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Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study

Ali A. Al-Subaihi[1*] [iD] **, Haifa T. Al-Bokai[2]** [iD] **, Abdulrahman A. Al-Subaihi[3]** [iD]

[1] Taibah University, Madinah, Saudi Arabia
[2] Al Balqa Applied University, As-Salt, Jordan
[3] Wayne State University, Detroit, USA

[*] Corresponding author: alialsubaihi@yahoo.com

Abstract

Introduction. The novelty of the research lies in examining the efficacy of the Saudi government's educational reforms aimed at addressing issues such as extremism and promoting tolerance. For the first time studied, our research assesses the prevalence of antisocial behavior among university students in Saudi Arabia following two decades of these reform efforts. A new perspective on the problem is presented through the utilization of the psychopathy assessment tool SRP-4, comparing results with students from other nations. **Methods.** In our investigation, we surveyed 1076 participants from the target population, utilizing the Self-Report Psychopathy- Version 4 (SRP 4). Our research is exploratory, focusing on understanding the effectiveness of reforms rather than confirming a specific hypothesis. **Results.** The results underscore the importance of comprehending raw and T scores on the SRP 4 scale for statistical analysis. By comparing scores between US college students and Saudi Arabian undergraduates, we reveal average levels of psychopathic traits among the latter, despite some disparities highlighted by Cohen's d values. **Discussion.** Our study emphasizes the significance of understanding raw and T scores in the SRP 4 scale before analyzing data. Through the comparison of American and Saudi Arabian university students, we've uncovered insights into psychopathic traits across diverse populations. Utilizing Cohen's d values, significant variations have been highlighted. These findings offer valuable perspectives on the psychosocial traits of college students.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
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Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Introduction

Regularly assessing the educational system's operations is crucial from scientific, political, and economic perspectives, both locally and globally. This involves the participation of experts, thinkers, and well-educated individuals from local and international communities. Evaluations typically compare educational outcomes in terms of intellect, behavior, science, profession, and society with local demands and those of nearby and distant education systems. This helps identify strengths for enhancement and weaknesses for correction before they become critical.

When negative phenomena arise locally, like rising unemployment rates, the spread of begging, or different forms of antisocial (by which is meant extreme deviation from social standards that also violates the rights of others), the need for a thorough review of the activities of the education system becomes imperative. In these situations, a thorough and impartial evaluation of these efforts is crucial.

Significant changes are needed in the system to counteract actions linked to individuals or groups that pose threats, at national or global levels—such as attacking residential spaces or mosques in Saudi Arabia and being involved in events like the 9/11 attacks in the United States or conflicts in regions such as Chechnya, Iraq, Syria, and Yemen.

The government of Saudi Arabia has implemented a range of reforms and initiatives aimed at improving education and training results to meet standards effectively. The strategies utilize technology to update education and training schemes in line with the changing requirements of both international job markets. One notable project is the education development plan that aims to enhance student skills, promote creativity, and reinforce pride by improving teaching methods, content, and educational settings. The Ministry of Education also runs programs such as "Fatin" and "Rifq" to protect students from diverging and facing problems. These initiatives aim to teach students life skills and leadership qualities to address moral dilemmas effectively while encouraging empathy and understanding among individuals and increasing awareness of different types of violence within the student body as well as among teachers and parents.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Saudi universities have implemented numerous scientific projects, incentive awards, and international conferences to foster moderation, tolerance, and rejection of violence and terrorism. They have also established scientific centers and programs to combat antisocial behavior, demonstrating the government's commitment to creating safe and secure educational environments. These efforts, spanning over two decades, aim to provide students with the necessary tools for a proper and secure life, while equipping school staff and parents with effective preventive educational methods to address violence.

Hence, there is a crucial need for survey research to explore the impact of all these efforts undertaken by the Ministry of Education and Saudi universities to combat antisocial among youth in Saudi Arabia, considering that the majority (about 65%) of the Saudi Arabian population falls into the youth category (aged between 15 and 34 years) (General Authority of Statistics, 2022).

