



## Article

# Personal, Familial, Psychosocial and Behavioral Characteristics of Arab Juvenile Delinquents: The Context of Jordan

Latefa Ali Dardas <sup>1,\*</sup>, Nadia Sweis <sup>2</sup>, Bayan Abdulhaq <sup>3</sup>, Ghada Shahrour <sup>4</sup>, Amjad Al-Khayat <sup>5</sup>, Atef Shawashreh <sup>6</sup>, Mohammad AlKhayat <sup>7,8</sup> and Ibrahim Aqel <sup>9</sup>

<sup>1</sup> Community Health Nursing Department, School of Nursing, The University of Jordan, Amman 11942, Jordan

<sup>2</sup> Department of Medicine, Division of Endocrinology, Diabetes, and Metabolism, The University of Illinois at Chicago, Chicago, IL 60612, USA

<sup>3</sup> School for International Training, Study Abroad Jordan: Refugee Health and Humanitarian Action Program, Amman 11183, Jordan

<sup>4</sup> Community Health Nursing Department, School of Nursing, Jordan University of Science and Technology, Irbid 22110, Jordan

<sup>5</sup> Department of Educational Sciences, Salt Faculty, Al-Balqa' Applied University, Al-Salt 19117, Jordan

<sup>6</sup> Psychological Sciences Association, Amman 11942, Jordan

<sup>7</sup> Faculty of Medicine, Mutah University, Karak 61710, Jordan

<sup>8</sup> Jordan University Hospital, Amman 11942, Jordan

<sup>9</sup> The Institute for Family Health, King Hussein Foundation, Amman 11910, Jordan

\* Correspondence: l.dardas@ju.edu.jo



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**Abstract:** Delinquency in adolescence is rooted in a complex multifaceted system that comprises several factors such as personal characteristics, family, school, peers, and community, all of which are embedded in the sociocultural context in which they are present. There is a paucity of research on juvenile delinquency and its risk factors across many regions, especially low- and middle-income countries, including Arab countries. This study aimed to develop an understanding of the personal, familial, and behavioral characteristics of Arab juvenile delinquents in the distinctive sociocultural context of Jordan. All juveniles who were incarcerated at the time of data collection (N = 197) were targeted using a convenience sampling approach from a total of 11 juvenile rehabilitation centers distributed over the northern, middle, and southern regions of the country. Anonymous surveys were used to collect data on juvenile delinquents' personal, familial, psychosocial, and behavioral characteristics. A total of 186 juvenile delinquents completed the study questionnaire (9.7% females). About 52% were not attending school regularly, 32% had divorced, separated, or deceased parents, 6% reported receiving a diagnosis of mental illness, and 91% reported they never sought psychological support of any kind. Regarding substance consumption, 70% were smokers, 26% were alcohol consumers, and 15% were on drugs. About 12% spent more than 7 h on their cellphones, and 43% reported dedicating no time for physical activity. Theft was the most frequently reported offense (35%), followed by quarreling with peers (25%), and possession of drugs (9%). Approximately 42% reported that their friends encouraged them to cause trouble, while the majority (74%) reported that their school had no positive or negative influence on their behavior. Several behavioral problems were detected, with females showing significantly higher scores in impulsivity, inattention, emotional lability, and social problems compared to their male counterparts. Severity of the conduct problems was negatively associated with the length of engagement in physical activities, while both impulsivity and inattention scores were positively associated with the length of engagement in watching TV and using cellphones (all  $p < 0.05$ ). Overall, these juvenile delinquents have unsatisfactory academic and schooling experiences, engage in unhealthy lifestyles and exhibit several behavioral problems. Differences in juvenile delinquency risk factors across different sociocultural contexts can influence prevention efforts. Comprehensive prevention strategies that reduce risk and develop protective factors need to target juveniles early in their development and consider factors related to their families, schools, peers, and communities.

**Keywords:** adolescents; arabs; delinquents; juveniles; offenses

## 1. Introduction

Juvenile delinquency is a mass social phenomenon that is culpable of widespread challenges in communities. It has classically been defined as the engagement of minors who are under the statutory age of majority in illicit or illegal behaviors (Siegel and Welsh 2016). According to the latest publication of the United States Office of Juvenile Justice and Delinquency Prevention, there were 22.7 delinquency cases processed by juvenile courts for every 1000 juveniles in the population in 2019. Despite the paucity of formal efforts to track juvenile delinquency worldwide, it affects youth of all genders, origins, and social backgrounds. However, in spite of this ubiquitous influence, several factors appear to facilitate the involvement of a juvenile in delinquent behavior (Molinedo-Quílez 2020). Therefore, the culprit in this phenomenon is often regarded to be an interplay of several economic and sociocultural influences, as well as familial and individual factors (Molinedo-Quílez 2020).

Individual factors play a major role in the juvenile's susceptibility to delinquency. Generally, males are more likely than females to engage in misconduct and delinquent activity. Several hypotheses have attempted to explain this gender difference, including the possible vulnerability of males to delinquency risk factors compared to females, the higher exposure to such factors, or a potentially different etiology altogether (Hoeve et al. 2009; Whitney et al. 2010). Certain personal characteristics also predispose to delinquent behavior, such as dishonesty, antisocial attitudes and tendencies, and positive perceptions of violence and antagonism (Molinedo-Quílez 2020).

Environmental and contextual factors also have a well-established role in the development of antisocial and delinquent behavior. Truancy from school provides adequate time and opportunity for misconduct, which is often accompanied by poor academic performance and subsequently poor self-esteem, ultimately encouraging further antisocial behavior (Molinedo-Quílez 2020). Juvenile delinquents have been shown to have a general lack of interest in school and education. Conversely, school engagement, bonds, and academic performance have been demonstrated to act as protective factors for lowering delinquency in general, and violent conduct in particular, for those at risk for such behavior (Lamari-Fisher and Bond 2021; Wilkinson et al. 2019). Special educational diagnoses such as learning disabilities play an important role in predicting delinquency and its patterns. Juveniles with learning disabilities are more likely to commit delinquent offenses, be involved in more serious offenses, and commit a second offense when compared to juveniles without such disabilities. Additionally, learning difficulties make 32% nearly twice as likely as their peers without this diagnosis to commit their first offense before the age of 14 (Barrett et al. 2014).

Experiences with peers and within the circle of friends help to solidify a person's identity and express their individuality. Juveniles tend to search for mass identification within the friend group as a defense mechanism, thereby building and enhancing self-esteem. Thus, close coexistence with peers that have criminal inclinations has a prominent influence on the involvement in delinquency (Molinedo-Quílez 2020; Murray and Farrington 2010), and this has been shown to be consistent cross-nationally (Parks et al. 2020).

