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Emotional and behavioral problems among Jordanian adolescents: Prevalence and associations with academic achievement

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Abstract

Background: Mental health concerns are important for adolescent's general wellbeing and they can be associated with their ability to function effectively in various aspects of their daily life.

Aim: The purpose of this study was to identify emotional and behavioral disorders (EBD) among Jordanian adolescents and their association with academic outcomes.

Methods: A descriptive correlational design was used. A total of 810 adolescents participated in the study and completed the demographic survey and the Strengths and Difficulties Questionnaire (SDQ). The grade point average (GPA) was used as an indicator of the academic achievement. The GPA was correlated with the SDQ scores to identify the relationship between the EBD and academic achievement.

Results: About 11.7% of the participants had psychological and behavioral problems. The most commonly reported problems were emotional symptoms (14.2%), conduct problems (12.5%), and hyperactivity (7.5%). There was a significant difference in psychological and behavioral problems according to the participants' gender. There was a significant negative relationship between the SDQ scores and the GPA.

Conclusion: There is a need to identify adolescents at risk of emotional and behavioral difficulties and refer them to appropriate care and support, which in turn would improve their academic achievement.

KEYWORDS

academic achievement, adolescents, emotional and behavioral problems, Jordan

1 | INTRODUCTION

In the recent decades, psychological and behavioral problems have increased especially among adolescents (Merikangas et al., 2011). Worldwide, 20% of children and adolescents suffer from a disabling mental illness (Kessler et al., 2005). Mental health concerns are a major component of the adolescent's general wellbeing, which are intimately bound up with their physical health and can cause life-long health problems. Likewise, adolescents who have psychological and behavioral problems may be identified as emotionally disturbed in schools. Adolescents with psychological and behavioral problems may disturb class with inappropriate behaviors including fighting, physical violence, and abusive language.

The unmet mental health needs of adolescents have been documented in the literature (Burns & Rapee, 2016; Jensen et al., 2011). A study conducted by Green et al. (2013) reported that only 36.2% of adolescents with mental health difficulties had received treatment, whereas half of the adolescents with severe mental disorders had never received any mental health treatment for their symptoms. Mental health treatment during adolescence has the potential to reduce the severity of future mental illness (Kieling et al., 2011; Patton et al., 2014).

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Schools are increasingly playing an important role in addressing the mental disorders (Bruns et al., 2016). Greater use of integrated mental health services in schools could considerably improve the mental, emotional, behavioral, and academic outcomes for adolescents by improving the effectiveness, efficiency, and contextual suitability of education sector services (Stephan, Mulloy, & Brey, 2011). Indeed, mental health is necessary for optimal academic success (Stevenson, 2010).

Psychiatric and mental health nurses can play a vital role in the referral of adolescents exhibiting psychological and behavioral problems and developing special intervention programs to meet their needs (Walker & Brigham, 2017). Knopf, Park, and Mulye (2008) reported that the demands for adolescent's mental health services exceed the available resources within the school system. Therefore, a universal screening has been suggested as a method of identifying mental health difficulties early and providing specific intervention according to the student's needs (Dowdy, Ritchey, & Kamphaus, 2010).

Identifying the prevalence of psychological and behavioral problems is important to develop effective interventions to address the needs of adolescents. Green et al. (2013) found that screening and early identification of psychological and behavioral problems by school's efforts were associated with the rate of mental health service utilization among students. To date, very few data are available on the prevalence of psychological and behavioral problems among adolescents in Jordan. Therefore, there is a need to investigate the psychological and behavioral problems among Jordanian adolescents, at the very least, to have baseline data regarding the extent of the problem.

The purpose of this study was to identify emotional and behavioral disorders (EBD) among Jordanian adolescents and their association with academic outcomes. The results of this study could provide a direction for health policy-makers related to integrating mental health services within the school setting. Such integration could be helpful for adolescents who are at risk of emotional and behavioral problems in the governmental schools. It could be helpful in early identification and prevention of mental health problems rather than focusing solely on the treatment of mental disorders (Dowdy et al., 2010). Moreover, considering the recent events in the Middle East Region, Jordan is experiencing a rise in Syrian refugees studying in the government schools. Thus, there is also a need to understand how school mental health services contribute to refugee health status within the school settings (El-Khatib, Scales, Vearey, & Forsberg, 2013).