The main research question is: "What is the prevalence of antisocial behavior among university students in Saudi Arabia after two decades of reform efforts?" This will be supported by four sub-questions, each focusing on specific aspects of psychopathy assessment and comparison among culturally diverse college students. These are:

(1) What are the classification levels of psychopathic tendencies among university undergraduates from Saudi Arabia, as determined by the correspondence between raw scores and T scores for each facet, factor, and total score in the SRP 4 instrument? (2) How do the effect sizes of psychopathic traits, assessed by the SRP-4, vary across college students from the USA, Europe, and Saudi Arabia? (3) What factors contribute to the differing effect sizes between the USA and Saudi samples across SRP-4 components, and how do these variations affect the understanding of psychopathic traits in college students from these cultures? and (4) What are the contributing factors to the consistent average level of psychopathic traits among college students from different cultural backgrounds, as indicated by SRP 4 components?

These sub-questions offer nuanced perspectives on evaluating, comprehending, and contrasting psychopathic traits within this demographic. Using the Self-Report Psychopathy-Fourth Version (SRP 4), the aim of the current study is to assess the effectiveness of several strategies that have been done by Saudi government and universities to prevent antisocial behaviors among youth in Saudi Arabia and compare the results with similar foreign studies.

The primary objective of this study is to collect descriptive data, investigate a novel area, or gain insights into a particular phenomenon without having a predefined prediction. As such, the aim is to explore the topic thoroughly, often without formulating a hypothesis at the outset.

The research emphasizes the importance of evaluating Saudi Arabia's system to address the rising antisocial behaviors seen in college students and highlights efforts to improve educational quality and meet international standards through various reforms,

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

like curriculum updates and counseling programs driven by the Ministry of Education and universities in Saudi Arabia geared towards creating a safe learning atmosphere. However, the study points out the significance of assessments to measure the impact of these actions in reducing youth conduct due to the significant number of young people in Saudi Arabia. Such evaluations can help shape strategies and initiatives to promote behavior among young people in Saudi Arabia that is in line with global standards.

The Comprehensive Theoretical Basis

The definition of "antisocial" in psychology differs based upon the circumstances and the theoretical perspective being used. There are two recognized interpretations: 1. One interpretation involves a diagnosis called antisocial personality disorder (ASPD), which is characterized by a pattern of disregarding and violating the rights of others. Individuals with ASPD often exhibit behaviors such as dishonesty, impulsiveness, aggression, irresponsibility, and lack of remorse. 2. The other interpretation is...The Diagnostic and Statistical Manual of Mental Disorders (DS M. 5) published by the American Psychiatric Association in 2013, provides details regarding this diagnosis. Antisocial behavior encompasses a range of behaviors that can cause harm or disturbance to others and society at large. Traits such as aggression, deceitfulness, disregard for norms, and rule violations are all examples of behavior as outlined by Moffitt in 1993.

The rise of conduct is impacted by factors such as biology and genetics, along with environmental and social aspects. This mix of elements interacts intricately to mold susceptibilities and play a role in the formation of behaviors. Grasping the relationship among these factors is essential for dealing with and lessening the effects of antisocial behavior, on individuals and communities.

Neuroscientific studies indicate that irregularities in the structure and function of areas of the brain like the cortex and amygdala can play a role in antisocial behavior by affecting impulse control and emotional regulation (Blair et al., 2014). When these regions show decreased activity levels in individuals with behavior traits can lead to increased impulsiveness and difficulties in managing emotions that may contribute to conduct tendencies. Research into genetics highlights a influence in antisocial behavior, with estimates suggesting heritability falls between 40% to 50% although environmental factors are also significant contributors (Moffitt et al., 2006).Some specific genes associated with neurotransmitters such as serotonin and dopamine. Which play roles in regulating mood and processing rewards. Could potentially increase the likelihood of engaging in behavior (Caspi et al., 2003).

Experiencing situations in childhood like abuse or neglect can increase the chances of engaging in behavior, according to researchers in environmental and social sciences (Felitti et al., 1998). These experiences may impact how the brain develops, which can result in struggles with managing emotions and forming relationships. Effective social growth often originates from caring and well-defined parenting approaches, like styles

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

that emphasize warmth and boundaries. On the contrary, using techniques such as discipline or neglect might elevate the likelihood of impulsive and aggressive actions (Baumrind, 1996). Additionally, peer pressure has an impact since people can mimic behaviors through social learning and reinforcement to fit in or seek approval within their social groups (Bandura, 1977). Furthermore, Socioeconomic challenges such as poverty and being exposed to violence in the community can worsen behavior by restricting opportunities and causing feelings of despair and frustration while also exposing people to influences (as noted by Sampson et al., 1997). As a result of these circumstances... Individuals might turn to methods of dealing with their problems.

