



## Role of Social-Emotional Learning (SEL) in Student Academic Outcomes of Jordanian Public Universities

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### Abstract

**Objectives:** Well-being-centered teaching approaches, including social-emotional learning, have recently gained a prominent global position due to their close association with developing the educational climate and their reflection on students' academic outcomes. Accordingly, this research explores the role of social-emotional learning in students' academic outcomes in Jordanian public universities.

**Methods:** Data were collected using a comprehensive survey that included 10 Jordanian public universities. The study sample consisted of 541 students from different majors and degrees in those universities. The research followed an analytical approach based on structural equation modeling (SEM) to verify the validity and reliability of the measurement model, in addition to testing the hypotheses.

**Results:** The research concluded that all dimensions of social-emotional learning positively affect students' academic outcomes, especially self-management, which achieved the highest impact factor.

**Conclusions:** The research provided a set of practical implications for educational policymakers in Jordan based on developing workshops and training courses that enhance the ability of faculty members to follow an approach focused on addressing behavioral and emotional aspects, in conjunction with developing students' cognitive skills. This research contributes theoretical importance to developing frameworks for the development of educational development in developing countries. Moreover, it provides reliable empirical evidence for developing the global education system to achieve student well-being and improve the quality of education.

**Keywords:** Social-Emotional Learning, Student Academic Outcomes, Public Universities, Structural Equation Modeling, Jordan.

### دور التعلم الاجتماعي والعاطفي في النتائج الأكاديمية لطلبة الجامعات الأردنية الحكومية

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### ملخص

**الأهداف:** اكتسبت مناهج التدريس المتمحورة حول الرفاهية، بما في ذلك التعلم الاجتماعي والعاطفي مؤخرًا مكانة عالمية بارزة بسبب ارتباطهم الوثيق بتطوير المناخ التعليمي وتفكيرهم في النتائج الأكاديمية للطلاب. وفقًا لذلك، يستكشف هذا البحث دور التعلم الاجتماعي والعاطفي في النتائج الأكاديمية للطلاب في الجامعات الحكومية الأردنية.

**المنهجية:** تم جمع البيانات باستخدام المسح الشامل، وتضمنت 10 جامعات حكومية أردنية. تألفت عينة الدراسة من 541 طالبًا من مختلف التخصصات والدرجات في تلك الجامعات. اتبع البحث نهجًا تحليليًا يستند إلى نموذج المعادلة الهيكلية (SEM) للتحقق من صحة وموثوقية نموذج القياس، بالإضافة إلى اختبار الفرضيات.

**النتائج:** خلص البحث إلى أن جميع أبعاد التعلم الاجتماعي والعاطفي تؤثر بشكل إيجابي على النتائج الأكاديمية للطلاب، وخاصة الإدارة الذاتية التي حققت أعلى تأثير.

**الخلاصة:** قدم البحث مجموعة من الآثار العملية على صانعي السياسات التعليمية في الأردن بناءً على تطوير ورش عمل ودورات تدريبية تعزز قدرة أعضاء هيئة التدريس على اتباع نهج يركز على معالجة الجوانب السلوكية والعاطفية، بالتزامن مع مهارات الطلاب المعرفية. يساهم هذا البحث في الأهمية النظرية في تطوير الأطر لتطوير التنمية التعليمية في البلدان النامية. علاوة على ذلك، فإنه يوفر أدلة تجريبية موثوقة لتطوير نظام التعليم العالمي لتحقيق رفاهية الطلاب وتحسين جودة التعليم.

**الكلمات الدالة:** التعلم الاجتماعي والعاطفي، النتائج الأكاديمية للطلاب، الجامعات الحكومية، نموذج المعادلة الهيكلية، الأردن.



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## Introduction

Given the complexity of the educational process recently due to technological progress and remote learning requirements resulting from the coronavirus pandemic, the educational system needs reconsideration to improve student engagement and academic outcomes (Ahmed and Opoku, 2022). Student academic outcomes include a set of quantitative measures such as cumulative grade point averages and test scores on teaching materials and qualitative measures related to student behaviour and their affinity towards the educational environment and peers (Park & Xu, 2024). Huang et al. (2020) stated that highlighting student academic outcomes helps decision-makers review the strengths and weaknesses of the academic system to implement the required improvements and ensure student well-being in real life. Moreover, El-Awaisi et al. (2022) confirmed that a systematic review of student academic outcomes is an opportunity to design interactive educational curricula and allocate resources optimally. A comprehensive review of student academic outcomes contributes to finding mechanisms and interventions to ensure all students have equal opportunities to exploit their full potential (Foster & Francis, 2020). Kogan (2022) stated that academic outcomes are essential for accountability purposes, as educational institutions are often linked to government agencies and accreditation institutions that ensure that students receive a high-quality education that helps them obtain prestigious job opportunities.