2 | METHODS

2.1 | Study design

A cross-sectional design was used. Ethical approval for the study protocol was obtained from the University of Jordan Institutional Review Board committee. In addition, the approval was obtained from the Ministry of Education to conduct the study at the selected schools before data collection. Privacy and confidentiality of the adolescents were safeguarded. The informed consent of the parents or legal guardians was obtained before the data collection.

2.2 | Sample and settings

A two-stage cluster sampling technique was used to select the study sample. First, the researchers randomly selected two schools from a list of all government schools in Amman, the capital of Jordan. Then, within each selected school, the researchers selected the adolescents (ages 14, 15, and 16 years) and invited them to complete the study. Eligibility criteria included: (a) being an adolescent in a secondary governmental school; (b) having no sensory or physical impairment (e.g., diabetes mellitus, epilepsy, etc.) that would affect a student's ability to learn and concentrate, and therefore, negatively influence student's academic performance; and (c) availability of parents to provide a written informed consent.

2.3 | Instruments

Two measures were used to collect data including the demographic survey and the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001). The demographic survey was used to collect data regarding the basic demographic characteristics of the students, such as their age and gender. The grade point average (GPA) was used as an indicator of the academic achievement. To estimate emotional and behavioral problems for adolescents, the SDQ was used. The SDQ is a valuable screening tool for detecting emotional and behavioral problems for adolescents. It was, developed reflecting the *Diagnostic and Statistical Manual of Mental Disorders-IV* diagnostic criteria (He, Burstein, Schmitz, & Merikangas, 2013; Levitt, Saka, Hunter romanelli, & Hoagwood, 2007; Mieloo et al., 2014). Previous studies indicated that the internal consistency reliability and test–retest stability of the SDQ are satisfactory (Borg, Kaukonen, Salmelin, Joukamaa, & Tamminen, 2012; Muris, Meesters, & van den Berg, 2003). In addition, the SDQ has been found to be a valid measure for emotional and behavioral problems (Mieloo et al., 2014). The five-factor instrument was developed to screen emotional and behavioral difficulties in children and adolescents aged 3–17 years. The SDQ has three versions for parents, teachers, and adolescents, respectively.

The SDQ contains 25 items in five subscales including emotional, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior (Rimal & Pokharel, 2013). For the purpose of this study, the Arabic self-rated version of the SDQ (A-SDQ) was used. The Arabic version of the scale is valid and reliable (Alyahri & Goodman, 2006; Emam, Hilal, Kazem, & Alkharousi, 2016) and used frequently in the previous research (El-Keshky & Emam, 2015; Emam, Kazem, & Al-Zubaidy, 2016; Thabet, Stretch, & Vostanis, 2000).

2.4 | Internal consistency reliability for the SDQ in the current study

Cronbach's α reliability was used to estimate the internal consistency reliability of SDQ, which was found to be 0.85. Regarding SDQ, the

TABLE 1 The demographic characteristics

Gender	Age (years)	Frequency	Percent
Male (n = 374, 46.2%)	14	94	25.1
	15	150	40.1
	16	130	34.8
Female (n = 436, 53.8%)	14	125	28.7
	15	128	29.3
	16	183	42

Cronbach's α reliability was 0.79 for the emotional symptoms subscale, 0.79 for the hyperactivity-inattention subscale, 0.79 for peer problems subscale, 0.84 for conduct problems subscale, and 0.89 for prosocial behavior subscale. These outcomes indicate good to very good internal consistency reliability for the SDQ total score and its subscales.

2.5 | Data collection procedures

After obtaining the ethical approval, the school principals of selected schools were contacted about their students' participation in the study. Then, information sessions were provided for teachers regarding the purpose of the study and the procedure of data collection. Data were collected from July 2017 through November 2017 using the self-reported questionnaires. Data collection was performed in the classrooms at the adolescent's schools, guided by the first author. Each adolescent completed the self-report form of the SDQ and the demographic data (i.e., gender and age) were also obtained from the participants. The time required for completing the SDQ was about 10–15 min. One thousand questionnaires were distributed, but 810 were completed and returned by the participants.

