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Delinquency as predicted by dark triad factors and demographic variables

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ABSTRACT
Delinquency is a social problem attributed to the psychological developments and derived cultural traits prevalent in the society. Questionnaires were used to collect the primary data. Out of a total 203 youths participated in this study, delinquent group consisted of 107 participants, whereas the nondelinquent group consisted of 96 participants scoring high on Machiavellianism, narcissism, and psychopathy. To evaluate how people responded to the questions, different methods such as analysis of variance (ANOVA), multivariate analysis of variance (MANOVA), discriminate analysis, and standard deviation were used. Machiavellianism increased with an increase in delinquency levels. Narcissism score was observed high among medium delinquent group as compared to the nondelinquent group. Psychopathy was high among high delinquency group. Although narcissists are moderate delinquents, they are more likely to commit a crime. While females are becoming more delinquent, Machiavellianism is manipulative. Financial income, age, gender, and education are determinants of dark triad factors in adolescents.

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Delinquency; delinquent behaviour; machiavellianism; psychopathy; narcissism

Introduction
Delinquency takes many forms in the Middle East region such as use of firearms, drugs, sexual abuse, and thefts. According to Goldschmidt (2018), Middle Eastern countries have had suffered either internal conflicts or external territorial wars with neighbours. The wars led to the expose the youth to firearms leading to juvenile crimes in the region (Connolly et al., 2017). Another challenge in the region is youth radicalization by the terrorist groups with roots in the Middle East. According to Shoemaker (2018), youth are vulnerable due to their tendency to explore the unknown. The youth struggle with self-actualization and self-understanding. In order to establish individuality, they usually borrow from the environment (Jones & Paulhus, 2014). According to various sociologists, learning a language by a toddler at the developmental stages is same as self-awareness process of youth; this stage significantly affects their social lives. As they become conscious of their physical changes, become sexually active and indulge in irresponsible behaviour such as crime. The three triad factors which incorporate the personality of an individual, often overlap: psychopathy, narcissism, and Machiavellianism. These three factors are deemed ‘dark’ for having malevolent characteristics (Patterson, DeBaryshe, & Ramsey, 2017). The dark triads are often used in business management, clinical psychology, and law. Individuals scoring high in these factors are likely to initiate social distress, destabilize the organizational peace within the business setting, and commit crimes (Shoemaker, 2018).

Based on the empirical evidence, it can be said that the three dark triads are interrelated, although conceptually they are different and distinct. The dark triad is associated with callous and easily
manipulative personality (Glenn & Sellbom, 2015). The triad factors are associated with personality qualities that are shaped by both environmental and genetic factors that form the variable influencing the delinquency in the Middle Eastern countries, especially in Jordan (Djamba & Kimuna, 2015; Thornberry, 2018). The level of education influences the understanding and critical analysis of the interpersonal relationships. Thus, we can say that an individual with a high level of education, such as diploma, is less likely to be manipulated unlike someone in high school. With age comes maturity and ability to have a different level of perception on social issues (Lindberg, Miettunen, Heiskala, & Kaltiala-Heino, 2017; Van Vugt, Loeber, & Pardini, 2016). Adolescents also have many financial needs; hence a 20-year-old is more likely to commit financial crimes than those showing irresponsible sexual behaviours (Yun, Cui, & Blair, 2016).

Delinquent behaviour in the western world is influenced by the gender of the adolescents (Chen, Voisin, & Jacobson, 2016). The childhood upbringing predetermines a youth’s moral perception (Johnson, Plouffe, & Saklofske, 2019). Family background is an essential variable since children raised by a single parent or none show a higher tendency of criminal activities as compared to those raised by both the parents (Barfield-Cottledge, 2015). Finally, the financial status of an individual affects his/her chances of indulging in crimes (Farrington & Welsh, 2007; Park, 2016). Research shows that in case of sexual activities, girls from humble background are more likely to be involved in paid sex when compared to other irrational behaviour, such as drug trafficking and misuse, than that of girls from affluent families (Flexon, Meldrum, Young, & Lehmann, 2016; Savioja, Helminen, Fröjd, Marttunen, & Kaltiala-Heino, 2017). On the contrary, boys from prosperous families might involve in crimes than that from low-income families (Demirguc-Kunt, Klapper, & Singer, 2017). This study examines these variables and their correlation with the delinquency using the various statistical tools. A total of 203 youth in the age group of 10–18 years from diverse family backgrounds in Jordan participated. Financial income and education level were examined as factors that might influence delinquency among the selected population. Data were collected from all genders.