Universities generally seek to better prepare students to interact with the dynamics of the workplace and the challenges they may face while performing their tasks. Hence, enhancing students' ability to understand and control their emotions within an open social environment such as universities and the workplace is essential to improving response behaviour (Mahoney et al., 2021). One of the most prominent methodological frameworks widely used in universities to improve students' ability to integrate into educational environments and control their emotions is social-emotional education (SEL). Beard et al. (2023) stated that through this approach, teachers seek to create an interactive climate that enhances students' success and supports their well-being. LaBelle (2023) argued that the essential difference between traditional education and SEL is that the latter recognizes the role of social communication competencies and self-recognition within the comprehensive development process of students, as he confirmed that students who receive SEL are less likely to drop out and show more positive behaviours and attitudes when exposed to stress. Moreover, academic environments that adopt the SEL approach witness improved levels of student engagement and more positive relationships between students and faculty, which contributes to enhancing students' sense of appreciation and respect (Xu et al., 2023). More broadly, Foster et al. (2022) have suggested that SEL helps lay the foundations for a more cohesive and compassionate society by instilling the values of self-respect, mutual appreciation, and empathy.

In the context of Jordanian public universities, the importance of developing curricula to become more comprehensive and focused on students' mental health has been recognized (Jarrah et al., 2024). Although the proven benefits of the SEL approach in similar global contexts, empirical evidence on the importance of its application in the academic environment of public universities in Jordan is still insufficient and needs to be further explored. Therefore, this research revolves around the following main question: Does the failure to integrate SEL into the academic education system in Jordan lead to missed opportunities to improve academic outcomes, including cognitive, emotional, and behavioral outcomes for students? Several barriers have contributed to the inability to find an objective answer to this question. Many academics and administrators in Jordanian public universities suffer from a lack of training and knowledge of the SEL approach, which leads to a gap in the development and integration of education systems with modern academic trends that focus on student well-being.

Moreover, contextual factors affect the degree of adoption of SEL, as it is viewed as a complementary approach to the traditional education approach. Resource constraints are also among the barriers that limit the application of SEL in Jordanian universities in general, and public universities in particular, as these universities suffer from limited funding sources that hinder the conduct of workshops and training courses dedicated to activating SEL in their educational system. The scarcity of empirical research on the effectiveness of SEL in the context of third-world countries is also among the factors that prevented the widespread adoption of SEL in Jordanian universities. Accordingly, this research contributes to highlighting the importance of SEL in the context of Jordanian governmental universities to improve student outcomes and

their ability to effectively engage in comprehensive economic development. This research provides valuable insights for decision-makers and stakeholders about the opportunities and challenges related to the transformation from the traditional approach to education to an approach focused on student well-being. It also serves as a basis for future research, the results of which will lead to improving the education system in Jordan as one of the pillars of educational tourism.

## **Literature Review**

### ***Social-Emotional Learning***

Social-emotional learning is linked to many educational and psychological theories that have contributed to laying the conceptual foundations of modern education. One of the most important theories was the theory of moral development to determine right and wrong in choosing between options, which develops in the early stages of the child (Kohlberg & Hersh, 1977). The desire to understand the social and emotional factors that influence students' behaviours within the educational environment has prompted many researchers to shed light on the SEL approach by providing several definitions for it. Jannah and Sugiarto (2022) considered it a coordinated initiative to improve students' adaptive abilities, as SEL was defined as systematic processes directed at supporting students in developing their basic behavioural skills required in practical life. In the applied context of SEL, Hoskins and Schweig (2024) define it as an educational method that enables students to develop skills to deal with others healthily and show empathy and understanding with peers in the educational environment. More comprehensively, Cuenca et al. (2023) argue that SEL is an approach directed at developing basic competencies related to self-management and controlling emotions by identifying positive future visions and striving to achieve them through establishing positive relationships with others and respecting differences in viewpoints. On the other hand, Cipriano et al. (2023) stated that SEL is based on the process of acquiring the attitudes and skills necessary to control emotions when disturbances occur and ensure the ability to achieve goals by making responsible decisions and appreciating the supportive guiding role of others.