2.6 | Data analysis

All statistical analyses were carried out using the SPSS Software version 21.0 (IBM Corp, 2010). Descriptive statistics were used to describe the demographic variables, SDQ scores, and the GPA of the students. Independent sample t tests were used to compare the SDQ scores and the GPA according to the gender of the participants. One-way analysis of variance (ANOVA) was used to compare the SDQ scores and the GPA according to the three age categories of the participants. Pearson's correlation coefficients were calculated to measure the correlation between the GPA and total SDQ scores. Results were considered statistically significant when $p < 0.05$.

3 | RESULTS

3.1 | Demographic characteristics

A total of 810 adolescents completed the study. The male students were 374 (46.2%), while the female students were 436 (53.8%). The mean age of the participant was 15.12 years (SD = 0.80), ranging between 14 and 16 years. Most students were 16 years old (n = 313, 38.6%), followed by the 15 years old (n = 278, 34.3%), and 219 students (26.0%) were 14 years old. The distribution of the students as per age and gender are presented in Table 1.

3.2 | Distribution of the SDQ scores

Descriptive statistics were used to describe the total score of SDQ and the SDQ subscales to identify the major EBD (emotional health, conduct problems, hyperactivity, peer relationship problems, SDQ, and prosocial behavior) among adolescents at the governmental schools. As presented in Table 2, the mean scores of adolescents in the total difficulties score (SDQ) and its subscales for the entire sample are within the normal values.

Additional analysis was conducted to describe the frequencies and percentages of the adolescents who are categorized as normal or without challenges, at borderline, and abnormal with challenges (Table 3). Overall, adolescent's perception of their strengths and difficulties in life indicated that 95 (11.7%) of the participants were categorized as "abnormal." Regarding the SDQ subscales, the most commonly reported abnormal findings were related to the emotional symptoms subscale (n = 115, 14.2%), followed by the conduct problems subscale (n = 101, 12.5%), and the hyperactivity-inattention subscale (n = 61, 7.5%). The least commonly reported abnormal findings were related to the prosocial behavior subscale (n = 34, 4.2%) and the peer problems subscale (n = 46, 5.7%).

TABLE 2 Descriptive statistics of total and subscale of strength and difficulties among adolescents (N = 810)

					Interpretation		
Variables	Mean	*SD*	Min	Max	Normal	Borderline	Abnormal
SDQ	12.8	5.3	1	31	0–15	16–19	20–40
Emotion	3.77	2.4	0	19	0–5	6	7–10
Conduct	2.4	1.7	0	8	0–3	4	5–10
Hyperactivity	4.0	1.9	0	9	0–5	6	7–10
Peer	2.7	1.6	0	9	0–3	4–5	6–10
Proscial	8.0	1.8	0	10	6–10	5	0–4

Note. SDQ: Strengths and Difficulties Questionnaire.

TABLE 3 Frequency and percent of the adolescents who are categorized as normal, at borderline, and abnormal ($N = 810$)

Variables	Normal, *n* (%)	Borderline, *n* (%)	Abnormal, *n* (%)
SDQ	581 (71.7)	134 (16.5)	95 (11.7)
Emotion	625 (77.2)	70 (8.6)	115 (14.2)
Conduct	612 (75.6)	97 (12)	101 (12.5)
Hyperactivity	644 (79.5)	105 (13)	61 (7.5)
Peer	581 (71.7)	183 (22.6)	46 (5.7)
Prosocial	737 (91)	39 (4.8)	34 (4.2)

Note. SDQ: Strengths and Difficulties Questionnaire.

In addition, the results indicated that the percent of normal values on the SDQ total score and its subscales ranged between 71.7% and 79.5%, except for the prosocial behavior subscale that was found to have a higher percent of normal values (91%) than all other subscales. It is noteworthy that 22.6% of the participants had scores at the "borderline" regarding peer problems subscale.