**Literature review**

In the social lives of human beings, human psychology contributes to everyday actions. Human psychology affects the thoughts, actions, and behaviors of an individual. Human understanding defines the personality that reflects the inner being (Flexon et al., 2016). The understanding is deep-rooted in psychology, and thus human personality is dependent on psychology. According to Abajobir et al. (2017), the perception of either doing wrong or right defined by human psychology. The definition gives rise to bad behaviours and criminal activities, as well as immorality (Lee, 2017).

**Dark triad**

The dark triad refers to the personality traits – psychopathy, Machiavellianism, and narcissism. According to Flexon et al. (2016), the three dark triad traits explain negative personality traits, though they suffer from conceptual creed. Machiavellianism refers to the manipulation and irresponsible behaviours and the decisions that come with the manipulative course (Weng, Ran, & Chui, 2016). It incorporates exploitation of others, self-interest, indifference to morality, and deception (Bae, 2017). Likewise, narcissism refers to egotism, inhumane personality, pride, and grandiosity (Sijtsema, Garofalo, Jansen, & Klimstra, 2019). Moreover, Machiavellianism is more likely to cause delinquent behaviour just like narcissism and psychopathy (Lenzenweger, Clarkin, Caligor, Cain, & Kernberg, 2018). Nonetheless, Machiavellianism relies more on conditions and less on spontaneity (Láng & Birkás, 2015). Conversely, the traits related to Machiavellianism predict antisocial behaviour in children and youths, which is based on emotions (Láng & Birkás, 2015).

Narcissism refers to characteristics responsible for quarrel, greed, and animosity towards others (Lambe, Hamilton-Giachritsis, Garner, & Walker, 2018). Among the youth especially at the puberty stage, violent behaviours are common, especially among the male. The male youths are in search of physical and authoritative dominance, whereas young women use status to outweigh each other (Kivivuori,
Savolainen, & Aaltonen, 2016). The previous literature established that narcissism traits predict delinquency and is correlated with the externalization of problems in children. Narcissistic personality trait makes children and youth vulnerable to aggressiveness (Lambe et al., 2018). Persons with high narcissistic traits are also susceptible to aggression because of exploitative aspect. Moreover, aggressive, insecure, and impulsive persons especially those who react to shame have high delinquency rate.

According to Patterson et al., psychopathy is similar to Machiavellianism but integrates selfishness with antisocial behaviour and callousness. Psychopathy has an element of remorselessness and impulsivity (Frick, Wall, Barry, & Bodin, 2015). Research shows that the affective nature of psychopathy, particularly lack of remorselessness and empathy, is related to abnormalities in information processing, whereas impulsive and impulsiveness and irresponsibility are correlated to low socioeconomic status and educational deficits (Pisano et al., 2017). Furthermore, psychopathic adolescents have a high level of delinquency especially aggression and antisocial behaviour.

Foster et al. (2018) allege that psychopathic individuals are open, sociable, and conscious of their surroundings, and, they violently attack the perceived threat. Leenarts et al. (2017) stated that psychopathic traits are found to be present in children and youth and are associated with delinquent behaviour. Therefore, early screening of psychopathic traits is important for effective interventions (Barrett & Katsiyannis, 2017; Vogel & South, 2016). Primarily, three qualities are used in applied psychology to understand crime in the social aspect of human existence. In addition, the positive correlation between delinquency and the three traits is because of the shared characteristics such as self-centeredness, cold emotions, and aggression.

**Demographic factors and delinquency**

**Gender.** Gender is a determinant of juvenile cases across the globe. According to the statistics of Juvenile court, boys have a higher probability of being arrested than that of girls (Chui & Chan, 2016). Moreover, boys were found to initiate most of the criminal cases under trial in the juvenile courts in the US (Evans, Simons, & Simons, 2016; Savolainen et al., 2017). In addition, the number of first-time arrests of males is double than that of the females. On an average, both males and females experience an equal number of first-time juvenile arrests (Assink et al., 2015; Rebellon, Manasse, Agnew, Van Gundy, & Cohn, 2016).

In Hispanic, Arabic, and African societies, females were traditionally belittled and had no free will to choose (Baskin, 2018). The cultures assumed male dominance and gave power to the man to make and amend societal laws in a befitting way. Therefore, traditionally men committed offence and covered it up. In addition, tradition portrays men as the custodian of societal justice with self-imposed gender power (Abajobir et al., 2017). Therefore, a male child would be more aggressive than a female child. A male child is both violent and assertive towards his interests. On the contrary, society projects female as agile and vulnerable who has neither the free will to make choices nor the strength to achieve individual goals (Jensen, 2017). The disparity between the two genders created by cultural practices and traditional perceptions makes the male prone to juvenile crimes as compared to the female (Newsome, Vaske, Gehring, & Boisvert, 2016).