In adolescence, delinquency and substance abuse often go hand in hand, implying a reciprocal relationship between the two. Alcohol and drugs particularly impair behavioral control and incite destructive actions, contributing to a significant proportion of adolescents conflict with the law (Dória et al. 2015). A secondary analysis of data from Florida Youth Substance Abuse Survey in 2014 revealed that certain unlawful and precarious behaviors are linked to the use of alcohol and marijuana (Sharp et al. 2019). Similarly, the 2016 National Population Census in Peruvian Juvenile Detention Centers indicated that over a half of juvenile delinquents in Peru reported substance abuse, with cannabis being the most abused substance (Vargas-Fernández et al. 2019).

Juvenile offenders also have a substantially elevated risk for mental health issues compared with their non-offender counterparts. Juvenile offenders have higher levels of depression, anxiety, and emotional instability than non-offenders (Mestre et al. 2017). Additionally, it is estimated that two-thirds of male juvenile delinquents qualify for a

diagnosis of at least one psychiatric disorder (Teplin et al. 2002), and 1 in every 5 juvenile delinquents are afflicted with severe functional impairment due to their mental illness (Underwood and Washington 2016). Juveniles who engage in deviant or criminal activity also demonstrate increased impulsiveness and a lack of self-control (Molinedo-Quílez 2020) and have higher rates of ADHD (Knecht et al. 2015). A review by Young and Thome indicated that 45% of juvenile delinquents had a history of ADHD, with 14% remaining symptomatic as adults (Young and Thome 2011). Other behavioral factors, such as aggressiveness and conduct disorders, are powerful predictors of a juvenile's future delinquency as well (Barrett et al. 2014; Young et al. 2016). Comorbidity with ADHD and Conduct Disorder further increases the risk of disruptive behaviors and more severe disturbances and psychiatric comorbidities (Lindblad et al. 2020).

Alternatively, several criminological theories have also attempted to explain why certain people become involved in crime and delinquent behavior (Zembroski 2011). The individualistic, positivist approach taken to explain delinquent behavior was critiqued by Durkheim in 1951, who proposed that human criminal behavior is founded in the group and society at large rather than in the individual (Durkheim 1951). In his theory of anomie, he explains how individualism and the division of labor cause social differentiation and strained relationships, leading to the degradation of society and moral order, and contributing to crime (Durkheim 1951, 1964). Other theorists have also brought forth similar theories, most notably the Chicago School, which proposes that crime is committed by those who do not have viable opportunities for success and pertain to delinquent cultures and norms (Park and Burgess 1936; Shaw and McKay 1972). In contrast, the conflict theory rejects the idea that crime is a product of societal breakdown and suggests that it is rather the result of the continuous conflict between the ones who hold power and authority and the ones who do not (Adler et al. 2001). These theories, along with many others, can be interpreted, combined, and applied to aid in explaining the underlying processes of delinquent behavior.

Juveniles' deviant behavior therefore is rooted in a complex multifaceted system that comprises several factors such as personal characteristics, family, school, peers, and community, all of which are embedded in the sociocultural context in which they are present. Differences in juvenile delinquency risk factors across different sociocultural contexts could subsequently arise, which influences prevention efforts that are tailored to such factors. However, there is a paucity of research on juvenile delinquency and its risk factors across many regions, especially low- and middle-income countries, including Jordan and other Arab countries. Thus, this study aims to provide a description of the personal, familial, and behavioral characteristics of Arab juvenile delinquents in the distinctive sociocultural context of Jordan. Results from this study can potentially influence the development of informed preventive measures directed at factors specific to these regions.

## 2. Methods

### 2.1. Design

A descriptive, cross-sectional study was utilized to collect data from juvenile delinquents in collaboration with the Juvenile Police Department and Institute for Family Health—Noor Al Hussein Foundation (Non-governmental Jordanian organization). All juvenile delinquents who were incarcerated at the time of data collection (N = 197) were targeted using a convenience sampling approach from a total of 11 juvenile rehabilitation centers distributed over the northern, middle, and southern regions of the country. Of these centers, two were for females.

### 2.2. Data Collection Procedure

As per the Ministry of Social Development's regulations, researchers are not allowed to collect data directly from incarcerated juveniles. Rather, the psychologist or the social worker who is assigned to each center is the one who contacts the juveniles for data collection, as well as obtaining parental consent. Abiding by this, the researcher (LD) met

with all psychologists/social workers and provided a full description regarding the study's purpose, benefits, risks, and procedures. The study's package, which included the survey's cover letter, assent forms, and questionnaires, was handed to the psychologists/social workers, through whom it reached the juveniles. After receiving all information about the study, juveniles who agreed to participate in the study received the package and were asked to fill the questionnaire and return it sealed to the psychologist/social worker. No names or personal identifiers were required. Once all envelopes were gathered, the psychologist/social worker called the researcher to officially receive them.

### 2.3. Measures

The study collected data on juvenile delinquents' personal, familial, psychosocial, and behavioral characteristics. Specifically, a researcher-adapted questionnaire was used to gather information related to juveniles' gender, age, region of residence, school attendance, GPA, employment, parental education, family income, parental marital status, household members, medical health, problems in learning/academic achievement, mental health, substance use and abuse, lifestyle, family history of mental health problems, family history of offenses commitment, personal history of offenses commitment (type, place, frequency, legal consequences), and history of seeking mental health support. In addition, the Adolescent Behavior Checklist (Adams et al. 1998) was used to assess the presence and severity of behavioral problems. The ABC is a 48-item measure that includes six subscales assessing conduct problems, impulsivity/hyperactivity, poor work habits, inattention, emotional lability, and social and academic problems.

## 3. Results

### 3.1. Juvenile Delinquents' Sociodemographic Characteristics

A total of 186 juvenile delinquents completed the study questionnaire. Of them, 18 (9.7%) were girls and those were the entire population of female delinquents incarcerated at the time of data collection. About 65% of the juveniles aged 16–17, 59% were from the central region, 52% were not attending school regularly, 36% had a fair GPA of less than 69, and 45% were working (7 h per day on average). Approximately, 32% of the juvenile delinquents had divorced, separated, or deceased parents, 34% were living with either the mother, father, grandparents, or in a foster home, while 65% were living with both parents. Table 1 details all sociodemographic characteristics.