Table 4 presents the frequencies and percentages of the adolescents who are categorized as normal, at borderline, and abnormal according to their gender (Table 4). The most commonly reported abnormal finding among female participants was related to the emotional symptoms subscale ($n = 90$, 20.6%), while the least commonly reported abnormal finding among female participants was related to the peer problems subscale ($n = 15$, 3.4%). The most commonly reported abnormal finding among male participants was related to the conduct problems subscale ($n = 59$, 15.8%), while the least commonly reported abnormal finding among male participants was related to the prosocial behavior subscale ($n = 17$, 4.5%). The results of χ^2 indicated that female participants ($n = 63$, 14.4) were found to have a significantly higher percent of abnormal values regarding the total difficulties score (SDQ) than male participants ($n = 32$, 8.6%; $p = 0.03$). In addition, female participants were found to have a higher percent of abnormal values regarding the emotional symptoms subscale ($p < 0.001$) and the hyperactivity-inattention subscale ($p = 0.001$) than male participants. Male participants were found to have a significantly higher percent of abnormal values regarding the conduct problems subscale ($p = 0.001$) and the peer problems subscale ($p = 0.001$) than female participants. Although male participants had higher percent of abnormal values regarding the prosocial behavior subscale than female participants, this difference was not significant ($p = 0.36$).

3.3 | Differences in SDQ and GPA according to the gender of participants

Independent *t* test was used to examine differences between male and female adolescents in the mean scores of SDQ and its subscales (Table 5). The results showed that female adolescents had higher mean scores than male adolescents in SDQ (mean SDQ for females = 13.23, $SD = 5.46$ and mean SDQ for males = 12.24, $SD = 5.02$; $t = -2.65$, $p = 0.008$). In addition, female participants had significantly higher scores on emotional ($t = -7.87$, $p < 0.001$), Hyperactivity ($t = -3.005$, $p = 0.003$), and prosocial subscales ($t = -3.16$, $p = 0.002$) than male participants. In contrast, male participants had significantly higher scores on peer problems subscale ($t = 4.99$, $p < 0.001$) than female participants. No significant differences were found in conduct subscale between males and females. With respect to the differences in GPA, the results indicated no significant differences in the GPA between female ($M = 76.66$, $SD = 13.567$) and male students ($M = 75.95$, $SD = 11.269$, $t = -0.816$, $p = 0.420$).

3.4 | Differences in SDQ and GPA according to the age of the participants

The results of one-way ANOVA indicated no significant difference in the mean of GPA between the three age groups (14, 15, and 16 years). The same outcome was reported for the SDQ score and its

TABLE 4 Frequency and percent of the adolescents who are categorized as normal, at borderline, and abnormal based on their gender ($N = 810$)

Variable	Category	Normal, *n* (%)	Borderline, *n* (%)	Abnormal, *n* (%)	*p*
SDQ	Male Female	276 (73.8) 305 (70)	66 (17.6) 68 (15.6)	32 (8.6) 63 (14.4)	0.032
SDQ: Emotion	Male Female	322 (86.1) 303 (69.5)	27 (7.2) 43 (9.9)	25 (6.7) 90 (20.6)	<0.001
SDQ: Conduct	Male Female	277 (74.1) 335 (76.8)	38 (10.2) 59 (13.5)	59 (15.8) 42 (9.6)	0.017
SDQ: Hyperactivity	Male Female	316 (84.5) 328 (75.2)	43 (11.5) 62 (14.2)	15 (4) 46 (10.6)	0.001
SDQ: Peer	Male Female	248 (66.3) 333 (76.4)	95 (25.4) 88 (20.2)	31 (8.3) 15 (3.4)	0.001
SDQ: Proscial	Male Female	335 (89.6) 402 (92.2)	22 (5.9) 17 (3.9)	17 (4.5) 17 (3.9)	0.360

Note. SDQ: Strengths and Difficulties Questionnaire.

TABLE 5 Differences in Strengths and Difficulties Questionnaire (SDQ) and grade point average (GPA) according to the gender of the participants

	Gender	*n*	Mean	*SD*	*t*	*p*
Emotion	Male	374	3.09	2.095	−7.87	<0.001
	Female	436	4.35	2.458		
Conduct	Male	374	2.41	1.810	0.898	0.370
	Female	436	2.30	1.613		
Hyperactivity	Male	374	3.73	1.742	−3.005	0.003
	Female	436	4.12	1.936		
Peer	Male	374	3.01	1.618	4.99	<0.001
	Female	436	2.46	1.546		
Proscial	Male	374	7.81	1.817	−3.16	0.002
	Female	436	8.21	1.746		
GPA	Male	374	75.95	11.269	−0.816	0.420
	Female	436	76.66	13.567		
SDQ total	Male	374	12.24	5.017	−2.65	0.008
	Female	436	13.23	5.460		

subscales as no difference was found in SDQ score and its subscales according to the age of the participants (Table 6).