**Education.** Education also determines the likelihood of juvenile crimes in the Middle East. According to Maples-Keller & Miller, early school dropout is not just a retrogressive factor to the economic and political development of the society, it also affects the social lives of individuals. With proper education comes self-awareness and sensitivity towards one’s environment and community in general. An educated individual has both knowledge and insight to debate the touchy issues constructively, clarity to find solutions (Maples-Keller & Miller, 2018). However, a weak education system and dropouts lead to delinquency among the youths (Fontaine, Brendgen, Vitaro, & Tremblay, 2016). Inadequate education leads to poor economic empowerment of the youths, thereby causing poverty, miserable lifestyle and inability to achieve the goals. As a result, society suffers stress and.
School dropouts are vulnerable groups as they struggle for substantial income to sustain their life (Mori, Nyantori, & Olomi, 2017). To fulfill financial obligations, the school dropouts form juvenile gangs and indulge in criminal activities (Goorden et al., 2016). On the contrary, Larsen (2017) found that electronic monitoring can increase school completion rate while encouraging participation in education and job market, which prevent children and youth from engaging in violent behaviours such as terrorism. Family background, genetics, and the environment in which a child grows up define his or her personality (Ahonen, Loeber, Farrington, Hipwell, & Stepp, 2017).

Financial income and age. Financial stability and age contribute to delinquency in the society. In the Middle East, finance is a serious factor that affects the youths, especially children of incarcerated parents. According to the social stratification of most of the societies, men are the breadwinners (Gottschalk, 2016; Sijtsema et al., 2019). Adolescents from rich backgrounds are likely to engage in delinquent behaviours compared to those from low-income families (Kowalski et al., 2018). The youths are vulnerable due to age and technological advances being witnessed in the world today (Kowalski et al., 2018). Research has examined crime in the Middle East, particularly among the youths in Saudi Arabia (Kevin et al., 2015). Other studies have examined the causes of delinquency among youths in western countries such as the UK and the USA (Gottfredson, 2017). There exists a study gap on factors that influence Juvenile Crime Middle East. Therefore, in this study, delinquency a predicted by dark triad factors and demographic variables among the youths in Jordan will be examined.

Hypotheses

This study developed the following hypotheses for analysing the behaviours of youths in Jordan with an aim to find out how the dark triad factors and demographic variables were predictors of the delinquency among the participants:

1. There are levels of dark triad among the delinquent and the nondelinquent group.
2. There is a significant difference in the dark triad between delinquent and nondelinquent group.
3. There is dark triad that discriminates between delinquent and nondelinquent group.
4. There is a significant difference in the dark triad among participants in the delinquent group due to demographic variables (gender, education, financial status, and age).

Method

Participants

This study obtained permission from the Ministry of Social Development, and the survey was conducted by trained graduate students under the supervision of the author. The graduate students provided questionnaires to the participants after obtaining their consent; the participants had a choice of either withdraw or participate in this survey. The graduate students who collected data, were well-trained in tools and ethics.

A total of 203 individuals in the age group of 10–18 years, including those with minor, moderate, and severe scores of delinquencies participated in this survey. The participants were categorized into two groups: the delinquent (107) and the nondelinquent (96). The delinquent group had participants from various rehabilitation centres in the Republic of Jordan. Those who were convicted by the courts for different crimes formed the delinquent group. In this study, the delinquency scale was used to determine the level of delinquency. The nondelinquent participants were selected from private schools in Amman, Jordan, with the permission of the respective school authorities. The school records of nondelinquent participants were reviewed to ensure that they showed high
standards of academic excellence coupled with social competence. The normal sample was collected from children from stable families.

**Delinquency scale**

The study included a set of validity check items to validate random responses. Due to the nature of the study, face and content validity were evaluated. The study was self-reporting; therefore, the graduate students used the psychological tools to gauge the validity of the report while examining the content of the report. Therefore, the results were not affected by an elimination effect arising from the validity checks. The reliability of the delinquency level was analysed using delinquency activities scale (DAS). The DAS focuses on the self-report delinquency scale developed by Elliott, Ageton, Huizinga, Knowles, and Canter (1983). It comprises 40 items describing different behaviours of an individual. In this study, DAS was analysed on a scale of three items of delinquency with subscales. The three subscales were minor, moderate, and severe delinquency. Minor delinquency had five items, moderate 11 items, and severe had 10 items.