Understanding the complexities of life involves recognizing that a person's being is influenced by a combination of factors, like genetics and environment along, with social interactions that all work together rather than in separate silos. For example. A child inheriting traits and growing up in a household might struggle with emotional regulation and interpersonal communication skills leading to a higher likelihood of displaying antisocial behavior.

People with health conditions, like ADHD or anxiety disorders may display antisocial behavior at times and require proper diagnosis and treatment tailored to their needs. The interpretation and expression of behavior can vary across cultures; therefore, it's important to consider cultural context when assessing such behaviors and avoid being influenced by ethnocentric biases.

To sum up the issue of behavior is complex. Does not have a single origin point. Developing strategies to prevent and intervene in behavior necessitates grasping the interplay between biological influences, genetic predispositions, environmental factors, and social dynamics. By tackling weaknesses, fostering environments, and establishing supportive connections, we can strive to reduce instances of antisocial actions and foster a safer and more cohesive society.

Studies in psychology have thoroughly investigated how aggression and antisocial conduct are connected. Have uncovered a link between the two concepts. Antisocial behavior involves engaging in actions that show a lack of respect for rules and the rights of others. Violence is when someone deliberately uses force or authority to inflict harm. People who display behaviors often exhibit behavior towards others through expressions of anger or verbal and physical aggression (as noted by Moffitt in 1993 and Dodge & Coie in 1987).

Studies conducted over time have consistently indicated that individuals who exhibit behavior in their childhood and teenage years are more likely to engage in behavior later in life. This trend highlights the connection between onset behaviors and future involvement, in violent activities as outlined in the "age crime curve" concept discussed by Farrington (1986) and Moffitt (1993).

Individuals who have been identified with antisocial personality disorder (ASPD) as adults or conduct disorder (CD0 during their childhood and teenage years frequently

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

display behaviors that are deemed antisocial, with a tendency for actions like physical aggression and criminal violence linked to both conditions (American Psychiatric Association; 2013). Moreover; characteristics such as anger, impulsiveness; and hostility that are typically seen in individuals with tendencies may play a role in their predisposition toward violence. Impulsiveness is known to increase the likelihood of engaging in violent actions by hindering individuals from managing their impulses and thinking about the outcomes (reference; Barratt 1994 and Coccaro et al. 1997). Additionally, people who grow up in environments marked by violence or abuse might adopt ways of coping and see violence as a way to handle conflicts or assert dominance (citing Bandura 1973 and Dodge et al. 1990).

The results underscore the relationship between conduct and violence in relation to personal traits and environmental factors among young individuals in Saudi Arabia without focusing on pinpointing the causes of antisocial behaviors, as the primary aim of this research is to measure such behaviors.

In research environments, antisocial actions are measured objectively through a variety of assessment tools and methods. Self-report surveys are often utilized, which are tools aimed at evaluating behavior based on individuals' responses. The Psychopathy Checklist Revised (PCl R), the Antisocial Personality Disorder Scale (APDS), and the Self Report Psychopathy Fourth Version (SRp 4) are some examples cited by Hare in 2003. Another approach involves methods where antisocial behaviors are observed and documented directly in controlled or natural settings. Field observations can involve studying real life scenarios or conducting controlled experiments, in laboratory settings (referencing Frick & Morriss work from 2004).

Measuring behavior through interviews is a method used by clinicians to evaluate related disorders using structured or semi-formal questioning techniques that adhere to established diagnostic criteria, like those found in the DSM– Interestingly enough! A fourth approach involves evaluating responses like heart rate variability (HRV) and electrodermal activity (EDA), which can shed light on reactions linked to behaviors such as arousal and emotional control.

Sophisticated brain imaging methods such as positron emission tomography and functional magnetic resonance imaging can offer insights into how the brain functions in connection with behaviors by uncovering neural links and potential biomarkers tied to such behavior, according to Raine et al. (2000).

Methods

In this section, we will provide an in-depth exploration of the individuals involved in the study, the instruments utilized for data collection, the methodology for gathering data, and the statistical analysis methods applied.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Participants

We picked adults aged 18 to 26 from various cultural backgrounds to study antisocial behaviors in the Saudi Arabian youth community, effectively using a convenience sampling method without proper planning by selecting units from the target population casually. This common nonprobability sampling approach is generally suitable for research in the humanities.