The roots of the SEL framework go back to CASEL (2003) which identified five dimensions to measure it. Self-awareness represents the ability to recognize how individual feelings and values influence individual behaviour, through which the person seeks to enhance self-confidence and optimism by identifying personal strengths and weaknesses (Zhou & Ee, 2012). Social awareness is the ability to understand and empathize with the viewpoints of others within diverse cultural contexts, as it focuses on social and ethical standards to control one's behaviour within family interactions, the educational environment, and the broader scope of society as a whole (Hoskins & Schweig, 2024). Self-management is defined as the individual's success in controlling his or her feelings and reactions within different situations, as it includes dealing with stress, goal-oriented self-regulation, and controlling impulses (Dharmavarapu et al., 2022). Relationship management focuses on establishing and maintaining healthy relationships within the individual's social environment, whether the work environment or the academic environment, as it revolves around patterns of open communication and cooperation to confront common pressures and resolve conflicts in constructive ways (Ahmed et al., 2020). Responsible decision-making is the ability to compare alternatives and choose the most appropriate one in terms of personal outcomes that are consistent with societal values, including procedures for analyzing situations, evaluating alternatives, and responsibly thinking about them (Schoon, 2021).

### ***Student Academic Outcomes***

Recognizing the diversity of researchers' perspectives on students' academic outcomes provides valuable and comprehensive insights for developing the educational landscape of universities. Daulay (2022) emphasized the measurable aspects of students' academic outcomes, defining it as the student's measurable achievement of cognitive development and acquired skills to deal with situations. Park and Xu (2024) proposed a tripartite model to determine students' academic outcomes through academic knowledge, skills, and values, expressing it as the set of abilities, skills, and knowledge that the student received as a result of immersion in the educational process. Mohzana (2024) stated that students' academic outcomes are performance indicators used to determine the extent to which the student benefits from the educational process. This perspective is consistent with what Daulay (2022) stated about the measurable nature of students' outcomes.

According to education theory, Urhahne and Wijnia (2023) indicated that students' academic outcomes express the summary of the process of transferring knowledge from the teacher to the student, as it includes training on the acquired knowledge and situations that the student must deal with within the specified educational program. The systems theory recognizes students' academic outcomes as the amount of change in the cognitive and behavioural aspects of students before and after receiving the educational program (Shen, 2023).

Delving deeper into the specific measures and dimensions of student academic outcomes is essential for educational institutions that focus on continuous development and the growth of their student's abilities. The most prominent framework used to evaluate student academic outcomes is the three-dimensional framework consisting of cognitive, affective, and behavioural outcomes referred to by Guo et al. (2020). Cognitive outcomes are defined as the score of the development of students' intellectual and cognitive abilities through their immersion in the educational process, as they include experiences in problem-solving and critical thinking (Anthonysamy et al., 2020). Affective outcomes are composed of values and attitudes related to the educational process, as they refer to the feelings and motivations that motivate the student to acquire and develop knowledge (Wei et al., 2021). Behavioural outcomes express the actions and reactions shown by the student within the educational environment, as they consist of attendance rates participation in classrooms and contribution to voluntary academic activities (Huang et al., 2020).

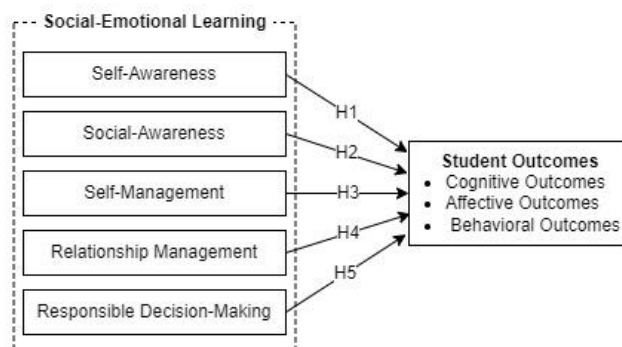
### ***Social-Emotional Learning and Student Academic Outcomes***

Studies suggest that SEL can have an impact on improving students' academic outcomes. In a study conducted by Simion (2023) on 163 students at the George Dima National Academy of Music to explore the relationship between SEL and students' academic outcomes, the results demonstrated the crucial role of students' social-emotional skills in enhancing cognitive aspects and students' engagement in the learning process to achieve the best outcomes. Zilva (2023) emphasized the increasing trends of the educational system towards adopting student-centred educational methods to enhance their belonging to educational institutions, as the study results found an improvement in the levels of students' educational outcomes, in addition to a decrease in disruptive behaviours and an improvement in relationships with peers. Cuenca et al. (2023) sought to establish the relationship between SEL competencies and thinking skills through the moderating role of the academic axis of mathematics in public universities. The results revealed a positive association between SEL competencies and thinking skills, although the academic axis of mathematics reverses the relationship between the variables.