**Dark triad scale**

The dark triad scale was adopted from Jones & Paulhus’s study. The scale used 17 items to measure delinquency levels – Machiellianism, narcissism, and psychopathy. In addition, the dark triad scale used a 5-point Likert scale system to obtain responses of the participants; the scale was distributed into 11 items with a subscale of 1–5. (1 = Agree strongly, 2 = Agree, 3 = Neither agree nor disagree, 4 = Disagree, and 5 = Disagree strongly). Strongly agree indicates a higher level of dark trait, whereas strongly disagree represents a low level of the trait. The scale utilized the short dark triad version (SD3) to realize the accepted values for reliability and validity. For the study, new reliability values were obtained as indicated by the reliability test (Table 1). In the test, reliability coefficients were 0.80, 0.60, and 0.72, which indicated that the scale was reliable. This is because the reliability coefficients for all the dark traits were ranging from moderate to high.

**Demographic variables**

Demographic factors are social, biological, and biological factors that define the population of a society. In this study, demographic factors consisted of age, gender, education, and financial income. The responses were obtained using a nine-item scale and subscale for each variable. Gender had two subscales: 1 for male and 2 for female. Similarly, age as a predictor for delinquency was evaluated with two scales: 1 for the age group of 10–14 years and 2 for the age group of 15–18 years. Financial income was evaluated on a scale of 5 items (1 = Weak, 2 = Average, 3 = Good, 4 = Very good, and 5 = Excellent). Conversely, education was evaluated on a scale of 3 items: 1 = Below high school; 2 = High school, and 3 = Diploma or higher.

**Procedure**

Based on the importance of ethical standards in research involving humans, the study was approved by the University’s Ethical Review Board (ERB). In addition, participation in the study was voluntary;

| Table 1. Reliability test. |
|---------------------------|
| Factor                   | Reliability values |
| Machiellianism            | 0.80               |
| Narcissism                | 0.60               |
| Psychopathy               | 0.72               |
however, the respondents had to sign an informed consent. This means participating with free will. In addition, the participants belonging to the nondelinquent group had completed the delinquency scale before the study to ensure that they do not show signs of delinquency during the study. During the pre-test, nine respondents from the nondelinquent group were dropped because they showed signs of delinquent behaviour. Furthermore, collinearity diagnostics were used to test the correlation between the samples.

**Statistical analysis**

Microsoft Excel was used to store the data. The comparison sample was used. While predetermined scales and codes were used to analyse the data using SPSS, different methods such as analysis of variance (ANOVA), multivariate analysis of variance (MANOVA), discriminate analysis, and standard deviations were employed to evaluate the four questions. The analysis was meant to establish delinquency as predicted by dark triad and certain demographic variables.

**Results**

**Question 1: What are the levels of dark triad among a sample of Jordanian delinquency compared to the normal sample?**

To answer this question, means and standard deviations were calculated and Table 2 shows the results.

From Table 2, the means for each (low, medium and high) delinquency groups on Machiavellianism was (3.35, 3.78, 3.99) while the means for non-delinquency on Machiavellianism was (3.37). The Machiavellianism among delinquency groups tends to increase with the increased delinquency levels, whereas, non-delinquency mean of Machiavellianism is almost close to the mean of low delinquency sample. Additionally, the means of Narcissism for each (low, medium and high) delinquency groups were (3.21, 3.48 and 3.39), respectively. Though the means for non-delinquency on Narcissism was (3.31), the Narcissism seems high among medium delinquency group compared with other delinquency groups (low and high) as well as the Non-delinquency sample. Furthermore, the means of Psychopathy among delinquency groups (low, medium and high) were, respectively, (2.18, 2.79 and 3.28), while the mean of non-delinquency sample on Psychopathy was (2.44). The Psychopathy seems to be high among high delinquency group.

**Question 2: Is there a significant difference in the dark triad between the delinquent group and nondelinquent group?**

To answer this question, ANOVA analysis was performed and Table 3 shows the results.