According to the methods outlined by Al Suhail (2003), a total of 1076 individuals (567 males and 509 females) were selected from the specified population to form the sample group with attributes presented in Table 1.

Table 1

Characteristics of The Sample

		N	%
Gender	Male	567	52.7
	Female	509	47.3
	Total	1076	100
Age	18 – less than 20	230	30.3
	20 – less than 22	330	34.3
	22 – less than 24	170	22.4
	24 - 26	29	3.8
	Missing Data	113	10.5
	Total	1076	100
Academic Specializations	Scientific Colleges	449	41.7
	Humanities Colleges	627	58.3
	Total	1076	100

Note. *N = Sample Size. % = Valid Percentage*

The study benefits from a sample of 1076 people, both male and female, who were chosen from Saudi Arabia's youth population and ranged in age from 18 to 26. The determination of sample size adheres to established protocols, demonstrating methodological accuracy. The diverse backgrounds and cultural influences of the participants enrich the study's findings. Make them widely applicable while the transparent disclosure of participant details, in Table 1, strengthens the study's credibility.

In terms of this and after consideration, it seems like our sample adequately reflects the target population for this study. This is because of the range of ages, equal representation across genders, varied demographics, large sample size, and appropriate sampling method used.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Measures

The Self-Report Psychopathy Scale

The Self-Assessment Psychopathy Inventory (SRPI 4) created by Paulhus and colleagues in 2017 and consisting of 64 items tailored to evaluate traits in individuals aged 18 and above in situations is commonly employed for this purpose. The four components of SRP 4 include traits related to manipulation and deceitfulness (interpersonal factor IPM) disturbances, emotional connections with others (affective factor CA) impulsive and unpredictable behavior patterns (lifestyle factor ELS), and a tendency to ignore social norms, like delinquency and criminal behavior (antisocial factor CT) as defined by Massa and Eckhardt (2017). Each dimension comprises 16 items making it an even distribution. Participants rate the extent to which specific personality traits apply to them using a 5-point Likert Scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The four facets are grouped into two factors: the first consists of the first two facets that are IPM and CA, while the ELS and CT facets comprise the second factor. Individuals scoring high on the first factor are diagnosed as selfish and callous, using others without feeling guilt or remorse. Those scoring high on the second factor are diagnosed as suffering from chronic instability and antisocial disorder, living a socially deviant lifestyle. Individuals scoring high overall are diagnosed as psychologically disturbed, exhibiting multiple, recurrent, and severe psychopathological traits (Paulhus et al., 2017).

The Self-Report Psychopathy Scale (SRP 4) offers two versions: a shorter variant and a full-length one. While the short form comprises fewer items (29 items) compared to the full version (64 items), both demonstrate a strong correlation (r = .92; Paulhus et al., 2017) and align with the four-facet model (Gordts et al., 2017). Despite this correlation, we have chosen to utilize the full SRP 4 due to its inherent advantages, including a more comprehensive assessment, specific measurement, improved criterion validity, better facilitation of comparative analysis, and alignment with our research objectives. Therefore, while acknowledging the strong correlation with the short form, we find validation of the complete version more advantageous.

The researchers followed the guidelines for translating and adapting tests as stipulated by Hernández, Hidalgo, Hambleton, & Gómez (2020), along with other pertinent studies by Beaton et al. (2000), Tsang, Royse, & Terkawi (2017), and Hambleton & Lee (2013). This comprehensive approach was undertaken to guarantee the suitability and efficacy of the test within the Saudi Arabian context.

The SRP 4 was translated into Arabic using four main methods. Among these processes is (1) *Forward Translation*, in which a skilled translator translated the SRP 4 into Arabic from its original language. (2) *Backward Translation*: To guarantee accuracy and consistency, it was translated back into the original language by another qualified translator. (3) *The Committee of Experts* To ensure linguistic and cultural equivalency and

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

spot any differences, a panel of specialists in psychometrics and translation examined both the forward and back translations. Finally, before the translated instrument was finalized, a small sample of Arabic-speaking people was given the translated version of the SRP 4 for (4) *preliminary pilot testing translation*. The participants in the pilot study were asked to provide detailed explanations of their interpretation of each item and its corresponding response. All that was done to assess comprehension, clarity, and cultural appropriateness.

