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Standardization of Self-Control and Self-Management Skills Scale for Jordanian University Students

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للبحوث والدراسات

تقنين مقياس الضبط الذاتي وإدارة الذات لطلبة الجامعات الأردنية

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الملخص

هدفت هذه الدراسة إلى تقنين مقياس ضبط وإدارة الذات، على طلبة الجامعات الأردنية، والتعرف على الخصائص السيكومترية للمقياس من خلال عدد من مؤشرات الصدق والثبات، وكذلك التعرف على البناء العاملي من خلال التحليل العاملي الاستكشافي، حيث تم تطبيق المقياس على عيّنة قوامها (1045) طالبًا وطالبة من طلبة عدد من الجامعات الأردنية، أظهرت النتائج أنّ المقياس يتمتع بدرجة عالية من صدق المحتوى وصدق الاتساق الداخلي والصدق الذاتي، والصدق التمييزي. وأنّ المقياس يتمتع بدرجة عالية من الثبات، حيث بلغت قيمة معامل كرونباخ الفا (0.84)، ومعامل سبيرمان وجتمان للتجزئة النصفية (0.754)، أما نتائج التحليل العاملي الاستكشافي فقد بيّنت وجود ثلاثة (3)عوامل قيم جذورها الكامنة تزيد عن الواحد الصحيح، وفسرت بمجملها ما نسبته (52.34%) من التباين الكلي: العامل الأول (مراقبة الذات)، والعامل الثاني (تقويم الذات)، والعامل الثالث (تدعيم الذات)، وبذلك تُظهر نتائج الدراسة أنّ المقياس يتمتع بدرجة مناسبة من الصدق والثبات، كما أكدت وجود بناء نظري خلف هذا المقياس مما يعد مؤشرا مقبولا لصدق المقياس في البيئة الأردنية، وأوصى الباحثان باستخدام المقياس من قبل الباحثين والمهتمين.

الكلمات المفتاحية

إدارة الذات، التحليل العاملي، الجامعات الأردنية، الخصائص السيكومترية، تقنين، مقياس الضبط الذاتي.

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Standardization of Self-Control and Self-Management Skills Scale for Jordanian University Students

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Abstract

This study aims to standardize the scale of self-control and self-management on Jordanian university students and identify the psychometric properties of the scale. Indicators of validity and reliability were extracted. An exploratory factor analysis was conducted. The scale was applied to a sample of 1045 students. Acceptable psychometric properties were found as the value of the Cronbach's alpha coefficient reached 0.84, the Spearman and Guttman's split-half coefficient was 0.754, and the results of the exploratory factor analysis showed that three factors whose Eigenvalues were greater than one with explained variance (52.34%) percent of the total variance. The first factor (self-monitoring), the second factor (self-evaluating), and the third factor (self-reinforcing) showed an appropriate degree of validity and reliability for the scale, as they confirmed the existence of a theoretical construct behind this scale, which is an acceptable indicator of the validity of the scale in the Jordanian environment.

Key words

Factor Analysis, Jordanian Universities, Psychometric Properties, Scale, Self-Control, Self-Management.

Introduction

Individuals in societies resort to a set of systems and laws that regulate the nature of relations between themselves based on the values, customs, traditions, religion, and social foundations of those societies. In addition, to self-regulate these behaviours and practices to be consistent with the socially acceptable behaviours imposed by society. The contemporary world is witnessing rapid and tangible scientific, cognitive, and technological developments and changes. As a result of these rapid and sudden changes, human problems in general and those in the Arab world in particular have increased in quantity and quality, such as maladaptation, depression, aggression, and others. To confront these problems, Western and Arab societies began to be interested in providing psychological and counselling services as a result of the need imposed by these conditions and developments, with the aim of helping individuals solve their problems by scientific methods, so that counselling services became a necessity for all and the availability of these services became an indication of the advancement and progress of these societies. From this point of view, the focus of specialists in the field of psychological counselling has been on the various areas that contribute to solving the problems of individuals and alleviating their suffering, especially the methods of measurement and evaluation and the tools used in those processes.