In a study to compare students' behaviours and academic outcomes before and after the COVID-19 pandemic using measures derived from the SEL approach, Dharmavarapu et al. (2022) conducted a study on engineering students in Indian universities. The results of the study showed that the spread of the pandemic affected the psychological aspects of students. It also recommended adopting an educational approach that focuses on enhancing emotional capabilities and constant communication between peers to maintain students' mental health and positive behaviour. Furthermore, Ozerova et al. (2023) argued that socio-emotional skills enhance problem-solving and learning outcomes in primary school children aged 7–11 years in the European Union. The findings emphasized the positive role of socio-emotional skills in educational development, as they were considered essential for students' success and improved adaptability. However, girls had higher levels of socio-emotional learning and academic performance than boys. Hachem et al. (2022) attempted to establish the relationship between SEL, cognitive competence, and perceived academic performance of students in schools in the Western Provinces of Canada. The study found that social competence was directly positively related to cognitive competence, while emotional competence had an indirect effect on cognitive competence through social competence.

In the context of investigating remote learning implemented after the COVID-19 pandemic, Jannah and Sugiarto (2022) explored the impact of socio-emotional development on kindergarten students' outcomes during 2019-2022 through a survey targeting mothers of children in East Lampung. Contrary to expectations, the study results indicated that the limited social interaction imposed by the COVID-19 pandemic led to less cooperative behavior among children, along with feelings of boredom and increased instances of verbal violence. Using a mixed-methods approach, Aygün and Taşkın (2022) conducted a study to explore the impact of a SEL program on social and emotional skills, academic achievement, and classroom climate in Turkish

primary schools. The results of the study confirmed that although the SEL program was important, the YCDI! Education programs had a greater impact on the three domains of academic achievement and classroom climate. Accordingly, the results of the studies indicate that SEL improves students' academic performance, both in terms of cognitive skills and behavioural aspects. Hence, the conceptual model of the research shown in Figure (1) can be assumed.



**Figure 1. Conceptual Model**

The conceptual model of the research shows the relationship between SEL and students' academic outcomes, which can be summarized by the following research hypotheses:

Hypothesis 1 (H1): There is a positive impact of self-awareness on student academic outcomes.

Hypothesis 2 (H2): There is a positive impact of social awareness on student academic outcomes.

Hypothesis 3 (H3): There is a positive impact of self-management on student academic outcomes.

Hypothesis 4 (H4): There is a positive impact of relationship management on student academic outcomes.

Hypothesis 5 (H5): There is a positive impact of responsible decision-making on student academic outcomes.