3.5 | The relationship between scores of the SDQ and the academic achievement

Table 7 presents the correlations between the academic achievement and the SDQ and its subscales. The results indicated a significant negative relationship between the SDQ total score and the GPA ($r = -0.23$, $p < 0.01$). In addition, four subscales of SDQ were negatively correlated with the GPA; emotional problems ($r = -0.16$, $p<0.01$), peer relationship problems ($r = -0.19$, $p < 0.01$), hyperactivity problems ($r = -0.17$, $p < 0.01$), and in conduct problems ($r = -0.13$, $p < 0.01$). These results indicate that higher scores on SDQ and its subscales (except for prosocial subscale) were associated with lower academic achievement as measured by GPA. However, the magnitude of these correlations was small.

4 | DISCUSSION

The purpose of this study was to identify EBD among Jordanian adolescents and their association with academic achievement. Research regarding emotional and behavioral problems in community-based samples is necessary to develop psychiatric and mental health services for adolescents who are living in the community (Davidson, Grigorenko, Boivin, Rapa, & Stein, 2015).

Overall, 95 (11.7%) of the participants in the current study had scores indicating emotional and behavioral problems. This outcome indicates that the participants in the current study have a relatively lower percent of abnormal SDQ scores than those in other Arab countries. For example, a study conducted by Mowafy, Ahmed, Halawa, and El Din (2015) assessed the prevalence of emotional and behavioral problems among Egyptian adolescents and found that 15.7% of the participants had abnormal scores regarding emotional and behavioral problems. However, consistent with the results of the current study, the study of Mowafy et al. (2015) found that the most commonly reported abnormal score was related to the emotional problems and the least commonly reported abnormal findings were related to the peer problems. Furthermore, a study was conducted by Eapen, Al-Gazali, Bin-Othman, and Abou-Saleh (1998) in the UAE to examine the prevalence of psychiatric problems in a sample of 3278 adolescents and it was found that 23.9% of the participants had psychiatric problems.

In comparison with the non-Arab countries, the prevalence of psychological problems among adolescents differs from the results of the current study. For example, a study conducted by Mohammadi et al. (2013) who used the SDQ to assess the prevalence of psychological problems among adolescents in Iran with a sample of 5171 participants aged 12–17 years. The results showed that the highest prevalent psychological problem was related to conduct problems (24%) and the lowest prevalence was reported for social problems (5.76%). Another study conducted by Gomez and Suhaimi (2013) to assess the rates of emotional and behavioral problems of a sample of 1407 Malaysian school-aged children using the SDQ found that about 5% of the participants were at the abnormal level and 10% are at the borderline level. Furthermore, a study was conducted by Faizi, Azmi, Ahmad, and Shah (2016) in the 13–15 years' age group

TABLE 6 Differences in Strengths and Difficulties Questionnaire (SDQ) and grade point average (GPA) according to the age of the participants

	Age (years)	*n*	Mean	*SD*	*F*	*p*
GPA	14	219	75.38	12.599		
	15	278	77.62	12.008	2.329	0.098
	16	313	75.85	12.942		
SDQ: Emotion	14	219	3.95	2.189		
	15	278	3.60	2.369	1.351	0.260
	16	313	3.80	2.513		
SDQ: Conduct	14	219	2.33	1.671		
	15	278	2.44	1.793	0.574	0.564
	16	313	2.29	1.655		
SDQ: Hyperactivity	14	219	3.92	1.842		
	15	278	3.85	1.797	0.701	0.497
	16	313	4.03	1.923		
SDQ: Peer	14	219	2.72	1.668		
	15	278	2.87	1.549	2.462	0.086
	16	313	2.58	1.596		
SDQ	14	219	12.92	5.119		
	15	278	12.76	5.288	0.121	0.886
	16	313	12.70	5.398		
SDQ: Prosocial	14	219	8.26	1.664		
	15	278	7.77	1.906	0.794	0.452
	16	313	8.08	1.743		

TABLE 7 The relationship of the Strengths and Difficulties Questionnaire (SDQ) total score and its subscales with the grade point average (GPA)