**Table 1.** Juvenile delinquents' socio-demographic characteristics (N = 186).

Characteristic	n (%)
Gender	
Female	18 (9.7%)
Male	168 (90.3%)
Age in years	
12	9 (5.1%)
13	5 (2.8%)
14	8 (4.6%)
15	38 (21.5%)
16	38 (21.5%)

**Table 1.** *Cont.*

<b>Characteristic</b>	<b>n (%)</b>
17	78 (44.3%)
<b>Residence</b>	
<i>North</i>	58 (31.2%)
<i>Centre</i>	109 (58.6%)
<i>South</i>	19 (10.2%)
<b>Regular school attendance</b>	
<i>Yes</i>	84 (48%)
<i>No</i>	91 (52%)
<b>High School Stream</b>	
<i>Scientific</i>	9 (10.1%)
<i>Literary</i>	27 (30.3%)
<i>Vocational</i>	53 (59.6%)
<b>GPA *</b>	
<50	4 (3.2%)
50–59	10 (8.1%)
60–69	31 (25.2%)
70–79	38 (30.9%)
80–90	32 (26.1%)
90–100	8 (6.5%)
<b>Work</b>	
<i>Yes</i>	84 (45.4%)
<i>No</i>	101 (54.6%)
<b>Father's level of education</b>	
<i>Uneducated</i>	48 (26.4%)
<i>Elementary school</i>	62 (34.1%)
<i>High school</i>	43 (23.6%)
<i>Diploma/Community college</i>	8 (4.4%)
<i>Bachelors or higher</i>	21 (11.5%)
<b>Mother's level of education</b>	
<i>Uneducated</i>	44 (23.9%)
<i>Elementary school</i>	55 (29.9%)
<i>High school</i>	55 (29.9%)
<i>Diploma/Community college</i>	7 (3.8%)
<i>Bachelors or higher</i>	23 (12.5%)
<b>Average monthly income of family</b>	
<i>Less than JD150 (\$211)</i>	32 (17.4%)
<i>JD151–365 (\$212–515)</i>	81 (44%)
<i>JD366–500 (\$516–705)</i>	37 (20.1%)

**Table 1.** *Cont.*

Characteristic	n (%)
<i>JD501–1000 (\$706–1410)</i>	32 (17.4%)
<i>JD1001–1500 (\$1411–2115)</i>	1 (0.5%)
<i>More than JD1500 (\$2115)</i>	1 (0.5%)
Parents' marital status	
<i>Married</i>	126 (67.7%)
<i>Divorced</i>	14 (7.5%)
<i>Separated</i>	11 (5.9%)
<i>Father deceased</i>	25 (13.4%)
<i>Mother deceased</i>	10 (5.4%)
Who do you live with	
<i>Father and mother</i>	122 (65.6%)
<i>Father</i>	14 (7.5%)
<i>Mother</i>	32 (17.2%)
<i>Grandfather or grandmother</i>	4 (2.2%)
<i>Foster home</i>	9 (4.8%)
<i>Other</i>	5 (2.7%)
Family member charged with a crime	
<i>Yes</i>	22 (22.2%)
<i>No</i>	77 (77.8%)

\* Grade point average (GPA) based on numerical average across courses.

### 3.2. Juvenile Delinquents' Health Characteristics

About 11% of the juveniles reported having a chronic medical health problem, while 6% reported receiving a diagnosis of mental illness. In addition, 13% reported having a close family member with a diagnosis of mental illness. Approximately 91% of the juveniles reported they never sought psychological support of any kind. Regarding substance consumption, 70% reported they were smokers of 1 (15%), 2 (50%), to 20 (14%) cigarettes a day. 26% reported they consumed alcohol at least one time in their lives, and 15% reported they were on drugs. Table 2 details all reported health characteristics.

### 3.3. Juvenile Delinquents' Lifestyle Characteristics

In response to questions regarding how they often spend their time over a day, 50% reported that they frequent coffeeshops, billiards, and/or internet cafes, 36% spend 1–3 h on TV, 12% spend more than 7 h on their cellphones/tablets, and 26% spend 1–3 h playing videogames. In addition, 29% reported they had zero hours dedicated to schoolwork, while 43% reported dedicating no time for physical activity. Table 3 provides more details on these variables.

**Table 2.** Juvenile delinquents' health characteristics (N = 186).

Characteristic	n (%)
Medical conditions or health issues	
Yes	21 (11.4%)
No	164 (88.6%)
Previous diagnosis of a mental illness	
Yes	11 (5.9%)
No	174 (94.1%)
Type of diagnosis	
<i>Depression</i>	6 (50%)
<i>Bipolar disorder</i>	1 (8.3%)
<i>Schizophrenia</i>	1 (8.3%)
<i>Anxiety</i>	2 (16.7%)
<i>Other</i>	2 (16.7%)
Mental illness in family members	
Yes	24 (13%)
No	161 (87%)
Sought psychological help	
Yes	11 (9.6%)
No	104 (90.4%)
Source of psychological help	
<i>Counseling psychologist</i>	49 (52.7%)
<i>Psychiatrist</i>	40 (43%)
<i>Sheikh or cleric</i>	2 (2.2%)
<i>A family member</i>	2 (2.2%)
Smoking	
Yes	101 (69.7%)
No	44 (30.3%)
Alcohol consumption	
Yes	28 (25.7%)
No	81 (74.3%)
Drugs consumption	
Yes	15 (15%)
No	85 (85%)

### 3.4. Juvenile Delinquents' Offenses

This study also collected data on juvenile offense types, frequency, location, and related arrests/incarcerations. Theft was the most frequently reported offense (35%), followed by quarreling with peers (25%), and possession of drugs (9%). Table 4 includes other reported offenses. When asked about the location of offense commitments, the majority (70%) reported they committed them away from their homes. Of the 186 juveniles, 59% were incarcerated for the first time. The rest (41%) were incarcerated several times [2–4 times (44%); 5–8 times (29%)]. About 26% of the juveniles reported they committed their offenses when their close friends accompanied them. When asked about the role of friends in offense/problem involvement, 42% reported that their friends encouraged them to cause trouble, 18% reported their friends tried to

stop them from causing trouble, while 16% reported they learnt their misdemeanors from their friends. Juveniles were also asked whether their schools had any role in shaping their delinquent behaviors. The majority (74%) reported that it had no influence, 14% reported that their teachers' attitudes had a negative impact, 5% reported that their peers caused their problems, 2% reported that their school's administration and disciplinary actions worsened their behaviors, while 4% reported that their poor academic performance triggered their misdemeanors. Finally, about 62% of the juveniles reported they did not receive any kind of support from the juvenile department. Of those who reported receiving help, 32% reported they were presented to a social worker, and 24% reported they received home visits from a juvenile department representative.