### **Research Procedures**

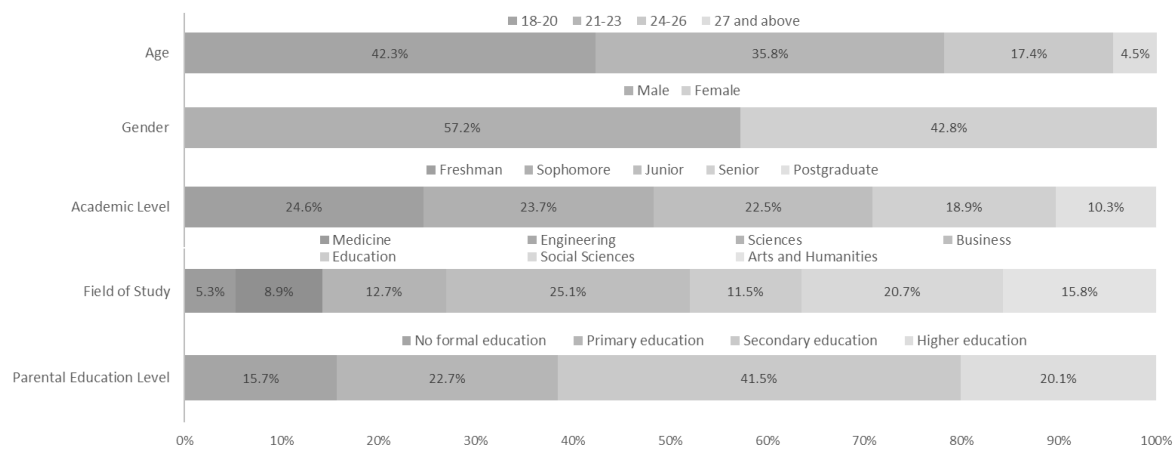
#### **Research Design**

The current research adopted positivism as a basis for formulating its hypotheses and subsequent investigations to prove the role of SEL in students' academic outcomes. This philosophy assumes that the studied phenomenon can be measured objectively (Alharahsheh & Pius, 2020). Moreover, the cross-sectional design is applied in the research, as this design allows data to be collected from a single point in time. This design is largely compatible with the time and spatial constraints of conducting research, as it is difficult to implement longitudinal studies due to the graduation of some students from the studied universities and the logistical constraints that hinder the process of collecting data accurately (Wang & Cheng, 2020). On the other hand, the research used a quantitative approach to study the relationship between the dimensions of SEL and students' academic outcomes, as it ensures the standardization of measurement standards among respondents, according to what was stated by Ryser (2021).

#### **Data Collection and Sample**

The primary data collection process for testing the impact of SEL on students' academic outcomes was based on data derived from the perspectives of students in Jordanian public universities. Jordan has 10 public universities in its higher educational system that serve approximately 223,512 students in various disciplines and academic degrees according to the Jordanian Ministry of Higher Education in 2023. Since the large target population, convenience sampling was used as a data collection method. Emerson (2021) stated that this sampling method provides efficiency when research time and access constraints are a matter of debate. Moreover, the appropriate sample size was determined according to Sekaran and Bougie's (2016) suggestion in unlimited populations, which was 385 valid responses at the minimum. Accordingly, students in all public universities were asked to respond to the study tool. The received responses amounted to 627 responses, including 86 with an unreliable response pattern or missing information. After removing those responses that did not fit the analysis

requirements, the final research sample consisted of 541 students in Jordanian public universities. Figure (2) reported the demographic distribution of these respondents based on a set of demographic variables relevant to the research.



**Figure 2. Demographic Profile of the Respondents**

### Measures

Data on the impact of SEL dimensions on students' academic outcomes were collected through a self-reported survey. This survey was designed using Google Forms and was published on the student portals of the Jordanian public universities' websites during the period from April 13 to June 12, 2024. This survey initially included an introductory overview of the study objectives and an informed consent form. In addition, it included a section for demographic information that constitutes the categorical variables of the study. It also included two sections, the first dedicated to SEL dimensions and the second dedicated to dimensions of students' academic outcomes. Both sections related to the research variables were measured using a five-point Likert scale, where the options ranged from strongly disagree (1) to strongly agree (5).

To measure the independent variable represented by SEL, the scale derived from CASEL (2003) was used. This scale includes a total of 25 items distributed over five first-order structures, each of which includes five: self-awareness (SEA), social-awareness (SOA), self-management (SEM), relationship management (REM), and responsible decision-making (RDM). The dependent variable of the research was students' academic outcomes, which were measured with a total of 12 items borrowed from Guo et al. (2020). These items form three first-order constructs, each containing four items, namely: cognitive outcomes (CO), affective outcomes (AO), and behavioral outcomes (BO).

### Results

#### Assessing Measurement Model

Verifying the validity and reliability of the measurement model is a crucial point in structural equation modeling and improving the ability to generalize the results (Sürücü & Maslakçı, 2020). In this research, the capabilities of the program AMOS were used to conduct confirmatory factor analysis (CFA). CFA plays a crucial role in highlighting important indicators to ensure the validity and reliability of the scales used and the degree of their association with their latent variables (Marsh et al., 2020). The results of this test are shown in Table (1).

**Table 1. Descriptive Statistics, Validity, and Reliability of Measurement Model**

	Items	Loadings	AVE	MSV	$\sqrt{AVE}$	CR	M	SD
Self-Awareness	SEA1	0.764	0.574	0.317	0.758	0.871	3.64	0.902
	SEA2	0.702						
	SEA3	0.751						
	SEA4	0.776						

	Items	Loadings	AVE	MSV	$\sqrt{\text{AVE}}$	CR	M	SD
	SEA5	0.792						
Social-Awareness	SOA1	0.783	0.536	0.384	0.732	0.852	3.53	0.801
	SOA2	0.634						
	SOA3	0.752						
	SOA4	0.769						
	SOA5	0.713						
Self-Management	SEM1	0.671	0.533	0.403	0.730	0.851	3.73	0.924
	SEM2	0.733						
	SEM3	0.717						
	SEM4	0.742						
	SEM5	0.784						
Relationship Management	REM1	0.837	0.580	0.392	0.762	0.873	3.68	0.931
	REM2	0.754						
	REM3	0.703						
	REM4	0.776						
	REM5	0.731						
Responsible Decision-Making	RDM1	0.647	0.570	0.416	0.755	0.868	3.60	0.867
	RDM2	0.781						
	RDM3	0.692						
	RDM4	0.815						
	RDM5	0.823						
Cognitive Outcomes	CO1	0.711	0.544	0.384	0.737	0.826	3.57	0.870
	CO2	0.726						
	CO3	0.718						
	CO4	0.792						
Affective Outcomes	AO1	0.661	0.531	0.408	0.729	0.819	3.48	0.787
	AO2	0.782						
	AO3	0.757						
	AO4	0.709						
Behavioral Outcomes	BO1	0.732	0.538	0.435	0.734	0.824	3.63	0.855
	BO2	0.744						
	BO3	0.721						
	BO4	0.738						