Psychological counseling scales are of special importance as they provide the counselor with information about the situation he is dealing with, guiding him to make the appropriate decision and helping the patient to understand his condition and gain insight into it, discovering himself and knowing its characteristics (Mostafa, 2010).

Among the scales that have been studied are self-control and its management, as the concept of self-control and its management is one of the important topics that still occupy advanced positions in psychological and personal research due to the rapid changes and developments that humanity is witnessing, which increase the levels of tension and pressure, which in turn raise the levels of psychological and physical disorders that prevent a healthy individual from being compatible, negatively affecting the individual's personality, self-concept, and beliefs (Hassouna, 2012).

Kanfer & Goldstein (1975) indicated that self-control means the individual's ability to establish behavior, choose, and practice it without receiving help or support from others, while Bandura (1997) defined it as a mechanism of social adjustment practiced by the individual when he notices that his behaviour is not acceptable to others, so he organizes himself again and adjusts his behaviours, and then rewards himself whenever he approaches the desired goal. As for Baer (2003), he defined it as the methods, skills, and strategies through which an individual can effectively direct his activities towards achieving his goals. While Mezo (2009) defined it as a series of episodes consisting of three processes that depend on each other and are provided with feedback, these loops are: self-monitoring (SM), self-evaluation (SE), and self-reinforcement (SR). In self-monitoring, the individual observes the target behaviours, which includes thoughts, actions, and feelings. In the field of self-assessment, the individual compares the target behaviours with the self-standards he has set for himself for this behaviours, and in light of the comparison, the individual performs self-enhancement (which includes self-enhancement or self-punishment), which can be external or internal. It must be noted here that the outcomes of the processes of self-control and its management are the same (thoughts, feelings, and actions) that affect the repetition, modification, or abandonment of some processes of self-control and management.

Therefore, self-control expresses the ability of individuals to control and manage their behaviours, practices, and emotions in multiple ways, as represented by their choosing standards and beliefs, self-observation, reward, and self-punishment in order to reduce their dependence on others.

The importance of self-control is that it is a process through which the individual can direct his behaviours and possess the internal motivation for change, which leads to positive results. Some studies have shown the characteristics of the self-disciplined individual, including: increasing the individual's perceptions and his ability to adjust and control the environmental factors; increasing the motivation to bring about the required change; and leading the individual to reduce dependence on others (Goldfried, 2007).

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The ability of the individual to control himself is one of the conditions of mental health. A normal individual is the one who can control his desires, satisfy his needs, and give up immediate pleasures for the sake of a future reward that is far more impactful and permanent. He has the ability to control himself and an awareness of the consequences of his actions (Goldfried, 2007). Akers (1991) defined self-control as the process of individual adaptation to social norms and laws that regulate members of society, and Karoly (1993) defined it as those internal processes that help the individual direct his behaviour towards desired activities by changing thoughts and behaviour intentionally or automatically through a combination of skills.

Hassouna (2012) pointed out the importance of self-reliance through self-learning, developing and employing the individual's preparations, capabilities, and abilities to modify his behaviour and practices and bring about the changes required to achieve his goals. The right direction is within the frameworks that define positive practices, and the importance of self-control comes through suppressing the negative tendencies and desires of the individual and strengthening the strength of will, self-control, and whims.

As for the non-self-disciplined personality traits, the most important of them are: low mental abilities, which affect the emotional practices of the individual, which are inconsistent with the values, customs, and traditions of society and violate public morals, as well as a negative view of and dissatisfaction with oneself because of the belief in the existence of someone who is better than it, so it will imitate others. They are easily submissive, unable to make sound decisions, and have a low ability to face and solve problems, and do not feel shyness, regret, and regret for their negative actions. Therefore, this character does not have the ability to take responsibility and relies on escape as a way to get rid of problems (Goldfried, 2007).