From Table 3, the F value for the difference in the dark triad between delinquency and non-delinquency groups was, respectively, (4.14, 1.13 and 10.99) for (Machiavellianism, Narcissism and Psychopathy).

| delinquency  | Machiavellianism | Narcissism | Psychopathy |
|--------------|------------------|------------|-------------|
|              | Mean  | N  | Std. Deviation | Mean  | N  | Std. Deviation | Mean  | N  | Std. Deviation |
| Low          | 3.35  | 73 | 0.79           | 3.21  | 73 | 0.52           | 2.18  | 73 | 0.78           |
| Medium       | 3.78  | 21 | 0.58           | 3.48  | 21 | 0.54           | 2.79  | 21 | 0.56           |
| High         | 3.99  | 13 | 0.85           | 3.39  | 13 | 0.63           | 3.28  | 13 | 0.68           |
| Non-delinquency | 3.37 | 96 | 0.79           | 3.31  | 96 | 0.76           | 2.44  | 96 | 0.70           |
| Total        | 3.45  | 203| 0.79           | 3.29  | 203| 0.66           | 2.44  | 203| 0.76           |
Psychopathy). The P values show significant difference at (≤ 0.05) for (Machiavellianism and Psychopathy). While the P value for Narcissism is not significant at (≤ 0.05).

Scheffe PostHoc test was perforce to find between which groups of delinquency and non-delinquency group differ. Table 4 shows the results.

Table 4 shows that Machiavellianism and Psychopathy among medium and high level of delinquency compared to low delinquency group. Also, both Machiavellianism and Psychopathy are higher among medium delinquency group compared with non-delinquency group. Additionally, the Psychopathy is higher among low and high delinquency groups when compared with non-delinquency group.

**Question 3: What are the dark triad factors that discriminate between delinquent and nondelinquent groups?**

To answer this question, discriminant analysis was performed for delinquency groups (low, medium and high) and non-delinquency and Table 5 shows the results.

From Table 5 the Eigenvalue for first group function was 0.172 explained 90.8% of the variance. Also, first function the canonical correlation value 0.383 with the Chi-square of 34.94 with P (≤ 0.05) where the first function has the discriminant ability. While the second and third function was statistically significant.

In Table 6, the result shows that the Psychopathy has the highest discriminate function almost four more than the ability of Machiavellianism between different groups. Whereas the Narcissism ability to discriminate between groups is very low.
In Table 7, the discriminant function classification results show that about 54.7% of the delinquency groups and non-delinquency reclassified in the sample original group. This means the Psychopathy has relatively a good ability to predict and discriminate between delinquency and non-delinquency groups.

**Question 4: Is there a significant difference in the dark triad among delinquents due to demographic variables (gender, education, financial status, and age)?**

There is significant difference in the dark triad among delinquency group due to demographic variables (gender, education, financial status, and age).

To answer to this question, four-way non-interactive MANOVA was performed and the results are shown in Table 8.

In Table 8, the means of (Machiavellianism, Narcissism and Psychopathy) show observe difference according to demographic variables according to (gender, education, financial status, and age). To check if the means differences are a statistically significant four non-interactive MANOVA were conducted and the results are presented in Table 8.

The result of Wilks’ Lambda for (gender, education, financial status, and age) are, respectively, (0.96, 0.87, 0.89 and 0.93) only the age and financial status are statistically significant (Table 9). Therefore, MANOVA test was performed.

From Table 10, the F value (1.63, 3.74 and 0.46) for (Machiavellianism, Narcissism and Psychopathy) due gender was not significant at level (0.05). While the F values (4.66, 0.29, and 5.33) for (Machiavellianism, Narcissism and Psychopathy) due age was significant at (≤0.05) for Machiavellianism, and Psychopathy, whereas Narcissism was not significant at 0.05. The old age delinquency (15–18) have higher (Machiavellianism, and Psychopathy) means compared with young age delinquency additionally, the F value (2.82, 0.00, and 8.27) for (Machiavellianism, Narcissism and Psychopathy) due education was not significant at level (0.05) for (Machiavellianism and Narcissism) but for Psychopathy the value was significant. The high school delinquency has higher mean compared with less than high school. Finally, the F values (1.98, 1.96 and 0.21) for (Machiavellianism, Narcissism and Psychopathy) due to financial status was not significant at (≤0.05).