	GPA	Emotion	Conduct	Hyperactivity	Peer	Proscial	SDQ total
GPA	1						
Emotion	−0.160**	1					
Conduct	−0.126**	0.347**	1				
Hyperactivity	−0.168**	0.431**	0.336**	1			
Peer	−0.185**	0.285**	0.274**	0.141**	1		
Prosocial	−0.013	−0.093**	−0.340**	−0.127**	−0.223**	1	

**$p < .01$.

employing SDQ with a sample of 1456 students in India. The results indicated that the prevalence of psychological problems was found to be 9.75%. The prevalence of conduct, emotional, peer, prosocial problems, and hyperactivity was 5.56%, 5.42%, 4.40%, 4.26%, and 3.78%, respectively. In comparison with the current study, the study of Faizi et al. (2016) reported a lower prevalence of conduct problems, emotional problems, and hyperactivity among the adolescents from India than those from Jordan.

In addition, in the United States, a study conducted on 1420 adolescents found that the prevalence of emotional and behavioral problems was 13.3% (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). In Taiwan, a study conducted with adolescents found that the prevalence of emotional and behavioral problems was 14.8–22.7%; the hyperactivity problems was the most frequent problem (Gau, Chong, Chen, & Cheng, 2005). Thus, there is significant variations in SDQ scores by region, but the results are difficult to interpret and compare.

4.1 | Differences in SDQ scores according to the gender and age of the participants

The results of the current study showed that female adolescents had higher mean scores than male adolescents in SDQ. In addition, female participants had significantly higher scores on emotional, hyperactivity, and prosocial subscales than male participants. In contrast, male participants had significantly higher scores on peer problems subscale than female participants. The outcome regarding the differences in emotional symptoms subscale between female and male participants was extensively supported in the literature. For example, a study conducted by Emam et al. (2016) used the Arabic self-report version of the SDQ to assess the emotional and behavioral problems in a sample of 816 middle school students in Oman. The results indicated a significant difference in emotional and behavioral problems according to the gender of the participant, as female participants had more emotional symptoms than male participants, whereas male participants had more conduct and peer problems than female participants.

This outcome is also consistent with the study of Mohammadi et al. (2013) who found that emotional problems were significantly higher among female participants compared with male participants. The same outcome was reported in the western literature. For example, a study conducted by Ortuño-Sierra, Fonseca-Pedrero, Paino, Sastre i Riba, and Muñiz (2015) using the SDQ to screen mental health problems with a sample of 1474 Spanish adolescents with a mean age of 15.92 years found that female participants had higher mean score in emotional problems than male participants. In addition, a study conducted by Yao et al. (2009) used the self-report SDQ in a sample of Chinese adolescents and found that girls had higher scores on the emotional symptoms subscale than the boys, whereas boys had higher scores on conduct and peer problems subscales than the girls.

The results of one-way ANOVA indicated no significant difference in the mean of the SDQ score and its subscales according to the age of the participants (14, 15, and 16 years). The same outcome was reported by Mohammadi et al. (2013) who found no difference in psychological problems according to the age of the participants 12–14- and 15–17-year-old adolescents). On contrary, a study of Yao et al. (2009) found that adolescents in age groups of 15 and 18 years had higher scores on the prosocial and hyperactivity behavior subscales than the adolescents between the ages of 11 and 14 years. The adolescents of 15 and 18 years had lower scores on the peer problems subscale than did adolescents between the ages of 11 and 14 years.

In the current study, there was no difference in the GPA according to the age and gender of the participants. This outcome was somewhat supported by the previous literature. Although the research found a difference in GPA scores according to the age and gender of the adolescents, the effect sizes for these differences were small (Jabor, Machtmes, Kungu, Buntat, & Nordin, 2011). Kupczynski, Brown, Holland, and Uriegas (2014) found no significant difference in academic achievement according to the gender of the student. Furthermore, Jennifer (2011) found that the age and gender of the student did not have an impact on the academic achievement. Reisi et al. (2017) conducted a cross-sectional study on 1100 adolescents in Iran and found that academic achievement was significantly correlated with gender and age of the student.