Self-control is affected by individual factors, which are the individual's mental abilities, level of mental maturity, and cognitive abilities. Studies have shown a direct correlation between an individual's mental abilities and their level of self-control (Mischel et al., 1989; Davis and Pratt, 1990; Carlson and Moses, 2001). Self-control is also affected by the gender of the individual; studies have shown that females have more self-control than males. (Gottfredson and Hirschi, 1990; Wood et al., 1993; Gibbs et al., 1998; Cochran et al., 1998; Lagrang and Silverman, 1999; Weinberg et al., 1999) Self-control is also influenced by individual factors such as age, as demonstrated in studies such as Longshore (1998), Taylor et al. (2001), and the individual's past experiences (Thompson & Calkins, 1996; Halford, 2003), as well as the family's economic and social level (Creenchan, 1995; Campbell et al., 2000). As the individual's view of society and the facilities provided by society to him and the nature of societal customs and traditions change (Fox and Calkins, 2003), the individual's self-control is also affected by the possibility of the expected results occurring (O'Donhue, 1998).

Previous studies

The study of Mezo & Heiby (2004), who developed a cognitive self-management scale that consisted of 130 items designed to realize a sense of self-efficacy when undertaking new tasks, provides some insight. The scale was applied to (286) male and female students. The results indicated a reliability coefficient (0.88) and the scale had multiple validity indications.

Mezo (2009) also developed a scale for self-control and management in three sub-domains: self-monitoring, self-evaluation, and self-enhancement. The scale consisted of 145 items, and was applied to a sample of 302 male and female students from American University. The scale had appropriate psychometric properties for measuring and managing self-control skills, as the reliability coefficient was 0.92, while the validity coefficient was (0.87).

Buran et al. (2006) developed a scale to measure adolescents' self-management. The scale was applied to a sample of 368 male and female students, whose ages ranged between 12 and 21) years. The scale had acceptable psychometric properties, where the value of the reliability coefficient was (0.90), and the scale had multiple and acceptable validity indications.

In another study conducted by Mezo (2009) to develop a scale for self-control and self-management in adults, the scale consisted of 16 items and was applied to a sample of 302 multi-ethnic individuals. The validity coefficient was

0.85, and the study suggested using the scale in the field of counseling, especially with students who suffer from anxiety, depression, or poor ability to control weight.

Hassouna (2012) constructed a scale for measuring and managing self-control skills. The scale consisted of 101 items and was applied to a sample of 600 students from Yarmouk and Irbid Private Universities. The reliability coefficient reached 0.93 and the scale had multiple acceptable indications of validity.

Al-Smadi and Bani-Abduh (2017) also standardized the Mezo scale (2009) on the Saudi environment, where the scale was translated to Arabic language and applied to 288 Najran University students. Cronbach's Alpha reached 0.92. The scale had multiple and appropriate indications of validity.

It is noted by reviewing the previous studies that most of them dealt with the self-management variable, such as the study of Mezo & Heiby (2004), the study of Mezo (2009), and the study of Buran et al., (2006). It is also noted that most of these studies dealt with the same age group, and perhaps the study of Al-Smadi and Bani-Abduh (2017) is the closest to this research, as it codified the scale in the Saudi environment, specifically at Najran University, with a sample size of 288 students, But what distinguishes this study is that it is the first to standardize this scale in the Jordanian environment, using a sample size of 1045 students from all Jordanian universities from the public and private sector. The current study has benefited from the methodologies used in the previous studies and from the theoretical literature, so that this is reflected in the interpretation of the results and in the statistical treatments used.

Given the importance of psychometric measurement and the role it plays, whether in the field of research or diagnosing mental disorders, and the importance of providing measurement tools to the psychologist in the Arab environment in general and Jordan in particular, and due to the scarcity of these tools, the importance of standardizing the measure of self-control and self-management in the Jordanian environment to be placed in the hands of researchers for its use in research and diagnostic practices.

Statement of the Study Problem

University students are going through an important developmental stage in their lives because they are preparing to join various professions, get married, and establish family stability, and, at a price, having a good level of self-control and self-management skills helps them succeed in their lives and in their businesses. There were many measures of self-control and self-management in the Western environment, and the necessary standards were extracted for them and the psychometric characteristics were determined. Among these measures is the Mezo (2009) scale for self-control and self-management. As for the Arab environment in general and the Jordanian environment in particular, the scarcity of these measures was noted, and accordingly, the researchers' conducted this study, as they believed of the need and importance of translating this scale and its legalization to the Jordanian university student community. In light of the above, the study problem can be determined by answering the following questions:

- *The first question: what are the psychometric characteristics of the scale of self-control and self-management among Jordanian university students?*
- *The second question: what are the global components of the scale of self-control and self-management among Jordanian university students?*
- *The third question: what is the Norms used for the student performance on the scale of self-control and self-management?*

Objectives of the study

This study aimed to standardize the self-control scale of Mezo (2009) and extract the psychometric properties of the scale in the Jordanian environment by taking a number of procedures represented in extracting the validity and reliability coefficients, in order to provide a Jordanian image of the scale of self-control and management The self, which has appropriate indications of validity and reliability, can be used to measure the level of self-control and self-management skills in the Jordanian environment.

The importance of the study

The importance of standardizing the scale of self-con-

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trol and self-management for students at Jordanian universities stem from the need to provide a scale for self-control and self-management characterized by modernity, the comprehensiveness of the dimensions that make up the scale, the appropriateness of the items in terms of number, and the ease of applying and correcting compared to other similar scales. The self-control and self-management scale included three dimensions: self-monitoring, self-evaluation, and self-reinforcing.

Procedural Definitions

Self-Control and Self-Management: a cognitive method through which the individual controls his behavior through self-monitoring, self-evaluation and self-reinforcing, and then employing these methods in different situations.

Study limitations

The study is determined by the scale used for self-control and self-management skills for Mezo (2009), as well as the study will be determined by a sample of students from Jordanian public and private universities (Amman Arab, Irbid Al-Ahliyya, Jadara, Yarmouk, Mutah, Al-Hussein bin Talal, Al Al-Bayt, The University of Jordan), during the academic year (2020/2021).

The Study Population

The study population consists of all male and female students of Jordanian universities for the academic year (2020/2021), and their number is amounted (322,349) as registered by ministry of higher education and scientific research.

The study sample

The study sample consisted of (1045) male and female students whom were selected by the available sample method, were the scale was designed using google forum and distributed through social website to the targeted population, table (1) shows the distribution of the study sample members according to its variables.

Study Instrument

The original scale of self-control and self-management for Mezo (2009) in its initial form consisted of (150) items, where the items were reduced to (145) items based on the recommendation of the arbitrators, and they were distributed into (3) areas: self-monitoring (50) items; self-evaluation (54) items, and self-support (41) items. An exploratory factor analysis was also conducted and the items were reduced based on the degrees of saturation to (17) items distributed into (3) areas: self-monitoring (6) items, self-evaluation (5) items, and self-reinforcement (5) items, where the scale had appropriate indications of validity and reliability.

Procedures and Methodology

The Mezo scale (2009) was translated into Arabic and then the translation and the original scale were presented to a number of arbitrators specialized in the language, psychological counseling, measurement and evaluation. To ensure that the meaning and ideas in the translated scale match the original one and the appropriateness of the scale's items to the Jordanian environment, amendments were made, which focused on linguistic and grammatical modifications. The scale in its final form consisted of (16) items, after which the scale was carried out electronically by the available sample method to students of some Jordanian public and private universities (Amman Arab, Irbid, Al-Ahlia, Jadara, Yarmouk, Mutah, Al-Hussein bin Tala land Al Al-Bayt), a (1045) student respond to the scale.

Scale Validity

The validity of the scale was verified in several ways through content validity, internal consistency validity, and subjective validity (square root of the reliability coefficient).

Table (1) Demographic Information of Participants

Variables	Categories	Frequency	Percentage%
Gender	Male	324	31
	Female	721	69
Faculty	scientific	290	28
	humanity	755	72
University	Governmental	407	39
	Public	638	61
	Total	1045	100

Scale Reliability

The reliability of the scale was verified by several methods, where the Cronbach's reliability coefficient alpha was calculated, the standard error was calculated as a reliability indicator, as well as the Spearman and Gottman's coefficients of the split-half.

Study Result

Findings of the first question, which states: What are the psychometric characteristics of the scale of self-control and self-management among Jordanian university students?

The psychometric properties of the scale were conducted, as the content validity, internal consistency, and subjective validity (square root of the reliability coefficient) were checked, as well as the coefficients of the half-segmentation reliability coefficient, and Cronbach's alpha coefficient.