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**Table 6. Standardized canonical discriminant function coefficients.**

| Function          | 1    | 2    | 3    |
|-------------------|------|------|------|
| Machiavellianism  | 0.22 | 1.11 | 0.23 |
| Narcissism        | −0.03| −0.55| 0.93 |
| Psychopathy       | 0.9  | −0.49| −0.38|

**Table 7. The discriminant function classification results.**

| Delinquency | Low | Medium | High | Normal | Total |
|-------------|-----|--------|------|--------|-------|
| Original    |     |        |      |        |       |
| Low         | 28  | 0      | 0    | 45     | 73    |
| %           | 38.4| 0      | 0    | 61.6   | 100.0 |
| Medium      | 1   | 0      | 0    | 20     | 21    |
| %           | 4.8 | 0      | 0    | 95.2   | 100.0 |
| High        | 2   | 0      | 2    | 9      | 13    |
| %           | 15.4| 0      | 15.4 | 69.2   | 100.0 |
| Normal      | 14  | 0      | 1    | 81     | 96    |
| %           | 14.6| 0      | 1.0  | 84.4   | 100.0 |

a. 54.7% of original grouped cases correctly classified.
The primary goal of this study was to determine the triad predictors of delinquency based on certain demographic variables. To realize the objective, research hypotheses were formulated to obtain responses to the four questions. A total of 203 participants were included in the study. The self-report approach was used to collect data where questionnaires were administered. Nonetheless, ANOVA, MANOVA, discriminate analysis, and standard deviations were employed to evaluate the responses. The values of reliability test for Machiavellianism, narcissism, and psychopathy were 0.80, 0.60, and 0.72, respectively. Essentially, the reliability test showed reliable results because the reliability coefficients ranged between low and high.

Table 8. Means and standard deviation dark triad among delinquency group due to demographic variables according to (gender, education, financial status, and age).

| Gender          | Machiavellianism | Narcissism | Psychopathy |
|-----------------|------------------|------------|-------------|
| Male            | 2.99             | 2.90       | 2.00        |
| Female          | 3.58             | 3.33       | 2.48        |
| Total           | 3.52             | 3.29       | 2.43        |
| Below high school | 3.44             | 3.28       | 2.29        |
| High school     | 3.76             | 3.30       | 2.87        |
| Total           | 3.52             | 3.05       | 2.43        |
| Weak            | 3.30             | 3.18       | 2.47        |
| Good            | 3.52             | 3.22       | 2.44        |
| Very good       | 3.62             | 3.42       | 2.40        |
| Total           | 3.52             | 3.29       | 2.43        |
| 10-14           | 3.22             | 3.18       | 2.14        |
| 15-18           | 3.77             | 3.37       | 2.71        |
| Total           | 3.51             | 3.28       | 2.43        |

Table 9. Multivariate tests result for the demographic variables (gender, education, financial status, and age).

| Effect            | Value | F     | Hypothesis df | Error df | Sig. |
|-------------------|-------|-------|---------------|----------|------|
| Gender            | 0.96  | 1.24  | 3             | 98       | 0.30 |
| Age               | 0.87  | 5.10  | 3             | 98       | 0.00 |
| Education         | 0.89  | 4.10  | 3             | 98       | 0.01 |
| Financial status  | 0.93  | 1.28  | 6             | 196      | 0.27 |

Discussion

The primary goal of this study was to determine the triad predictors of delinquency based on certain demographic variables. To realize the objective, research hypotheses were formulated to obtain responses to the four questions. A total of 203 participants were included in the study. The self-report approach was used to collect data where questionnaires were administered. Nonetheless, ANOVA, MANOVA, discriminate analysis, and standard deviations were employed to evaluate the responses. The values of reliability test for Machiavellianism, narcissism, and psychopathy were 0.80, 0.60, and 0.72, respectively. Essentially, the reliability test showed reliable results because the reliability coefficients ranged between low and high.
**Question 1: What are the levels of dark triad among a sample of Jordanian delinquents compared with the normal sample?**

To determine the levels of dark triad (Machiavellianism, narcissism, and psychopathy) in a sample of Jordanian delinquents, in comparison to the delinquency sample, we used means and standard deviations. Based on the results provided in Table 2, the mean score for the low, medium, and high delinquency with respect to Machiavellianism were 3.35, 3.78, and 3.99, respectively, with a standard deviation of 0.79, 0.58, and 0.85, respectively. However, the mean score for non-delinquents on Machiavellianism was 3.37 and 0.79. These results indicate that Machiavellianism increases with an increase in delinquency levels.

Similarly, when the delinquency is low, Machiavellianism will be low and the same is true for moderate function. The opposite could be equally true. Essentially, there is a significant impact of Machiavellianism on delinquents. These findings are corroborated by Miller et al., who claim that people with Machiavellianism personality always focus on their own interests; whether it means exploiting, harming, or manipulating others to maintain the lead (Miller, Hyatt, Maples-Keller, Carter, & Lynam, 2017). This is also evident from the results of this study, which shows just how the levels of delinquency determine the increase in Machiavellianism, who in this case, is always determined to outwit the rest because of the ability to evaluate social circumstances and others.