**Table 3.** Juvenile delinquents' lifestyle characteristics (N = 186).

Characteristic	n (%)
<b>Hobby</b>	
Yes	75 (75.8%)
No	24 (24.2%)
<b>Frequenting coffeeshops, billiards halls, internet cafes</b>	
Yes	50 (50.5%)
No	49 (49.5%)
<b>Hours of studying per day</b>	
0	53 (28.5%)
Less than 1	35 (18.8%)
1–3	71 (38.2%)
4–7	27 (14.6%)
<b>Hours of watching TV per day</b>	
0	25 (13.4%)
Less than 1	44 (23.7%)
1–3	66 (35.5%)
4–7	29 (15.6%)
More	22 (11.8%)
<b>Hours of using a cellphone/tablet per day</b>	
0	47 (25.5%)
Less than 1	43 (23.4%)
1–3	42 (22.8%)
4–7	30 (16.4%)
More	22 (11.9%)
<b>Hours of playing videogames per day</b>	
0	29 (30.2%)
Less than 1	1 (1%)
1–3	25 (26%)
4–7	12 (12.5%)
More	9 (9.4%)
<b>Hours of physical activity per week</b>	
0	42 (42.8%)
1–3	41 (42.3%)
4–7	9 (9.3%)
More	5 (5.2%)

**Table 4.** Juvenile delinquents' offenses commitment and handling approaches (N = 186).

Characteristic	n (%)
Type of offenses committed	
<i>Theft</i>	28 (35.1%)
<i>Quarrel with peers</i>	20 (25%)
<i>Possession of drugs</i>	7 (8.8%)
<i>Driving with no license</i>	3 (3.8%)
<i>Sabotaging public property</i>	2 (2.5%)
<i>Threatening</i>	1 (1.3%)
<i>Escape from home</i>	1 (1.3%)
<i>Other</i>	18 (22.5%)
Location of offense	
<i>Away from home but in the same neighborhood</i>	67 (36.6%)
<i>Close to home</i>	57 (31.1%)
<i>Outside the neighborhood</i>	45 (24.6%)
<i>Out of town</i>	14 (7.7%)
Number of visits to the juvenile police department	
<i>First time</i>	69 (58.5%)
<i>More than once</i>	49 (41.5%)
Receiving assistance from the juvenile department	
<i>Yes</i>	71 (38.2%)
<i>No</i>	115 (61.8%)
Presenting to a social worker	
<i>Yes</i>	59 (31.7%)
<i>No</i>	127 (68.3%)
Receiving home visits from the juvenile department	
<i>Yes</i>	44 (23.7%)
<i>No</i>	142 (76.3%)
Making a settlement in the juvenile department without going to court	
<i>Yes</i>	68 (49.3%)
<i>No</i>	70 (50.7%)

### 3.5. Juvenile Delinquents' Behavioral Problems

This study measured several behavioral problems among juvenile delinquents, including conduct problems, impulsivity, poor work habits, inattention, emotional lability, and social problems. Results are presented in Table 5. Standardized total scores (percentages) were calculated for the six domains to allow comparing results. The most commonly reported problems were emotional lability (51%), followed by poor working habits (49%), and impulsivity (49%). Gender-based difference in the behavioral problems appeared between male and female juvenile delinquents. In particular, with the exception of 'poor work habit' scale, females showed significantly higher scores on all behavioral scales including conduct problems, impulsivity, inattention, emotional lability, and social problems than their male counterparts. Analysis also revealed a significant inverse relationship between the severity

of juveniles' conduct problems and the length of engagement in physical activities ( $p < 0.05$ ). On the other hand, there were significant positive relationships between juveniles' conduct problems, impulsivity, inattention, and the length of engagement in watching TV and using cellphones (all  $p < 0.05$ ).

**Table 5.** Juvenile delinquents' behavioral problems (N = 186, Males = 168, Females = 18).

Behavioral Problems	(M ± SD)	Q1	Median	Q3	Data Range	Possible Range
Conduct Problems *	17.06 ± 6.77	12	15	21	10–37	10–40
<i>Female</i>	23.05 ± 10.53	12	23	34	10–37	
<i>Male</i>	16.42 ± 5.93	12	15	20	10–37	
Impulsivity/Hyperactivity *	19.55 ± 6.26	15	18	23	10–40	10–40
<i>Female</i>	23.77 ± 10.52	14	24	34	10–37	
<i>Male</i>	19.10 ± 5.48	15	18	23	10–40	
Poor Work Habits	17.73 ± 5.99	13	17	22	9–33	9–36
<i>Female</i>	20.27 ± 7.75	10.75	23.5	27.25	9–29	
<i>Male</i>	17.46 ± 5.74	13	17	21	9–33	
Inattention *	11.48 ± 4.47	8	11	14.25	6–24	6–24
<i>Female</i>	13.94 ± 5.60	7.75	15.5	19	6–23	
<i>Male</i>	11.22 ± 4.62	8	10	14	6–24	
Emotional Lability *	10.15 ± 3.60	7	10	12.25	5–20	5–20
<i>Female</i>	12.94 ± 4.81	7.75	16	17	6–19	
<i>Male</i>	9.85 ± 3.33	7	9	12	5–20	
Social Problems *	7.36 ± 2.43	5.75	7	9	4–16	4–16
<i>Female</i>	8.66 ± 3.00	6	9	11.25	4–13	
<i>Male</i>	7.22 ± 2.33	5	7	9	4–16	

\* There was a significant difference between gender at  $p < 0.05$  from a *t*-test.

#### 4. Discussion

This study provided an extensive account on the personal, familial, and sociocultural factors relating to delinquency among Jordanian juveniles, and this is considered the first study to understand juvenile delinquent factors within the Jordanian culture. In sum, these juvenile delinquents have unsatisfactory academic and schooling experiences, engage in unhealthy lifestyles and exhibit several behavioral problems.

The literature on juvenile delinquency indicated that male juveniles constituted the majority of cases, and this is in line with the current study. In two studies of Turkey, a neighboring country to Jordan, male offenders constituted 98% and 82.6%, respectively (Ozen et al. 2005; Zeren et al. 2013). Male prominence for juvenile delinquency was also reported in Thailand, Pakistan, and Singapore (Huan et al. 2010; Panezai et al. 2019). However, it should be noted that while girls often commit less offenses that are less serious, their offenses may mask much more serious problems (Zahn et al. 2010). Results from this study support this claim as females showed significantly higher scores on all behavioral scales including conduct problems, impulsivity, inattention, emotional lability, and social problems than their male counterparts.

Previous studies indicated that late adolescence is the period in which the majority of juveniles allegedly become involved in an offense. In resemblance to those studies reporting delinquency among adolescents to occur mainly in the 14–18 age group (Kurtuluş et al. 2009; Panezai et al. 2019; Zeren et al. 2013), our juvenile delinquents of 15 to 17 years old constituted the majority of cases and were living in the center of the country. Previous

studies reported more frequent delinquencies in cities compared to rural areas (Alnajjar and Al-Hilawani 1999; Farrington and Loeber 2000). Ozen et al. (2005) attributed low offense rates in villages to the modest lifestyle of village residents, in addition to having close acquaintances with one another and higher social control. The social fabric of urban residents in Jordan is different than that of the rural one. Stronger social ties, adherence to tribe rules and regulations, and living a modest lifestyle is more prevalent in the outskirts of the country than the center part.