Personal information form

The personal information form was crafted to collect precise demographic information from participants, encompassing details such as age, gender, and academic specialization. This demographic data was essential for describing the study's findings and facilitating comparisons with similar research studies.

Data Collection Process

The study used convenience sampling, a nonprobability sampling technique, to collect data from a group of college students. After being made aware of the objectives of the study, participants were asked to voluntarily respond to SRP 4 questions on a 5-point Likert scale, where 1 represented a strong disagreement and 5 represented a strong agreement. Most participants needed ten to fifteen minutes to finish the SRP 4 scale in an understandable and efficient manner.

Data Analysis

To address all research objectives, both descriptive and inferential statistical procedures were carried out for this study using SPSS 25.0. The reliability of the scale was assessed by computing Cronbach's alpha (α) and the Guttman Split-Half Coefficient. Additionally, the item-total correlation was calculated using SPSS 25.0 to assess the validity of the scale.

The relationship between a test's individual items and the test score is evaluated using item-total correlation. It assists in ascertaining if each item contributes to the measurement of the construct that the test is evaluating. Concept validity is demonstrated by higher correlations between individual items and the overall score, which implies that the items measure the same underlying concept as the test (Cohen, & Swerdlik, 2018).

Results

Before presenting the statistical analysis results of our survey data, it's crucial to emphasize the classification of both raw scores and T scores for each facet of the scale and its corresponding factors in SRP 4. This will facilitate our diagnostic processes. Table 2 shows the interval of raw scores for each facet, factor, and for the total score in SRP 4, referencing

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

the college sample, comprising 788 undergraduate students from a university in the USA. Among the sample, 34.8% were male, with an average age of 20.7 years (SD = 3.9 years, Range = 20-57 years), with the majority (90.9%) aged 24 years or younger.

Table 2

Raw Score and T Score Ranges for Each Class in SRP 4 Based on USA College Students

Factor Name		IPM	CA	ELS	CT	Factor 1	Factor 2	Total Score
Classi-fication	T Score				Raw Scores			
Low	30-39	16-28	16-27	16-31	16	32-57	32-49	64-110
Average	40-59	29-47	28-44	32-50	17-32	58-90	50-80	111-168
Elevated	60-69	48-57	45-53	51-60	33-40	91-107	81-95	148-197
Extre-mely Elevated	70-80	58-80	54-80	61-80	41-80	108-160	96-160	198-320

Note. IPM = interpersonal factor. CA = affective factor. ELS = lifestyle factor. CT = antisocial factor. Factor 1 = The sum of IPM and CA. Factor 2 = The sum of ELS and CT. Total Score = The sum of IPM, CA, ELS, and CT. Source. Paulhus et al., 2017.

Raw scores on the SRP 4 are computed by summing up the numerical values of the item responses provided by a respondent. Higher scores on the SRP 4 indicate more pronounced psychopathic characteristics, whereas lower scores suggest fewer such traits. For instance, a raw Total Score of 200 signifies a significantly higher level of psychopathy compared to a raw Total Score of 100. However, interpreting differences among raw scores can be challenging; these scores cannot be meaningfully compared between individuals, nor can an individual's scores on different subscales be compared to each other, as they all have distinct means and standard deviations. To facilitate result interpretation, raw scores need to be converted to standardized scores (Paulhus et al., 2017). In the context of the SRP 4, standardized scores typically refer to T-scores. T-scores have a mean of 50 and a standard deviation of 10 in a normal distribution. These scores are derived from raw scores using a formula that standardizes the scores to a common scale.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Table 3 displays the classification of both raw scores and T scores for each facet, factor, and total score in SRP 4, obtained from an investigation comprising 1076 university undergraduates from Saudi Arabia. These classifications serve to establish norms for interpreting SRP 4 scores among the Saudi Arabian university undergraduate population, thus addressing the initial research question.