First: the indices of Validity

A - Content Validity

The Mezo scale (2009) was translated into Arabic, and the translation and the original scale were presented to a number of arbitrators specialized the study field to ensure that the meaning and ideas in the translated scale matched the original scale and the appropriateness of the scale's items to the Arab environment (Jordan). (80%), the percentage of agreement between the arbitrators on one item, and in light of this criterion, some linguistic modifications were made and no items was deleted from the items of the scale. All items of the original scale were kept, and an item was added to the second dimension. The scale in its final form has seventeen items, to be answered in a five-step grading so that the responses range from (1) to (5).

These scores apply to the positive items, while the grading reflects the negatively worded items, and thus the scale scores as a whole range between (17-85).

B- Internal consistency

The person coefficient correlation between the items and the dimension it belongs and with total score was calculated, as Table (2) shows.

Table (2) The values of the items' correlation coefficients with the dimension it belong and the total score

Dimension	Item No	Correlation between item and dimension	Correlation with total degree
1	1	0.34*	0.53**
	2	0.45**	0.60**
	3	0.55**	0.75**
	4	0.47**	0.74 **
	5	0.39*	0.70**
	6	0.42 **	0.80**
2	7	0.50**	0.61**
	8	0.54**	0.68**
	9	0.39 *	0.75**
	10	0.65**	0.78**
	11	0.45*	0.60**
	12	0.54**	0.46**
3	13	0.54**	0.61**
	14	0.72**	0.63**
	15	0.71**	0.61**
	16	0.65**	0.72**
	17	0.54**	0.62**

* significant at (α=0.05)

** significant at (α=0.01)

As seen in table (2), the values of the correlation coefficients between the items and the dimension to which they belong, as well as the values of the correlation coefficients between the items and the total score were all greater than 0.30 and were all positive and statistically significant at the significance level (α = 0.05), which indicates that the study tool has constructive validity that is appropriate for the purposes of the current study. Moreover, the values of the correlation coefficients between the dimensions with each other and with the total score were also given in Table (3).

It is noticed from the results of Table (3) that the values of the correlation coefficients were all positive and statistically significant at the significance level (α = 0.05).

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C- Discriminatory Validity

The discriminatory validity of the study tool was verified by arranging the total score in descending order, then taking the highest (27%) of the data and the lowest (27%) of it, then a t-test was extracted for two independent samples, as given in table (4).

Table (4), shows that the value of "t" reached (56.660), which is statistically significant at the level ($\alpha = 0.05$) in favour of the higher group, which indicates that the study tool has an acceptable discriminatory validity.

D- Self-Validity

The square root of the internal consistency coefficient was computed in terms of Cronbach's alpha equation, as its value ranged between (0.88) and (0.90) and for the total score (0.92), and table (5) shows these values.

Second: the indices of reliability

To verify the reliability of the study tool, the following indicators were extracted.

A - Reliability was calculated using Cronbach's Alpha, as Table (5) shows.

The results of Table (5) showed that the internal consistency values in terms of Cronbach's alpha for the total degree amounted (0.84), while for dimensions ranged between (0.77) and (0.80), all of which are suitable for the purposes of the current study.

B - The standard error:

which is considered as one of the indicators of reliability, as its value ranged between (0.021) to (0.039), which indicates that the study tool has adequate reliability.

C - Half-segmentation reliability:

The half-segmentation reliability coefficients of the scale items were extracted by Spearman-Brown method which is used for the correction of the split-half effect, and Gottman's half-segmentation, where the half-segmentation reliability coefficient was 0.754.

Table (3) the values of the correlation coefficients between the dimensions with each other and with the total score

	Self –monitoring	**Self-Evaluation**	**Self-Reinforcing**	**Total degree**
Self-monitoring	1	0 .297 **	0.359**	0.690**
Self-evaluation	-	1	0.265**	0.788**
Self-Reinforcing			1	0.647**

Table (4) the results of t-test for two independent samples for testing the significant between the arithmetic means

	group	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**	**t**	**sig**
Total Degree	High level	282	4.43	0.21	0.02	46.660	0.000
	Lower level	282	3.23	0.26	0.02		

Table (5) The Values of Reliability using Cronbach Alpha

Dimension	**Cronbach alpha**	**Self-validity Coefficient**
Self-Monitoring	0.77	0.88
Self-Evaluating	0.79	0.89
Self-Reinforcing	0.80	0.90
Total Degree	0.84	0.92

The findings of the second question which states: what are the global components of the scale of self-control and self-management among Jordanian university students?