Family characteristics related to our juvenile delinquents showed that the majority were living with both parents and almost a quarter of mothers and fathers were illiterate and with low monthly income. Some of these juveniles had a family member with an existing mental disorder including bipolar depression and schizophrenia and/or charged with an offense. Studies revealed that delinquency is correlated with children from broken families or separated parents (Bilgin et al. 2005; Kurtuluş et al. 2009) as these children are found to have weak coping to stress, poor social skills, and a high tendency to join friends who are substance users (Bilgin et al. 2005). However, living in a relatively regular family does not seem to tackle delinquency alone. In the study of Zeren et al. (2013), 91.2% of delinquents lived with their biological parents and 93.7% never witnessed domestic violence. It seems that the living conditions of the family and the psychological integrity of parents have a more crucial impact on delinquency among juveniles. Studies have shown that poverty, delinquent family members, and low parental educational level are causing factors of delinquency among juveniles (Haider and Mahsud 2010; Wagner-Rizvi and Anees 2003). Parent's low income and educational level were attributed to poor academic performance and negative school experiences (Mahmood and Cheema 2004; Silpasuwan et al. 2011). In the present study, juvenile delinquents reported poor academic status represented by their failure to attend school regularly, reporting low academic performance, and attending vocational education, which is often the stream of choice for those who perform poorly at school. Some juveniles attributed teachers' attitudes towards them and to a lesser degree those of the school administration to their delinquent behaviors. In the literature, nonattendance, low academic achievement, and teacher rejection were found to contribute to juvenile delinquency (Aizer and Currie 2019; Ruangkanhasetr et al. 2005; Silpasuwan et al. 2011). Other factors included school dropout, illiteracy, or interrupted schooling (Bilgin et al. 2005). However, and contrary to the literature, our juveniles did not drop out from school and were neither illiterate nor had interrupted schooling. Although a good percentage had vocational education, others were in the scientific or literary streams of education and spent on average 1 to 3 h of studying per day. Jordanian culture places high emphasis on education and pursuing education does not necessarily prevent juveniles from committing delinquent behaviors. This warrants the school system to monitor and improve the conditions at school in the direction of mitigating and preventing delinquency among children. Proving support and guidance for juveniles during this critical period of development is one step towards achieving such aims.

In the current study, 11.3% of the juveniles reported physical complaints, mainly shortness of breath, asthma, muscle spasms, and prolapsed disc. It is noteworthy that almost half of the juveniles reported working about 5 to 8 h per day to make some money. Given that a good percentage of these juveniles were in the vocational stream, it seems that their blue-collar jobs may have contributed to their physical complaints. About 6% of juveniles were also diagnosed with mental disorders, mainly depression and anxiety, followed by bipolar and schizophrenia, and a small percentage sought psychological assistance whether in the form of counseling or psychiatric evaluation. The health of our juveniles was further compromised by smoking, drinking alcohol, or using illicit drugs. A significant portion of the juveniles were smokers and consumers of alcohol and drugs, as 69.7% reported smoking, while 25.7% and 15% were consumers of alcohol and drugs, respectively. In contrast, a study conducted in 2020 involving 2741 Jordanian high school students showed that 20.9% of all students smoked cigarettes monthly; the rate of smoking being higher in males (31%) compared to females (10.8%) (Alshammari et al.

2022). Compromised physical and psychological problems among juvenile detainees have been reported in the literature. In a study of 192 juvenile offenders, 19% of the children had significant medical problems and 7% had a psychiatric disorder (Dolan et al. 1999). It has been even found that depression, anxiety, schizophrenia, and the use of drugs are causative factors of juvenile delinquency (Kausar et al. 2012; Levine and Coupey 2003; Ruangkanhasetr et al. 2005). Mental disorders among juvenile delinquents have been reported to increase the frequency of recurrent delinquency (McReynolds et al. 2010). Rate of cigarette smoking and drug use were higher among this sample of delinquents compared to those reported in Thailand (20% for cigarette smoking, 9.8% for drug use), Pakistan (20.2% cigarette smoking, 13.8% drug use), and Switzerland (35.5% for drug use) (Gisin et al. 2012; Panezai et al. 2019). Frequent places of drug use included a neighborhood with close relatives or friends, schools, bars, liquor stores, restaurants, and night clubs. This may relate to the availability of these substances and ease of access. In the past few years, Jordan has witnessed a growth in the alcohol market and a widespread use of illegal drugs' trading. Cigarette smoking has been an alarming issue for many years in Jordan. According to a recent report published by *The Guardian* (2020), Jordan has been announced to be the highest in tobacco smoking in the world, with 66.1% of citizens are daily consumers of tobacco. The situation is even compounded for juveniles due to the absence of laws and regulations that prevent selling tobacco products or alcohol to this age group.

A good percentage of juvenile delinquents indicated participating in voluntary work and pursuing a hobby, particularly playing football and swimming. Furthermore, about 42% of juveniles engaged in physical activity, averaging 1 to 3 h per week. Physical activity was in the form of playing football and swimming, indicating the practice of their hobby. In comparison, other studies involving Jordanian adolescent students reported higher rates of physical activity. In their study that included 2741 Jordanian students, Alshammari et al. had also reported that 68.3% of students were engaged in weekly physical activity (Alshammari et al. 2022). Similar results were shown in another study that involved Jordanian adolescents; where 83.3% of the sample reported at least 60 min of physical activity per day in the last 7 days (Malak 2015). Half of the juveniles were also frequent attenders of cafes, billiards, and coffee shops, averaging 1 to 3 times per week. Reasons for attendance related mainly to playing billiards and using the internet. It seems that juvenile delinquents do not fully indulge themselves in negative behaviors all time. This provides an opportunity for channeling their energy towards productive and healthy practices through guidance, support, and monitoring. Developing and implementing youth programs focusing on building healthy adolescence and recuperating the vulnerable are of crucial need.

In the present study, theft was the most common offense committed by juveniles, followed by altercation. These findings are in accordance with some previous studies. For instance, several studies from Turkey revealed that theft followed by assault were the most common offense enacted by juveniles (Bilgin et al. 2005; Kurtuluş et al. 2009). Although theft did not take the first place among offenses enacted by juveniles in some other studies (e.g., Ozen et al. 2005; Panezai et al. 2019), it was one of the most reported unlawful acts. Rojanaphruk (2001) concluded that delinquents go for stealing and robbing because they find it the easiest way for earning and profit. Given that the study juveniles come from poor families and living in a country that is considered low and medium in income, it is not surprising that theft was the most common committed offense. Low-income families experience difficulties in affording goods for their children compared to their peers and thus are seen as different (Tippett and Wolke 2014).