Table 3

Raw Score and T Score Ranges for Each Class in SRP 4 Based on Saudi Arabia College Students

Factor Name		IPM	CA	ELS	CT	Factor 1	Factor 2	Total Score
Classi-fication	T Score				Raw Scores			
Low	30-39	16-36	16-34	16-30	16-17	32-73	32-50	64-126
Average	40-59	37-51	35-48	31-47	18-39	74-97	51-84	127-179
Elevated	60-69	52-58	49-55	48-56	40-49	98-109	85-101	180-206
Extremely Elevated	70-80	59-80	56-80	57-80	50-80	110-160	102-160	207-320

Note. *IPM = interpersonal factor. CA = affective factor. ELS = lifestyle factor. CT = antisocial factor. Factor 1 = The sum of IPM and CA. Factor 2 = The sum of ELS and CT. Total Score = The sum of IPM, CA, ELS, and CT.*

Table 4 offers a comprehensive overview of the Self-Report Psychopathy Scale, 4th Edition (SRP-4) scores, encompassing college students from the USA (categorized as a reference group), Europe, and Saudi Arabia. It delineates scores relating to the overall SRP-4 assessment, two factors, and distinct facets (IPM, CA, ELS, CT).

In-depth analysis of extensive datasets, such as those outlined here, requires a careful evaluation of statistical significance. It's essential to recognize that significant tests not only indicate the magnitude or importance of a test result (Cohen, 1988; Thompson, 2002). The significance of a test is contingent upon both sample size and effect size; larger sample sizes heighten the likelihood of achieving statistical significance. With sample sizes nearing 800 respondents, it becomes imperative to assess not only the statistical significance but also the strength of the effect (Paulhus et al., 2017).

Effect size serves as a crucial statistic indicating the magnitude of the difference between the groups being compared. Instead of solely focusing on whether a finding is statistically significant (p-value), it aids in comprehending the practical significance

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

of the result. Cohen's d index, calculated as: d = (M1 - M2) / spooled, where M1 and M2 represent the group means and spooled is the pooled standard deviation (average standard deviation of both groups), quantifies the difference between two means in standard deviation units. A higher Cohen's d value indicates a greater disparity across the groups. Effect sizes are classified as small if d = 0.2, medium if d = 0.5, and large if d = 0.8 (Cohen, 1988).

Table 4

Descriptive statistics of SRP 4 raw scores for a sample of college students from the USA (reference sample), Europe, and Saudi Arabia

Sample	Elements	SRP 4 Raw Scores			
		Mean	SD	Min.	Max.
USA Sample (Reference *N* = 788)*	Total	141.0	29.1	68	225
	Factor 1	75.0	16.7	34	133
	Factor 2	66.0	15.3	32	123
	IPM	38.8	9.7	17	70
	CA	36.2	8.8	16	63
	ELS	41.4	9.7	16	73
	CT	24.6	8.0	16	61
European Sample (*N* = 389)*	Total	130.1	24.1	77	254
	Factor 1	69.6	14.0	39	120
	Factor 2	60.5	12.9	35	134
	IPM	37.1	8.9	18	66
	CA	32.4	6.7	20	61
	ELS	39.5	8.9	19	74
	CT	21.9	6.0	16	60
Saudi Arabia Sample (*N* = 1076)×	Total	154.4	26.6	74	246
	Factor 1	85.9	12.2	48	133
	Factor 2	68.5	17.1	23	126
	IPM	44.2	7.2	24	75
	CA	41.6	6.9	20	62
	ELS	39.7	8.6	12	80
	CT	28.8	10.8	2	63

Note. IPM = interpersonal factor. CA = affective factor. ELS = lifestyle factor. CT = antisocial factor. Factor 1 = The sum of IPM and CA. Factor 2 = The sum of ELS and CT. Total Score = The sum of IPM, CA, ELS, and CT. SD = Standard Deviation. Min. = Minimum Raw Score of SRP 4. Max. = Maximum Raw Score of SRP 4.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Based on the provided results for the Saudi Arabian college sample in the SRP-4 assessments at Table 3 and Table 4, the mean total score is 154.4, indicating an *average* level of psychopathic traits within the sample. Factor 1, assessing interpersonal and affective traits, has a mean score of 85.9, suggesting an *average* level of manipulativeness and lack of empathy. Factor 2, evaluating lifestyle and antisocial traits, has a mean score of 68.5, also indicating an *average* levels of impulsivity and irresponsibility. Among individual facets, the Impulsive and Irresponsible Lifestyle (IPM) has a mean score of 44.2, the Criminal Antisocial (CA) facet means at 41.6, the Erratic Lifestyle (ELS) scores 39.7 on mean, and the Criminal Traditions (CT) facet has a mean score of 28.8. These results collectively depict a profile of *average* psychopathic traits and behaviors among Saudi Arabian college students across various dimensions assessed by the SRP 4.

