019;45(3):313-322. doi:10.1080/00952990.2018.1558450
- [50]. Hunter SB, Miles JNV, Pedersen ER, Ewing BA, D'Amico EJ. Temporal associations between substance use and delinquency among youth with a first time offense. *Addict Behav*. 2014;39(6):1081-1086. doi:10.1016/j.addbeh.2014.03.002
- [51]. Moreland AD, Walsh K, Hartley C, et al. Investigating Longitudinal Associations Between Sexual Assault, Substance Use, and Delinquency Among Female Adolescents: Results From a Nationally Representative Sample. *J Adolesc Heal*. 2018;63(3):320-326. doi:10.1016/j.jadohealth.2018.04.002
- [52]. Frick PJ, Ray J V., Thornton LC, Kahn RE. Annual research review: A developmental psychopathology approach to understanding callous-unemotional traits in children and adolescents with serious conduct problems. *J Child Psychol Psychiatry Allied Discip*. 2014;55(6):532-548. doi:10.1111/jcpp.12152
- [53]. Docherty M, Boxer P, Huesmann LR, O'Brien M, Bushman B. Assessing Callous-Unemotional Traits in Adolescents: Determining Cutoff Scores for the Inventory of Callous and Unemotional Traits. *J Clin Psychol*. 2017;73(3):257-278. doi:10.1002/jclp.22313
- [54]. Sosnowski DW, Kliever W, Lepore SJ. The Role of Sleep in the Relationship Between Victimization and Externalizing Problems in Adolescents. *J Youth Adolesc*. 2016;45(9):1744-1754. doi:10.1007/s10964-016-0506-2
- [55]. King DC, Abram KM, Romero EG, Washburn JJ, Welty LJ, Teplin LA. Childhood maltreatment and psychiatric disorders among detained youths. *Psychiatr Serv*. 2011;62(12):1430-1438. doi:10.1176/appi.ps.004412010
- [56]. Augustyn MB, Thornberry TP, Henry KL. The reproduction of child maltreatment: An examination of adolescent problem behavior, substance use, and precocious transitions in the link between victimization and perpetration. *Dev Psychopathol*. Published online 2019:53-71. doi:10.1017/S0954579418001633
- [57]. Jackson CL, Hanson RF, Amstadter AB, Saunders BE, Kilpatrick DG. The Longitudinal Relation Between Peer Violent Victimization and Delinquency: Results From a National Representative Sample of U.S. Adolescents. *J Interpers Violence*. 2013;28(8):1596-1616. doi:10.1177/0886260512468328
- [58]. Gerteis J, Chartrand M, Martin B, et al. Are there effects of intrauterine cocaine exposure on delinquency during early adolescence? A preliminary report. *J Dev Behav Pediatr*. 2011;32(5):393-401. doi:10.1097/DBP.0b013e318218d9f2
- [59]. Richardson GA, Goldschmidt L, Larkby C, Day NL. Effects of prenatal cocaine exposure on adolescent development. *Neurotoxicol Teratol*. 2015;49:41-48. doi:10.1016/j.ntt.2015.03.002
- [60]. Maurer JM, Paul S, Anderson NE, Nyalakanti PK, Kiehl KA. Youth with elevated psychopathic traits exhibit structural integrity deficits in the uncinate fasciculus. *NeuroImage Clin*. 2020;26(March):102236. doi:10.1016/j.nicl.2020.102236
- [61]. Lansing AE, Virk A, Notestine R, Plante WY, Fennema-Notestine C. Cumulative trauma, adversity and grief symptoms associated with fronto-temporal regions in life-course persistent delinquent boys. *Psychiatry Res Neuroimaging*. 2016;254:92-102. doi:10.1016/j.psychres.2016.06.007
- [62]. Steele VR, Rao V, Calhoun VD, Kiehl KA. Machine learning of structural magnetic resonance imaging predicts psychopathic traits in adolescent offenders. *Neuroimage*. 2017;145(Pt B):265-273. doi:10.1016/j.neuroimage.2015.12.013
- [63]. Backman H, Laajasalo T, Saukkonen S, Salmi V, Kivivuori J, Aronen ET. Are qualitative and quantitative sleep problems associated with delinquency when controlling for psychopathic features and parental supervision? *J Sleep Res*. 2015;24(5):543-548. doi:10.1111/jsr.12296
- [64]. Hambrick EP, Rubens SL, Brawner TW, Taussig HN. Do sleep problems mediate the link between adverse childhood experiences and delinquency in preadolescent children in foster care? *J Child Psychol Psychiatry*. 2018;59(2):140-149. doi:10.1111/jcpp.12802
- [65]. Harden KP, Mendle J. Gene-environment interplay in the association between pubertal timing and delinquency in adolescent girls. *J Abnorm Psychol*. 2012;121(1):73-87. doi:10.1037/a0024160
- [66]. Mrug S, Elliott MN, Davies S, Tortolero SR, Cuccaro P, Schuster MA. Early puberty, negative peer influence, and problem behaviors in adolescent girls. *Pediatrics*. 2014;133(1):7-14. doi:10.1542/peds.2013-0628
- [67]. Senia JM, Donnellan MB, Neppl TK. Early pubertal timing and adult adjustment outcomes: Persistence, attenuation, or accentuation? *J Adolesc*. 2018;65:85-94. doi:10.1016/j.adolescence.2018.03.003
- [68]. Bronfenbrenner U. Contexts of child rearing: Problems and prospects. *Am Psychol*. 1979;34(10):844-850. doi:10.1037/0003-066X.34.10.844
- [69]. Zajac K, Randall J, Swenson CC. Multisystemic Therapy for Externalizing Youth. *Child Adolesc Psychiatr Clin N Am*. 2015;24(3):601-616. doi:10.1016/j.chc.2015.02.007
- [70]. Vidal S, Steeger CM, Caron C, Lasher L, Connell CM. Placement and Delinquency Outcomes Among System-Involved Youth Referred to Multisystemic Therapy: A Propensity Score Matching Analysis. *Adm Policy Ment Heal Ment Heal Serv Res*. 2017;44(6):853-866. doi:10.1007/s10488-017-0797-y
- [71]. Asscher JJ, Deković M, Van den Akker AL, Prins PJM, Van der Laan PH. Do Extremely Violent Juveniles Respond Differently to Treatment? *Int J Offender Ther Comp Criminol*. 2018;62(4):958-977. doi:10.1177/0306624X16670951
- [72]. Blankenstein A, van der Rijken R, Eeren H V., et al. Evaluating the effects of multisystemic therapy for adolescents with intellectual disabilities and antisocial or delinquent behaviour and their parents. *J Appl Res Intellect Disabil*. 2019;32(3):575-590. doi:10.1111/jar.12551