The offenses committed by juveniles occurred mostly either in the same neighborhood or close to home, and to a lesser degree outside the neighborhood. A good percentage (i.e., 42%) committed the offense more than once, averaging 2 to 5 times of visits to the juvenile police department. Delinquents perceived their friends to play a role in the unlawful acts they committed, as the majority indicated that their friends enticed them towards such misconduct and some reported peers being a role model for their wrongdoing. Peer

influence on juvenile behavior has been widely recognized, including those related to delinquency. Criminal behavior in friends has been found to correlate positively with juvenile delinquency (Panezai et al. 2019). Haider and Mahsud (2010) indicated that criminal friends play a vital role in the adoption of criminality among juveniles. Moreover, peer deviancy has been found to predict delinquency in adolescents even after controlling for preadolescence delinquent behaviors (Vitaro et al. 2000).

About half of the juveniles received a settlement from the juvenile police department, however, efforts to assist those juvenile delinquents were not sufficient. Only about one third indicated being seen by a social worker or had a visit at home or received assistance from the juvenile police department. Intensive efforts and measures should be taken by the juvenile correctional facilities to assist in the reduction of criminality among juvenile delinquents. Approaches may include the provision of training for correctional facility workers and social workers in the provision of psychosocial support for this vulnerable population.

Examining the descriptive data on juveniles' behavioral problems showed that they scored the highest on the impulsivity, inattention, conduct problems, and emotional lability subscales. On the other hand, these juveniles seem to perform better in their social or interpersonal relationships. Previous research has documented the existence of behavioral problems among delinquent individuals, including juveniles (e.g., Lindblad et al. 2020; Vermeiren 2003). A systematic review conducted by Vermeiren (2003) of research on psychopathology among juvenile delinquents, concluded an incidence of externalizing problems higher than the general population. In a study of fifty male juvenile delinquents aged 13 to 18 years, 40% reported conducting problems in their childhood (Lemos and Faisca 2015), while rates of ADHD diagnosis ranged between 4% in detained juveniles (Richards 1996) and 14–19% among adjudicated youth (e.g., Vermeiren et al. 2000). Diagnosis of ADHD and conduct problems has been found to be common among delinquent juveniles (Hodgins 2007; Von Polier et al. 2012) and these disorders may persist to the development of antisocial personality disorder in adulthood (Hodgins 2007). Behavioral problems, specifically those characteristics of ADHD and conduct disorders, are considered risk factors for the development of life-course persistent delinquency (Lemos and Faisca 2015). Interestingly, the juveniles of this study did not report any behavioral-related diagnosis or treatment. This necessitates intensive efforts in juvenile correctional facilities to conduct a thorough psychiatric assessment and corresponding treatment if these juvenile delinquents were found suffering from behavioral disorders.

Emotional lability or instability has also been reported as a pathway towards delinquency. Helkar (2013) maintained that emotional instability is often grounded in deprivation of emotional connection with parents. Emotionally unstable juveniles are more resentful of authority and more inclined to conduct delinquency such as theft and quarrels (Helkar 2013). Kemp et al. (2017) argued that poor emotional stability results in poor judgment, engagement in risky behaviors, poor decision-making abilities, and interference with cognitive processes that remind juveniles of rules during decision making, rendering them in the commitment of delinquent behaviors. However, these behavioral and emotional difficulties did not render those juveniles to experience social difficulties.

## 5. Conclusions and Implications

Firstly, the findings of this study must be considered within the context of its limitations, including the use of self-report measures which may illicit socially desirable responses and the inclusion of incarcerated juveniles in which the results may not be representative of those who were not subject to incarceration. Still, this study has the potential to fill a significant gap in the literature. Arab juvenile delinquents are particularly vulnerable and under studied population. There is a need to develop effective and culturally appropriate screening, prevention, and intervention approaches using evidence-based guidelines to address delinquency among Arab juveniles. Evidence documents that successful programs for juvenile delinquency prevention are those that are built on keystones including

promoting education and recreation, encouraging community involvement, enhancing parent–child interaction, preventing bullying, and strengthening the juvenile justice system (Mallett and Tedor 2018; Zhadan et al. 2019). Findings from this study showed that the severity of the conduct problems among the juveniles was negatively associated with the length of engagement in physical activities. This suggests that sport and physical activity may serve as vehicles of social policy aimed at reducing delinquency among juveniles. Successful implementation of such strategies was reported in UK, Canada and Australia (Nichols 2010). Schools are particularly promising settings for providing primary mental health services. Parents and teachers can work together to spot early warning signs of delinquency and intervene proactively.

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## References

- Adams, Christina D., Larissa K. Reynolds, Rose Ann Perez, Denise Powers, and Mary Lou Kelley. 1998. The adolescent behavior checklist: Validation using structured diagnostic interviews. *Journal of Psychopathology and Behavioral Assessment* 20: 103–25. [\[CrossRef\]](#)
- Adler, Freda, Gerhard O. Mueller, and William Laufer. 2001. *Criminology*, 4th ed. New York: McGraw-Hill.
- Aizer, Anna, and Janet Currie. 2019. Lead and juvenile delinquency: New evidence from linked birth, school, and juvenile detention records. *Review of Economics and Statistics* 101: 575–87. [\[CrossRef\]](#)
- Alnajjar, Ahmed, and Yasser Al-Hilawani. 1999. Delinquency and social changes in United Arab: A functioning questionnaire. *International Journal of Rehabilitation Research* 22: 199–206. [\[CrossRef\]](#) [\[PubMed\]](#)
- Alshammari, Abdullah S., Bettina F. Piko, Tamás Berki, and Kevin M. Fitzpatrick. 2022. Social Differences in Health Behaviours among Jordanian Adolescents. *European Journal of Investigation in Health, Psychology and Education* 12: 1191–204. [\[CrossRef\]](#) [\[PubMed\]](#)
- Barrett, David E., Antonis Katsiyannis, Dalun Zhang, and Dake Zhang. 2014. Delinquency and Recidivism: A Multicohort, Matched-Control Study of the Role of Early Adverse Experiences, Mental Health Problems, and Disabilities. *Journal of Emotional and Behavioral Disorders* 22: 3–15. [\[CrossRef\]](#)
- Bilgin, N., A. Avcı, N. Çekin, and B. Savran. 2005. Biopsychosocial properties of children transferred for juvenile delinquency examination. *Adli Tıp Bülteni* 6: 103–10.
- Dolan, M., J. Holloway, S. Bailey, and C. Smith. 1999. Health status of Juvenile offenders. A survey of young offenders appearing before the juvenile courts. *Journal of Adolescence* 22: 137–44. [\[CrossRef\]](#)
- Dória, Gustavo Manoel Schier, Sérgio Antonio Antoniuk, Francisco Baptista Assumpção Junior, Daniele Nascimento Fajardo, and Maurício Nasser Ehlke. 2015. Delinquency and association with behavioral disorders and substance abuse. *Revista Da Associacao Medica Brasileira* 61: 51–57. [\[CrossRef\]](#)
- Durkheim, Emile. 1951. *Suicide*. New York: Free Press.
- Durkheim, Emile. 1964. *The Division of Labor in Society*. New York: Free Press.
- Farrington, David P., and Rolf Loeber. 2000. Epidemiology of juvenile violence. *Child and Adolescent Psychiatric Clinics of North America* 9: 733–48. [\[CrossRef\]](#)