Creating Table 5 to display Cohen's d values to indicate effect sizes across the three groups would provide valuable insight into the practical significance of the differences observed. This presentation allows for a clear comparison of effect sizes across different components of the SRP-4 assessment among the three groups (the USA, European, and Saudi).

Table 5

The effect sizes across different components of the SRP-4 assessment among the three samples Cohen's d values

The Samples	Saudi Arabia Sample (*N* = 1076)		
	Elements	Cohen's d value	Effect Size
USA Sample (Reference *N* = 788)	Total	-0.48	small
	Factor 1	-0.76	medium
	Factor 2	-0.15	small
	IPM	-0.65	medium
	CA	-0.70	medium
	ELS	0.19	small
	CT	-0.43	small
European Sample (*N* = 389)	Total	-0.94	large
	Factor 1	-1.28	large
	Factor 2	-0.50	medium
	IPM	-0.92	large
	CA	-1.34	large
	ELS	-0.02	small
	CT	-0.71	medium

Note. IPM = interpersonal factor. CA = affective factor. ELS = lifestyle factor. CT = antisocial factor. Factor 1 = The sum of IPM and CA. Factor 2 = The sum of ELS and CT. Total Score = The sum of IPM, CA, ELS, and CT.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Table 5 displays the Cohen's d values, indicating the effect sizes or the extent of differences, between the USA and Saudi samples across different aspects of the SRP-4 evaluation. Specifically, a Cohen's d value of -0.48 for the total component implies a moderate effect size, highlighting a noticeable distinction in the total SRP-4 scores between the USA and Saudi samples, with the USA sample demonstrating slightly lower scores on average compared to the Saudi sample.

For Factor 1, a Cohen's d value of -0.76 indicates a large effect size, implying a considerable difference in Factor 1 scores between the two samples. Specifically, the USA sample exhibits significantly lower scores on Factor 1 compared to the Saudi sample. Conversely, Factor 2's Cohen's d value of -0.15 suggests a small effect size, indicating a minimal difference in Factor 2 scores between the USA and Saudi samples.

The Cohen's d values for each facet are as follows: IPM has a Cohen's d value of -0.65, indicating a moderate to large effect size and suggesting a noticeable distinction in IPM scores between the two samples, with the USA sample displaying lower scores on average compared to the Saudi sample. CA exhibits a Cohen's d value of -0.70, implying a moderate to large effect size and indicating a significant difference in CA scores between the USA and Saudi samples, with the USA sample showing lower scores on average. The ELS analysis reveals a Cohen's d value of 0.19, indicating an effect size and showing variation in ELS scores between the two groups studied here. In contrast to that is the CT analysis, which exhibits a Cohen's d value of 0.43, indicating an effect size and hinting at a difference in CT scores between the two groups, with the US group showing marginally lower scores, on average, compared to the Saudi group.

In terms of effect sizes, across assessment components as shown by these values vary; it's important to highlight that based on the categorization by Paulhus et al (2017) the average scores of the participants for all aspects of SR4 imply a moderate level of psychopathic characteristics akin to those seen in American and European participants.

Discussion

The study found an average level of psychopathic traits within the Saudi college student sample based on the SRP-4 assessment. This indicates that the majority of students scored within the average range classified by Paulhus et al. (2017). The analysis revealed a moderate to large effect size for the total score and some facets (Factor 1, IPM, CA, CT) between the American and Saudi samples. This suggests a noticeable difference, with Saudi students scoring slightly higher on average. The results include data from Europe alongside the US and Saudi samples, allowing for further comparison of psychopathy levels across these regions.

The focus on statistical significance is acknowledged, but the importance of effect size is emphasized. Calculating Cohen's d provides a clearer picture of the magnitude of the differences observed between groups. The results only represent a specific sample of Saudi Arabian college students and might not be generalizable to the entire population.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

The study doesn't delve into potential cultural factors that might influence the interpretation of psychopathy scores.