Table (1) illustrates the results derived from CFA to analyze the validity and reliability of the measurement model. All factor loadings on the latent constructs were within the range (0.634-0.837), indicating that they exceeded the minimum threshold of 0.50 to retain factors (Shrestha, 2021). The values of the average variance extracted (AVE) were greater than the minimum threshold of 0.50, which means that convergent validity was achieved in the measurement model (Sürücü & Maslakçi, 2020). As for the discriminant validity, the comparison method was used to evaluate it. The results showed that the values of maximum shared variance (MSV) were between 0.317 and 0.435, which leads to them being much less than the values of AVE. Moreover, the values of the square root of AVE were greater than the threshold of 0.70 and the correlation between the rest of the constructs. According to the comparison method, both results are considered definitive evidence of achieving discriminant validity (Roemer et al., 2021). McDonald's Omega reliability coefficients were used to

evaluate the composite reliability of the measurement model. The results confirmed that these coefficients were between 0.819 and 0.873, which confirms that they exceeded the documented minimum limits for the reliability of the measurement model, which amounted to 0.70 according to Sujati and Akhyar (2020). Thus, the model for measuring the impact of SEL on students' academic outcomes had adequate validity and reliability.

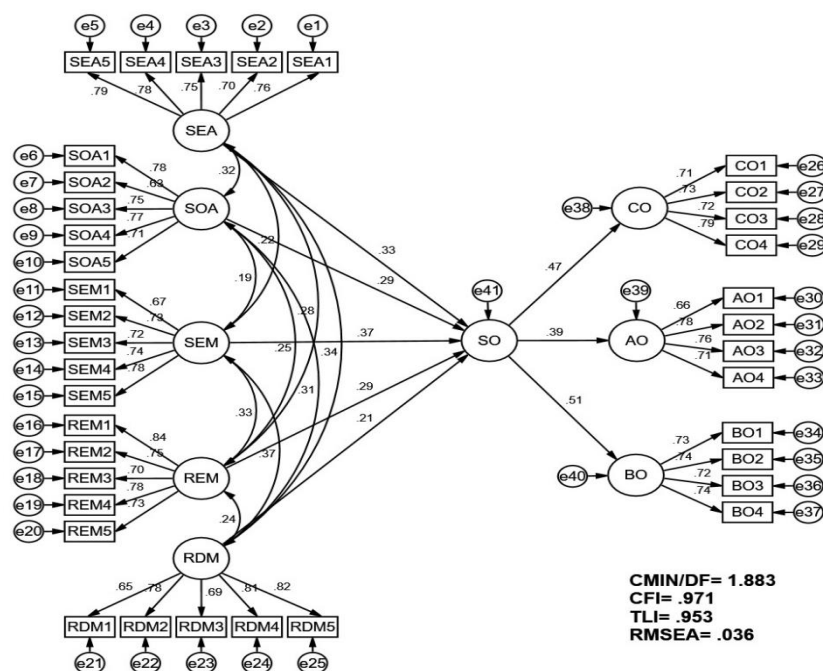
### *Descriptive Statistics*

The level of adoption of SEL and variables related to students' academic outcomes in Jordanian public universities were verified through indicators derived from the theories of central tendency and dispersion. The results of Table (1) indicated that among the five dimensions of SEL, self-management ranked first with a mean of 3.73 and a standard deviation of 0.924 which is at a high relative importance level. At the same level of relative importance was relationship management, which achieved a mean of 3.68 and a standard deviation of 0.931. As for self-awareness, it ranked third with a moderate relative importance level, as it obtained a mean of 3.64 and a standard deviation of 0.902. The rest of the SEL variables were at the same level of relative importance, as responsible decision-making ranked fourth with a mean of 3.60 and a standard deviation of 0.867. The fifth and last rank was for social awareness which had a mean of 3.53 and a standard deviation of 0.801.