Moreover, Machiavellianism, psychopathy, and narcissism were evident conspicuously in the delinquent group. According to Sleep, Lynam, Campbell, & Miller, a person who scores higher in the dark triad would have chances of delinquency (Gao & Wong, 2018). In this study, individuals who registered high scores depicted superiority and assertiveness in their behaviours. Nonetheless, moderate delinquents could be linked to psychopathy; this is open individuals that are out for the pleasures of life. The results of this study agree with Foster et al.’s study that psychopaths depict agreeableness personality, they are conscious of their surroundings, and behaviours while exercising high levels of neuroticism.

**Question 2: Is there a significant difference in the dark triad between delinquent and nondelinquent group?**

To understand the differences between normal and delinquent sample, ANOVA was performed (Table 3). In the Jordanian children, disparity occurs in behaviour and completeness in clean traits between the delinquents and the normal children. The analysis shows that correlation between the two groups in terms of the triad factors showed minimal significance with the difference in F value of 4.14, 1.13, and
10.99 respectively. A comparison between narcissism and Machiavellianism among the samples showed insignificant P value ($\leq 0.05$), whereas psychopathy showed a less correlation. This explains why both Machiavellianism and narcissism have a higher affinity to delinquency; this may be due to their extreme personalities. Both are manipulative and can use whatever means to achieve their goals.

In addition, from the literature review, psychopathy is strongly related to empathy and sympathy; these are inborn traits of a child, therefore likely to be shared with both a delinquent and a normal child (Ibrahim & Komulainen, 2016). The high levels of the dark triad were recorded (Table 3) among the delinquent sample, reflecting their violent and unruly behaviour. These findings were evident in a previous study conducted by Gao & Wong, who demonstrated that dark triad is a strong predictor of delinquency, particularly high level of delinquency. Essentially, Machiavellianism is strongly associated with aggression, which is due to manipulative and cynical attitude. Individuals with a high level of Machiavellianism traits engage more in crimes since they are remorse and suspicious. However, narcissists are prone to delinquency due to their aggressive behaviours in comparison to psychopathy. Therefore, the results indicate that in Jordan, one cannot mistake a delinquent child for a normal child with adequate knowledge in psychology. In conclusion, the results of the comparison between delinquent and normal sample agree with those reported by Ibrahim & Komulainen, who assert that parental conflict and family disputes make youth vulnerable to criminal activities (Meldrum, Connolly, Flexon, & Guerette, 2016).

**Question 3: What is dark triad that discriminates between delinquent and nondelinquent group?**

To answer this question, a discriminate analysis was performed. Nonetheless, to determine the link between the dark triad and delinquency, eigen value and canonical correlation for groups of functions were utilized. As shown in Table 7, psychopathy indicates a strong discriminant function of 54.7% with both samples. From the literature review, several studies have shown that psychopath individuals are moderate delinquents, social misfits who lack attributes such as guilt, remorse, or even sympathy; however, they can be outgoing and nothing detracts them. A study conducted in the USA showed that psychopaths are heartless, insensitive to human feelings and are driven by selflessness.

Due to these personality traits, psychopaths are likely to be engaged in robbery, murder, and even rape. In addition, the heartless nature of the psychopaths forces them either to commit a crime or abuse others without any guilt. Notably, psychopaths do not feel remorseful or spare their close associates with their unbecoming behaviours (Hirschi, 2017). Empirical research conducted on juvenile court systems and general prisons in the USA found that psychopaths are likely to be in prisons. The results of this study on the Jordanian children confirm that the population in Jordan is similar to other parts of the world based on their psychological perceptions. Moreover, these results are in tandem with the results reported by Schermer, who suggests that dark triad act in concert as a psychological driver of antisocial behaviour. Narcissistic traits are prone to delinquency due to social dysfunction, as well as maladaptive conduct such as lack of empathy, low agreeableness, and impulsiveness. The attribute of a lack of guilt and shame contributes to antisocial behaviour. However, individuals with Machiavellianism engage in delinquency because they make unethical choices. Similarly, psychopaths usually justify their delinquent actions.