To verify the factor validity, an exploratory factor analysis was conducted for the responses of the study sample members, and the factorial analysis of the scale items was carried out using the Principal Component Analysis method of Hotteling, which is one of the most accurate factor analysis methods where each factor extracts the most possible variance. The axes were rotated orthogonally in a method (Varimax with Kaiser Normalization), and in pursuit of more purity and clarity in the psychological meaning of the saturation of the items on the factors, the appropriate saturation was considered to be (0.3) or more, as Table (6) shows.

The results of the analysis in Table (6) showed three factors whose Eigenvalues were higher than one, and that the first factor had a value of 4.633, which explained (27.252%) of the variance, while the value of the second factor reached (2.560), which explained 15.061% of the variance, and that the result of dividing the first factor by the second factor is more than (1), which indicates the availability of a one-dimensional trait in the scale.

Table (6) shows the explained variance and the values of the Eigenvalues that explain the student's performance on the study tool

	Initial Eigenvalues			**Extraction Sums of Squared Loadings**		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.633	27.252	27.252	4.633	27.252	27.252
2	2.560	15.061	42.312	2.560	15.061	42.312
3	1.704	10.026	52.338	1.704	10.026	52.338
4	0.882	5.191	57.529			
5	0.789	4.642	62.171			
6	0.756	4.449	66.620			
7	0.709	4.170	70.790			
8	0.656	3.856	74.646			
9	0.598	3.519	78.166			
10	0.572	3.362	81.528			
11	0.532	3.132	84.660			
12	0.509	2.996	87.656			
13	0.478	2.813	90.469			
14	0.469	2.756	93.226			
15	0.442	2.598	95.824			
16	0.385	2.265	98.089			
17	0.325	1.911	100.000			

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The graphical representation for the Eigenvalues was extracted as the following graph shows.

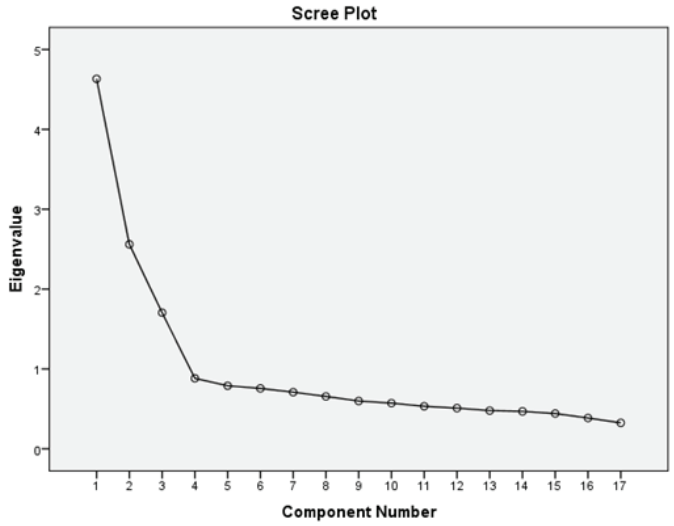

Figure (1) The graphical representation for the Eigenvalues

It is noticed from Figure (1) that there are three factors whose values of the Eigenvalues are greater than the integer one, while the rest of the factors are closely related to each other. The axes were also rotated orthogonally using Varimax with Kaiser Normalization. Table (7) shows the items that were saturated in the factors after the rotation process.

Table (7) display each item and the factor it is saturated with. The result of the exploratory factor analysis lined up with the theoretical framework of the scale, as all the items of the scale are organized into only three factors, which is an acceptable indicator of the validity of the scale, also the component plot in rotated space was extracted as figure (2) shows.

It is evident from figure 2 that there is clear three factors explaining the students' performance on the SMCS scale, these results is aligned with table (7) results.