As for the students' academic outcomes which were measured by three levels of cognitive, affective, and behavioral, the results demonstrated that they all achieved a moderate relative importance level despite the variation in the values of the averages. The behavioral outcomes ranked first with a mean of 3.63 and a standard deviation of 0.855. The cognitive outcomes came in second place, with a mean of 3.57 and a standard deviation of 0.870. The affective outcomes came in last place, with a mean of 3.48 and a standard deviation of 0.787.

### *Assessing Structural Model*

Structural equation modeling (SEM) is an advanced statistical method for examining the hypothesized relationship between independent and dependent latent variables. This analytical approach includes two main steps. The first step revolves around extracting goodness-of-fit indices to evaluate the effectiveness of the proposed model in measuring the relationship between the variables based on the observed data, the results of which are shown in Figure (3). The second step relies on path analysis to extract the effect coefficients between the constructs, according to which the research hypotheses are evaluated.



**Figure 3. The Structural Model of the Study with Standardized Regression Coefficients**



The results of Figure (3) indicated that the ratio of chi-square to degrees of freedom (CMIN/DF) was 1.883, which means that it is below the upper threshold of 3 (Nur et al., 2022). The comparative fit index (CFI) and the Tucker-Lewis index (TLI) were 0.971 and 0.953, respectively, which confirms that they exceeded the minimum allowed limit of 0.90 (Khademi et al., 2023). On the other hand, the root mean square error of approximation (RMSEA) was 0.036, which did not reach the allowed ceiling for this index of 0.08 (Shi et al., 2020). Hence, the structural model for measuring the effect of SEL on students' academic outcomes can be considered structurally valid. The results in Table (2) list the path coefficients extracted after verifying the goodness of fit indicators.

**Table 2. The Path Coefficients on the Effect of SEL on Student Outcomes**

			<b>B</b>	<b>β</b>	<b>S.E.</b>	<b>T (P)</b>
Self-Awareness	→	Student Outcomes	0.342	0.329	0.068	5.03 (***)
Social-Awareness	→	Student Outcomes	0.294	0.288	0.062	4.74 (**)
Self-Management	→	Student Outcomes	0.371	0.368	0.070	5.30 (***)
Relationship Management	→	Student Outcomes	0.305	0.293	0.064	4.76 (**)
Responsible Decision-Making	→	Student Outcomes	0.224	0.211	0.058	3.86 (*)
Note: * P< 0.05, ** P< 0.01, *** P< 0.001.						

The results of Table (2) show that self-awareness has a positive effect on students' academic performance, which leads to the acceptance of the first hypothesis (H1). According to the results, a one-point change in self-awareness produces a change of 0.329 in students' academic outcomes, which is statistically significant based on the P-value which was less than 0.001. Similarly, the results reported that social awareness positively affects students' academic outcomes, which indicates the acceptance of the second hypothesis (H2). Social awareness produces an effect on students' academic outcomes measured by a standardized coefficient of 0.288 with a P-value less than 0.01. Moreover, self-management had a positive effect on students' academic outcomes, which leads to the acceptance of the third hypothesis (H3), as the standardized effect coefficient of self-management was 0.368 which is statistically significant since the P-value was less than 0.001. Relationship management also had a positive effect on students' academic outcomes, which means the acceptance of the fourth hypothesis (H4). This variable produces a standardized effect coefficient of 0.293 which is statistically significant since the P-value was less than 0.01. Finally, the results showed that although there was an effect of responsible decision-making on students' academic outcomes, which means accepting the fifth hypothesis (H5), this variable had the lowest level of influence due to the low value of its standard coefficient, which was 0.211 and is statistically significant since the P-value was less than 0.05.

### Discussion

The study sought to investigate the impact of the SEL approach on students' academic outcomes in Jordanian public universities. The results confirmed the profound role of the SEL approach in improving students' performance and academic outcomes. Accordingly, this learning approach contributes to improving the educational environment in Jordanian public universities by providing opportunities to enhance students' motivation towards improving their performance, which is consistent with Jannah and Sugiarto (2022). SEL contributes to highlighting basic achievement skills, including prioritization and time management, which pave the way for excellence in the rigorous university educational environment, as confirmed by Cuenca et al. (2023). On the other hand, SEL facilitates the integration between the academic context and societal values by focusing on deepening students' experiences related to the local cultural context. These programs also help cooperation between educational institutions and community members to create an educational climate and a supportive culture that guides students' behavior to achieve continuous success at the academic and practical levels.