- Gisin, Dimitri, Dagmar M. Haller, Bernard Cerutti, Hans Wolff, Dominique Bertrand, Paul Sebo, Patrick Heller, Gerard Niveau, and Ariel Eytan. 2012. Mental health of young offenders in Switzerland: Recognizing psychiatric symptoms during detention. *Journal of Forensic and Legal Medicine* 19: 332–36. [\[CrossRef\]](#)
- Haider, Syed Imran, and Nasim Khan Mahsud. 2010. Family, Peer Group and Adaptation of Delinquent Behavior. *The Dialogue* 5: 348–66.
- Helkar, Sunanda. 2013. Emotional stability of delinquents and non-delinquents: A comparative study. *Indian Streams Research Journal* 3: 1–5. [\[CrossRef\]](#)
- Hodgins, Sheilagh. 2007. Persistent violent offending: What do we know? *British Journal of Psychiatry* 49: s12–s14. [\[CrossRef\]](#)
- Hoeve, Machteld, Judith Semon Dubas, Veroni I. Eichelsheim, Peter H. Van der Laan, Wilma Smeenk, and Jan R. M. Gerris. 2009. The relationship between parenting and delinquency: A meta-analysis. *Journal of Abnormal Child Psychology* 37: 749–75. [\[CrossRef\]](#)
- Huan, Vivien S., Rebecca P. Ang, and Helena Yen Nie Lim. 2010. The influence of father criminality on juvenile recidivism: Testing for delinquent behaviors as a mediator. *International Journal of Offender Therapy and Comparative Criminology* 54: 566–80. [\[CrossRef\]](#)
- Kausar, Asia, Masood Nadeem, Misbah Rasheed, Fozia Amin, Samar Fahd, Muhammad Usman, and S. Saleem. 2012. Personality Traits and Juvenile Delinquency in Punjab, Pakistan. Paper presented at the International Conference on Business, Economics, Management and Behavioral Sciences (ICBEMB '2012), Dubai, United Arab Emirates, January 7–8.
- Kemp, Kathleen, Sneha Thamocharan, Brittney Poindexter, David Barker, Marina Tolou-Shams, and Christopher D. Houck. 2017. Emotion regulation as a predictor of juvenile arrest. *Criminal Justice and Behavior* 44: 912–26. [\[CrossRef\]](#)
- Knecht, Carlos, Raquel de Alvaro, Jose Martinez-Raga, and Vicent Balanza-Martinez. 2015. Attention-deficit hyperactivity disorder (ADHD), substance use disorders, and criminality: A difficult problem with complex solutions. *International Journal of Adolescent Medicine and Health* 27: 163–75. [\[CrossRef\]](#)
- Kurtuluş, A., N. Salman, G. Günbet, B. Boz, C. D. Cenger, and K. Acar. 2009. Sociodemographic properties juvenile delinquency cases aged between 12–15 years, in Denizli, Turkey. *Pamukkale Tıp Dergisi* 2: 8–14.
- Lamari-Fisher, Alexandra, and Mark A. Bond. 2021. Protective factors in preventing delinquency: Caregiver support, caregiver monitoring, and school engagement. *Journal of Community Psychology* 49: 2818–37. [\[CrossRef\]](#)
- Lemos, Ida, and Luis Faisca. 2015. Psychosocial adversity, delinquent pathway, and internalizing psychopathology in juvenile male offenders. *International Journal of Law and Psychiatry* 42–43: 49–57. [\[CrossRef\]](#)
- Levine, Sara B., and Susan M. Coupey. 2003. Adolescent substance use, sexual behavior, and metropolitan status: Is “urban” a risk factor? *Journal of Adolescent Health* 32: 350–55. [\[CrossRef\]](#)
- Lindblad, Frank, Johan Isaksson, Viktor Heiskala, Roman Kuposov, and Vladislav Ruchkin. 2020. Comorbidity and Behavior Characteristics of Russian Male Juvenile Delinquents with ADHD and Conduct Disorder. *Journal of Attention Disorders* 24: 1070–77. [\[CrossRef\]](#)
- Mahmood, K., and M. A. Cheema. 2004. Determinants and Maximum Likelihood Functions of Juvenile Offense in Punjab, Pakistan. *International Journal of Agriculture and Biology* 6: 918–21.
- Malak, Malakeh Z. 2015. Patterns of Health-Risk Behaviors among Jordanian Adolescent Students. *Health* 7: 58–70. [\[CrossRef\]](#)
- Mallett, Christopher A., and Miyuki Fukushima Tedor. 2018. *Juvenile Delinquency: Pathways and Prevention*. Thousand Oaks: Sage Publications.
- McReynolds, Larkin S., Craig S. Schwalbe, and Gail A. Wasserman. 2010. The contribution of psychiatric disorder to juvenile recidivism. *Criminal Justice and Behavior* 37: 204–16. [\[CrossRef\]](#)
- Mestre, Anna Llorca, Elisabeth Malonda Vidal, and Paula Samper García. 2017. Depression and aggressive behaviour in adolescents offenders and non-offenders. *Psicothema* 29: 197–203. [\[CrossRef\]](#)
- Molinedo-Quílez, M. P. 2020. Psychosocial risk factors in young offenders. *Revista Espanola de Sanidad Penitenciaria* 22: 104–11. [\[CrossRef\]](#)
- Murray, Joseph, and David P. Farrington. 2010. Risk Factors for Conduct Disorder and Delinquency: Key Findings from Longitudinal Studies. *The Canadian Journal of Psychiatry* 55: 633–42. [\[CrossRef\]](#)
- Nichols, Geoff. 2010. *Sport and Crime Reduction: The Role of Sports in Tackling Youth Crime*. London: Routledge.
- Ozen, Sakir, Aydin Ece, Remzi Oto, Yasar Tirasci, and Suleyman Goren. 2005. Juvenile delinquency in a developing country: A province example in Turkey. *International Journal of Law and Psychiatry* 28: 430–41. [\[CrossRef\]](#)
- Panezai, Sanaullah, Hidayatullah Panezai, Aijaz Ali Wassan, and Shahab E. Saqib. 2019. Exploring juveniles’ delinquent behavior and associated factors: A cross-country comparison of Pakistan and Thailand. *Journal of Geography and Social Sciences* 1: 57–71.
- Park, R. E., and R. Burgess. 1936. Human ecology. *American Journal of Sociology* 42: 1–15. [\[CrossRef\]](#)
- Parks, Michael J., Renati J. Solomon, Shreeletha Solomon, Bosco C. Rowland, Sheryl A. Hemphill, George C. Patton, and John W. Toumbourou. 2020. Delinquency, School Context, and Risk Factors in India, Australia, and the United States: Implications for Prevention. *Journal of Research on Adolescence* 30: 143–57. [\[CrossRef\]](#)
- Richards, Ian. 1996. Psychiatric disorder among adolescents in custody. *Australian and New Zealand Journal of Psychiatry* 30: 788–93. [\[CrossRef\]](#)
- Rojanaphruk, P. 2001. *Teenage Methamphetamine Users, The Nation Bang Na*. Bangkok: Nation Multimedia Group, pp. 7–9.
- Ruangkanchanasetr, Suwanna, Adisak Plitponkarnpim, Priyasuda Hetrakul, and Ronnachai Kongsakon. 2005. Youth risk behavior survey: Bangkok, Thailand. *Journal of Adolescent Health* 36: 227–35. [\[CrossRef\]](#)