The current study indicated a significant negative relationship between the SDQ total score and the GPA. In addition, all of the four subscales of SDQ were negatively correlated with the GPA. These results indicate that increases in emotional problems, peer relationship problems, hyperactivity problems, and conduct problems were associated with lower academic achievement as measured by GPA

among the adolescents who completed the current study. These outcomes were supported by the previous literature. Previous research established links between academic successes and students' emotional and behavioral functions (Bruhn et al., 2014; Hill, Ohmstede, & Mims, 2012). Mattison (2015) conducted a study with adolescents who had emotional and behavioral problems (i.e., attention-deficit/hyperactivity disorder, conducts disorder, and learning disability) and found a significant relationship between these emotional and behavioral problems and academic achievement scores. In fact, mental health is necessary for optimal academic success (Stevenson, 2010). In addition, academic achievement is significantly increased when behavioral problems among adolescents are managed (Mattison & Blader, 2013). Adolescents with emotional and behavioral problems might not only have an inability to learn, but also they might have difficulty to establish satisfactory social relationships with their family members, peers, and other colleagues in the school. It is noteworthy, however, that the magnitude of the correlations between the SDQ subscales and the academic achievement were small, indicating that the Jordanian adolescents' mental health difficulties may not have a strong influence on the Jordanian adolescents' academic achievement and may not be a big problem for the Jordanian adolescents' performance at school. However, school administrators should not underestimate the influence of adolescents' mental health and behavioral difficulties on various aspects of adolescents' lives.

Considering the outcomes of the current study, there is a need to integrate mental health services into schools setting to improve the mental, emotional, behavioral, and academic outcomes for adolescents (Bruns et al., 2016; Stephan et al., 2011). While this is the first study to investigate adolescents' psychological and behavioral problems in Jordan, these problems were previously reported in other countries worldwide. In addition, the SDQ, which was used in the current study as a screening tool, was previously used in many countries, cultures, and languages. Therefore, it is imperative that the psychological and behavioral problems among adolescents are prevalent worldwide and they are not central to one country or culture. Considering this, there is a need for global efforts to develop standardized policies for early identification and screening of psychological and behavioral problems among adolescents at schools.

In addition, adolescents who demonstrate emotional and behavioral problems should be referred to effective interventions, taking into consideration the academic and other challenges they face. In fact, screening and identification of psychological and behavioral problems among adolescents at schools without providing effective interventions might label them and create a stigma that undermines their academic success (Sayal et al., 2010). Thus, policy-makers need to enforce specific policies that link screening efforts of psychological and behavioral problems among adolescents to effective mental health services that are matched to their needs.

To date, many schools have not adopted universal screening procedures in the identification of adolescents at risk for emotional and behavioral difficulties. There is a need to identify adolescents at risk for emotional and behavioral difficulties and refer them to appropriate care and support, which in turn would improve their academic achievement (Verhaak, van Dijk, Walstock, & Zwaanswijk, 2015). In the United Sates, for example, some schools have adopted screening procedures for adolescents' emotional and behavioral problems and established partnership and collaboration with various mental health services to develop and implement specific school-based strategies focused on the needs of these students (Bruns et al., 2016). Future research may want to conduct longitudinal studies employing specific interventions that show changes in one area, such as academic achievements, following changes in the emotional, social, and behavioral functioning of the adolescents (Valdez, Lambert, & Ialongo, 2011).

4.2 | Limitations

The outcomes of the current study should be interpreted taking into considerations the following limitations. The age of the participants who completed this study ranges between 14 and 16 years, which may not reflect psychological and behavioral problems in all adolescents. Another limitation of the current study was collecting data from two large schools that may not represent all adolescents in Jordan. Collecting data employing a self-administered questionnaire is another study limitation, as it might not provide in-depth information regarding the academic difficulties experienced by Jordanian adolescents who suffer from psychological and behavioral problems.

5 | CONCLUSION

In the current study, the prevalence of adolescents' psychological and behavioral problems as measured by the SDQ in a Jordanian sample was 11.7%. There was a small negative relationship between the SDQ scores and the GPA. This is the first report from Jordan to assess adolescents' psychological and behavioral problems. However, the study outcomes were consistent with various previous studies, indicating that the psychological and behavioral problems among adolescents are prevalent worldwide and they are not central to one country or culture. Therefore, there is a need for global efforts to develop standardized policies worldwide taking into consideration the academic challenges and other difficulties faced by adolescents with psychological and behavioral problems. Schools should not only adopt screening procedures for adolescents' emotional and behavioral problems but also establish effective partnerships with mental health services to respond to the needs of these adolescents.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

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