Self-management ranked first in terms of its impact on students' academic outcomes. Thus, students' productivity and focus on goals could be enhanced by training them in self-management skills, which include using time effectively and reducing stress resulting from academic pressures, as stated by Huang and Zeng (2023). Recalling and retaining information

is another aspect that self-management can enhance according to Bai et al. (2022), where students with high levels of self-management can adopt more effective study habits and engage in critical analysis. Self-awareness ranked second in its impact on students' academic outcomes. Therefore, students are more able to formulate achievable academic goals by being aware of their strengths and weaknesses and identifying their personal preferences. Furthermore, Aygün and Taşkın (2022) stated that students with high self-awareness can easily identify future aspirations and areas for improving skills and abilities to enhance academic success.

Relationship management was ranked third. Accordingly, relationship management skills that include cooperation and coordination help form supportive networks of peers that provide emotional support and academic assistance during the study journey. These skills also enable improved conflict resolution behaviour and creative negotiations among students themselves and with faculty members as stated by Daulay (2022). Social awareness ranked fourth in terms of the impact of the dimensions of SEL on students' academic outcomes. Social awareness focuses on students' ability to understand and deal flexibly with differences in viewpoints to enhance collaboration with peers and faculty, which leads to improved student learning and behavioural capacity. Guo et al. (2023) emphasized that in a diverse cultural context, social awareness is essential in building a learning climate of respect and supportive interactions that guide collective efforts toward a shared vision. Ranked fifth and last in terms of impact on students' academic outcomes was responsible decision-making. Accordingly, students can make rational trade-offs and make informed decisions within the complexities of the academic environment through a responsible decision-making approach enhanced by ethical behaviour and critical thinking skills. Furthermore, students can face academic challenges by avoiding risky behaviours and adopting a strategy to enhance emotional resilience to reduce anxiety related to making critical decisions.

### **Implications**

The positive impact of SEL on the academic outcomes of public university students in Jordan has many implications for various stakeholders. Universities can achieve the holistic development of students by integrating SEL principles into their curricula, for example, creating emotional intelligence events to enhance self-awareness and empathy in the educational environment. Moreover, they can develop training courses and workshops to increase the focus on mindfulness and responsible decision-making among students and faculty members to reduce stress and tension. There should also be a focus on creating a culture of collaboration between educational institutions through open discussions and periodic forums to support the outcomes-based education system. Conduct periodic assessments to determine the effectiveness of SEL on students' outcomes or faculty members' performance through periodic surveys and personal interviews. Involve students' families in the SEL system and provide them with feedback through a continuous monitoring system for their children's academic achievement.

### **Conclusion**

SEL contributes significantly to enhancing the overall development of students' abilities in Jordanian public universities. One of the main aspects of this educational approach is the focus on developing and enhancing the academic environment with methods that provide emotional support to students to improve their well-being and mental health. It also creates a positive climate that improves problem-solving and effective learning, along with its role in reducing stress resulting from academic struggles to achieve excellence. SEL influences students' behaviours within the academic environment, as it promotes rational decision-making related to building friendships and collaborative relationships with peers and faculty members alike. Finally, integrating SEL is a holistic approach to supporting societal values in highly diverse academic environments and supporting student achievement.

### **Limitations and Research Directions**

Although socio-emotional learning is important in improving students' academic outcomes in Jordanian universities, its application has a set of limitations that need to be considered. One important aspect is related to the study design, which was cross-sectional in that data was collected once from all respondents during a specific period. Future studies can overcome this limitation by conducting longitudinal studies that take time into account to examine the effect of socio-emotional learning on improving students' academic outcomes. Another aspect that needs to be addressed is the

interpretability of the results, as this study was applied in a specific cultural context, which is public universities in Jordan. Future studies can consider other types of universities in Jordan or deal with different cultural contexts to find differences in the effect of socio-cultural learning on students' academic outcomes when the cultural or educational context differs. Moreover, the current study adopted a quantitative approach based on collecting data using a questionnaire as its basis. This methodology may produce response bias, so future studies can avoid this limitation by conducting a mixed-methods approach that combines quantitative and qualitative methods. On the other hand, this study targeted students at public universities in Jordan, which affects the reliability and generalizability of the results. Future studies could be conducted on other stakeholders in SEL including students' parents and faculty members to determine their level of awareness of this concept and their training needs to maximize the benefits of its implementation. Finally, although the current study attempts to simplify the relationship between SEL and students' academic outcomes by focusing on the direct relationship, this relationship is more complex. Future studies could explore this complexity by delving into the mediating role of student engagement or the moderating role of family contexts.

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