The findings suggest an average level of psychopathic traits, but further investigation is needed to identify individuals with potentially concerning scores requiring clinical evaluation. The study paves the way for exploring the reasons behind the observed differences between the US and Saudi samples.

It's crucial to remember that these are just potential discussions based on the provided information. A complete understanding would require access to the full research paper and a deeper analysis of the methodology and limitations.

Based on the findings presented, the study draws several conclusions. Firstly, regarding psychopathy levels among Saudi students, the study suggests that most college students in the Saudi Arabian sample exhibited average psychopathic traits according to the SRP-4 assessment, indicating scores within the normal range. A moderate to large effect size was observed between the American and Saudi samples, particularly in the total score and specific facets like Factor 1 traits and manipulativeness, suggesting slightly higher scores among Saudi students compared to their American counterparts. However, while European data was included, the study did not explicitly compare Saudi students with the European group, warranting further analysis for a comprehensive understanding.

The study also underscores the importance of standardizing scores, such as converting raw scores to T scores, to facilitate the interpretation of psychopathy assessment results across different populations. This standardization allows for meaningful comparisons and diagnostic processes. The research emphasizes that college students from different backgrounds show similar levels of psychopathic traits when compared cross-culturally; this is supported by the comparable average scores on the SRP 4 components observed in samples from the USA

Moreover, examining the impact magnitudes using Cohen's d values offers perspectives on the real-world importance of variations seen in the USA and Saudi sample data across aspects of the SRP-4 questionnaire. Although variances are present, between them

The research highlights how the SRP P assessment can help identify traits in college students by offering scores and aiding in understanding various aspects and elements of the diagnosis process. The study also proposes directions for studies such as investigating variations in the occurrence and display of psychopathy within college communities and evaluating the impact of interventions customized for specific cultural settings.

In summary, the research adds to our knowledge of evaluating psychopathy in college students from different backgrounds by emphasizing the significance of consistent scoring methods, cross-cultural evaluations, and examining effect sizes when interpreting assessment outcomes. These discoveries hold relevance for applications, research approaches, and forthcoming investigations in the sphere of evaluation and treatment.

Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

Ethics Statement

The research adhered to ethical standards throughout, ensuring participants were fully informed of the study's purpose, procedures, risks, and their right to withdraw consent. Confidentiality was safeguarded through data anonymization, and measures were implemented to minimize any potential risks or discomfort for volunteers. It's noteworthy that despite the absence of an ethics committee at the universities where data was collected, ethical protocols were rigorously followed.

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Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

ПЕДАГОГИЧЕСКАЯ ПСИХОЛОГИЯ

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Ali A. Al-Subaihi, Haifa T. Al-Bokai, Abdulrahman A. Al-Subaihi
Effectiveness of Education in Reducing Antisocial Behaviors Among Youth in Saudi Arabia: A Survey Study
Российский психологический журнал, 22(1), 2025

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Author Contributions

Al-Subaihi, Ali A. carried out the calculations and confirmed the analytical techniques, made a significant contribution to the finished work, and actively engaged in discussions regarding the findings.

Al-Bokai, Haifa T. formulated the notion and created the theory, made a significant contribution to the   finished work, and actively engaged in discussions regarding the findings.

Al-Subaihi, Abdulrahman A. formulated the notion and created the theory, made a significant contribution to the finished work and actively engaged in discussions regarding the findings.

Author Details

Al-Subaihi, Ali A. – Ph.D., Professor, Faculty Member, Department of Educational Psychology, College of Education, Taibah University, Madinah, Saudi Arabia; ORCID ID: https://orcid.org/0009-0007-8268-3720; e-mail: alialsuaihii@yahoo.com

Al-Bokai, Haifa T. – Ph.D., Associate Professor, Faculty Member, Department of Special Education, Princess Rahma University College, Al Balqa Applied University, Balqa – Qasabet Al Salt, Jordan; ORCID ID: https://orcid.org/0009-0000-9171-4647; e-mail: hayfaelbokai@bau.edu.jo

Al-Subaihi, Abdulrahman A. – Ph.D. candidate, Student, The Educational Evaluation and Research Program, Department of Educational Leadership and Policy Studies, College of Education, Wayne State University, Detroit, MI, United States; ORCID ID: https://orcid.org/0009-0007-3641-0203; e-mail: aasubaihi@hotmail.com

Conflict of Interest Information

The authors have no conflicts of interest to declare.