**Question 4: There is a significant difference in the dark triad among the delinquents due to demographic variables (gender, education, financial status, and age)?**

To determine the association between dark triad among delinquents and demographic factors, MANOVA was used (Table 10). According to the result, gender does not show statistical significance with delinquency among the Jordanian children. However, in this study, the mean score show that the male scored high on the delinquency scale as compared to the female. The magnitude of the difference on the score between the males and females was not uniform across all the measurement.
instruments used, but with that difference, the male participants still scored higher than the female participants. These findings agree with those reported by a previous study showing that boys are likely to engage in delinquency (Evans et al., 2016). This indicates that male children are more likely to be involved in aggressive behaviours than female.

Based on Wilks' Lambda values, age and financial status with the mean score of 0.89 and 0.93, respectively, showed some statistical significance. This also implies that financial background and age can determine the rate of frequency. This resonates with previous findings by Kowalski et al., who demonstrated that adolescents from affluent backgrounds are likely to engage in delinquent behaviours than those from low-income backgrounds. Moreover, the results from Table 9 indicate that older adolescents are more likely to engage in crime as opposed to young adolescents. Hirschi and Gottfredson, who reported that the adolescents between the age group of 15 and 18 years become unruly and hence get involved in deviant behaviours, asserted the same (Gottfredson, 2017; Sleep, Lynam, Campbell, & Miller, 2018). When it comes to education, the results from Table 9 indicate that delinquency, psychopathy is influenced by the level of education (F value of 2.82, 0.00, and 8.27 was obtained with a significant relationship; P < 0.05).

However, delinquency between Machiavellianism and narcissism is not dependent on the level of education. This result agrees with the results reported by Ahonen et al., who cite a confluence of factors such as family background, genetics, and environment. With regard to family income, the statistics do not demonstrate a significant correlation between delinquency and financial income in Jordan based on the F value (2.16, 1.11, and 0.24). This implies that delinquency (based on Machiavellianism, narcissism, psychopathy) is not determined by the financial attribute. The adolescents have the propensity to commit crime irrespective of their financial status. These findings are corroborated by Kowalski et al., who asserted that adolescents from affluent backgrounds are likely to display delinquent behaviours, whereas individuals from low-income group are unlikely to show evidence of delinquent behaviours.

Fundamentally, education plays an important role in the social life of children and adolescents. In addition, it affects the emotional and social development of children while preparing them for adulthood (Yamen, Al Qudah, Badawi, & Bani-Mustafa, 2017). In addition, cultural factors and low level of education are seen as the basis of delinquent behaviour. Similarly, criminal behaviour is an outcome of cultural conflict (Huizinga, Esbensen, & Weiher, 1991). For instance, the cultural factors represent the acceptable behaviour of the society as witnessed in the different pattern of delinquency in the Western and the Middle East. Especially, in the Middle East, adolescents focus less on independence, thus they are not likely to be involved in antisocial behaviour (Yamen et al., 2017). In Arab nations, school and parental involvement make the trend of age and delinquency spread out compared to western cultures.

**Conclusion**

This study was successfully conducted, and the study hypotheses were well-tested by conducting a thorough literature review and data analysis. The study gives insights into the delinquent trends in the Middle Eastern countries, particularly Jordan. Both genders displayed a moderate level of delinquency. In the past, females scored low in all the triad factors. However, the trends have changed based on recent studies. Nowadays, females are becoming more delinquent than in the past, based on the high scores obtained in the case of narcissism. The change is attributed to the improved social conditions coupled with better social laws which support the females in the current societies. Financial status, age, gender, and education are determinants of dark triad factors in adolescents. The results of this study provide disturbing revelation on the role of parenting on the welfares of the Jordanian youths. According to our results, in Jordan, adolescents with single parent display a high level of delinquency as compared to adolescents raised by both the parents. Furthermore, gender and age are shown as the primary contributors of delinquency within the demographic factors. Our results do not show that financial and family status affects delinquency level based on gender. This study has a limitation. It used a self-report scale, which is likely to be
biased; this might be because it is not easy to tell the level of honesty in responses provided. Therefore, we recommend further studies in order to reveal how other factors determine the chances of delinquent behaviour within the gender difference. Psychopathy is the main predictor of delinquency among the Jordan youths, and there is a need to screen adolescents in order to identify individuals with psychopathy at an early age. In addition, this research cannot be used to make a judgement on the characters of an adolescent, rather can be used to show factors that affect delinquency among the Middle Eastern adolescents.

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**Ethical disclosure**

This study was approved by the Ministry of Social Development, Jordan. The approval number is 20744 on 17 October 2018.

**Author Contributions**

The author is solely responsible for the data collection, data interpretation and writing of the manuscript.

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