- Sharp, Amanda, M. Scott Young, and Kathleen A. Moore. 2019. Relationship Between Substance Use, Bullying, and Other Delinquent Behaviors Among High School Students: A Secondary Analysis of the Florida Youth Substance Abuse Survey. *Journal of Behavioral Health Services and Research* 46: 570–85. [CrossRef]
- Shaw, Clifford Robe, and Henry Donald McKay. 1972. *Juvenile Delinquency and Urban Areas*. Chicago: University of Chicago Press.
- Siegel, Larry J., and Brandon C. Welsh. 2016. *Juvenile Delinquency: The Core*. Boston: Cengage Learning. Available online: <https://books.google.mn/books?id=57waCgAAQBAJ> (accessed on 17 July 2022).
- Silpasuwan, Pimpan, Supaporn Upalabat, Chukiat Viwatwongkasem, Pitakpol Boonyamalik, and Dusit Sujirarat. 2011. Violence Recidivism among Thai Juvenile Delinquents. *Asia Journal of Public Health* 2: 13–19.
- Teplin, L. A., K. M. Abram, G. M. McClelland, M. K. Dulcan, and A. A. Mericle. 2002. Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry* 59: 1133–43. [CrossRef]
- The Guardian. 2020. Jordan Smoking Rates Highest in World Amid Claims of Big Tobacco Interference. Available online: <https://www.theguardian.com/world/2020/jun/23/jordan-smoking-rates-highest-in-world-amid-claims-of-big-tobacco-interference> (accessed on 17 July 2022).
- Tippett, Neil, and Dieter Wolke. 2014. Socioeconomic status and bullying: A meta-analysis. *American Journal of Public Health* 104: e48–e59. [CrossRef]
- Underwood, Lee A., and Arysya Washington. 2016. Mental illness and juvenile offenders. *International Journal of Environmental Research and Public Health* 13: 228. [CrossRef]
- Vargas-Fernández, Rodrigo, Carlos Rojas-Roque, Marilina Santero, Fernando M. Runzer-Colmenares, and Wilma Figueroa. 2019. Substance abuse in adolescents before admission to Peruvian juvenile detention centers: Results from a national census in Peru, 2016. *International Journal of Adolescent Medicine and Health* 34. [CrossRef]
- Vermeiren, R., A. De Clippele, and D. Deboutte. 2000. A descriptive survey of Flemish delinquent adolescents. *Journal of Adolescence* 23: 277–85. [CrossRef]
- Vermeiren, Robert. 2003. Psychopathology and delinquency in adolescents: A descriptive and developmental perspective. *Clinical Psychology Review* 23: 277–318. [CrossRef]
- Vitaro, Frank, Mara Brendgen, and Richard E. Tremblay. 2000. Influence of deviant friends on delinquency: Searching for moderator variables. *Journal of Abnormal Child Psychology* 28: 313–25. [CrossRef] [PubMed]
- Von Polier, G. G., T. D. Vloet, and B. Herpertz-Dahlmann. 2012. ADHD and delinquency: A developmental perspective. *Behavioral Sciences and Law* 30: 121–39. [CrossRef]
- Wagner-Rizvi, T., and J. Anees. 2003. *Waiting for the Sunrise—Juvenile Justice System in Pakistan. A Book on the Judicial System of Pakistan*. Islamabad: Society for Protection of the Rights of Children (SPARC).
- Whitney, Stephen D., Lynette M. Renner, and Todd I. Herrenkohl. 2010. Gender differences in risk and promotive classifications associated with adolescent delinquency. *The Journal of Genetic Psychology* 171: 116–38. [CrossRef] [PubMed]
- Wilkinson, Andra, Hannah Lantos, Tyler McDaniel, and Hannah Winslow. 2019. Disrupting the link between maltreatment and delinquency: How school, family, and community factors can be protective. *BMC Public Health* 19: 1–15. [CrossRef] [PubMed]
- Young, Susan, and Johannes Thome. 2011. ADHD and offenders. *The World Journal of Biological Psychiatry* 12: 124–28. [CrossRef]
- Young, Susan, Eric Taylor, and Gisli Gudjonsson. 2016. Childhood Predictors of Criminal Offending: Results From a 19-Year Longitudinal Epidemiological Study of Boys. *Journal of Attention Disorders* 20: 206–13. [CrossRef]
- Zahn, Margaret A., Robert Agnew, Diana Fishbein, Shari Miller, Donna-Marie Winn, Gayle Dakoff, Candace Kruttschnitt, Peggy Giordano, Denise C. Gottfredson, and Allison A. Payne. 2010. *Causes and Correlates of Girls' Delinquency*; Washington, DC: US Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Zembroski, David. 2011. Sociological Theories of Crime and Delinquency. *Journal of Human Behavior in the Social Environment* 21: 240–54. [CrossRef]
- Zeren, Cem, Muhammet Mustafa Arslan, Erhan Yengil, Ramazan Karanfil, Ramazan Akçan, and And Mehmet Oksuz. 2013. Socio-demographic characteristics of juvenile delinquents in Turkey. *The Journal of Forensic Psychiatry & Psychology* 24: 688–98. [CrossRef]
- Zhadan, Vladimir N., Galina T. Kamalova, Zhanna E. Sadykanova, and Assel Ye Karipova. 2019. On the problems and directions for the prevention of juvenile delinquency. *Journal of Advanced Research in Law and Economics* 10: 401.