- [73]. Sorensen LC, Dodge KA, Bierman KL, et al. How Does the Fast Track Intervention Prevent Adverse Outcomes in Young Adulthood? *Child Dev.* 2016;87(2):429-445. doi:10.1111/cdev.12467
- [74]. Spoth RL, Trudeau LS, Redmond C, et al. PROSPER partnership delivery system: Effects on adolescent conduct problem behavior outcomes through 6.5 years past baseline. *J Adolesc.* 2015;45:44-55. doi:10.1016/j.adolescence.2015.08.008
- [75]. Andrews DA, Bonta J. Classification for effective rehabilitation: Rediscovering Psychology. *Crim Justice Behav.* 1990;17(1):19-52. doi:10.1177/0093854890017001004
- [76]. de Vries SLA, Hoeve M, Asscher JJ, Stams GJJM. The Long-Term Effects of the Youth Crime Prevention Program “New Perspectives” on Delinquency and Recidivism. *Int J Offender Ther Comp Criminol.* 2018;62(12):3639-3661. doi:10.1177/0306624X17751161
- [77]. De Vries SLA, Hoeve M, Assink M, Stams GJJM, Asscher JJ. Practitioner review: Effective ingredients of prevention programs for youth at risk of persistent juvenile delinquency - Recommendations for clinical practice. *J Child Psychol Psychiatry Allied Discip.* 2015;56(2):108-121. doi:10.1111/jcpp.12320
- [78]. Deković M, Slagt MI, Asscher JJ, Boendermaker L, Eichelsheim VI, Prinzie P. Effects of early prevention programs on adult criminal offending: A meta-analysis. *Clin Psychol Rev.* 2011;31(4):532-544. doi:10.1016/j.cpr.2010.12.003
- [79]. Spruit A, van der Put C, van Vugt E, Stams GJ. Predictors of Intervention Success in a Sports-Based Program for Adolescents at Risk of Juvenile Delinquency. *Int J Offender Ther Comp Criminol.* 2018;62(6):1535-1555. doi:10.1177/0306624X17698055
- [80]. Catalano RF, Fagan AA, Gavin LE, et al. Worldwide application of prevention science in adolescent health. *Lancet.* 2012;379(9826):1653-1664. doi:10.1016/s0140-6736(12)60238-4
- [81]. Kingston B, Bacallao M, Smokowski P, Sullivan T, Sutherland K. Constructing “Packages” of Evidence-Based Programs to Prevent Youth Violence: Processes and Illustrative Examples From the CDC’s Youth Violence Prevention Centers. *J Prim Prev.* 2016;37(2):141-163. doi:10.1007/s10935-016-0423-x

Abbreviations

SciELO: Scientific Electronic Library Online

USA: United States of America

ADHD: Attention Deficit-Hyperactivity Disorder

CD: Conduct Disorder

ODD: Oppositional Defiant Disorder

SU Substance Use

MST: MultiSystemic Therapy

NP: New Perspective

CAU: Care As Usual

AJB: AlleenJijBepaaltWie Je Bent/ “Only You Decide Who You Are”

YVPC: National Centers of Excellence in Youth Violence Prevention

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