The third question: what is the Norms used for the student performance on the scale of self-control and self-management?

To answer this question the Z-Score and the t-score were calculated as table (8) displays.

Table (7): Results of the Rotated Component Matrix values and item saturations on the extracted factors.

item	**component**		
	Factor one	Factor two	Factor three
1		0.565	
2		0.588	
3		0.689	
4		0.742	
5		0.713	
6		0.666	
7	0.681		
8	0.732		
9	0.731		
10	0.740		
11	0.792		
12	0.730		
13			0.734
14			0.661
15			0.707
16			0.665
17			0.789

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

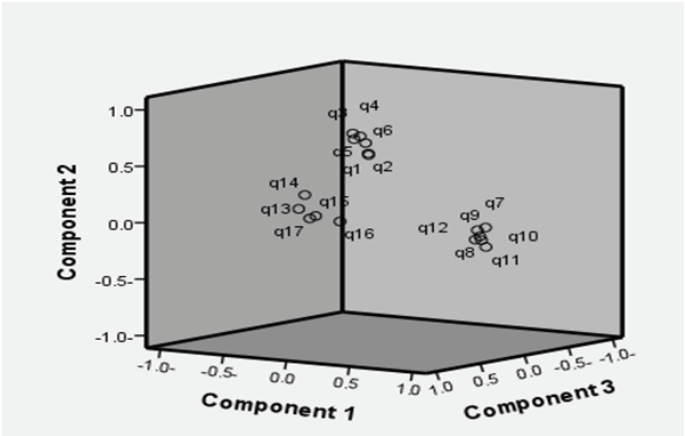

Figure (1) The graphical representation for the Eigenvalues

Table (8) displays the Norms of the student performance on the scale of self-control and self-management where the Z-score and the t-score were calculated.

It is evident from table (9) the cut-off scores for each norm and the level of the trait.

Table (8) The Norms of the student performance on the scale of self-control and self-management

No	Raw score	Z score	T score	No	Raw score	Z score	T score
1	85	2.33	73.3	**25**	61	-0.59	44.11
2	84	2.21	72.08	**26**	60	-0.71	42.89
3	83	2.09	70.86	**27**	59	-0.83	41.67
4	82	1.96	69.65	**28**	58	-0.95	40.46
5	81	1.84	68.43	**29**	57	-1.08	39.24
6	80	1.72	67.21	**30**	57	-1.08	39.24
7	79	1.6	66	**31**	56	-1.20	38.03
8	78	1.48	64.78	**32**	55	-1.32	36.81
9	77	1.36	63.57	**33**	54	-1.44	35.59
10	76	1.23	62.35	**34**	53	-1.56	34.38
11	75	1.11	61.13	**35**	52	-1.68	33.16
12	74	0.99	59.92	**36**	51	-1.81	31.94
13	73	0.87	58.7	**37**	50	-1.93	30.73
14	72	0.75	57.48	**38**	49	-2.05	29.51
15	71	0.63	56.27	**39**	48	-2.17	28.3
16	70	0.51	55.05	**40**	47	-2.29	27.08
17	69	0.38	53.84	**41**	46	-2.41	25.86
18	68	0.26	52.62	**42**	45	-2.54	24.65
19	67	0.14	51.4	**43**	43	-2.78	22.21
20	66	0.02	50.19	**44**	41	-3.02	19.78
21	65	-0.10-	48.97	**45**	40	-3.14	18.57
22	64	-0.22-	47.75	**46**	39	-3.27	17.35
23	63	-0.35-	46.54	**47**	35	-3.75	12.48
24	62	-0.47-	45.32	**48**	29	-4.48	5.19

Table(9) The Cut –off Scores of the student performance on SMCS Scale

Row	Z	T	Level
Less than 50	-2	Less than 30	Very low
50 -57	(-2 , -1)	31 t0 39	Low
58 - 74	(-1, +1)	40 to 60	Moderate
75 - 83	(+1, +2)	61 to 70	High
83 and more	+2 and more	70 and more	Very high

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Discussion of the Results

The measure of self-control and self-management scale of Mizo (2009) had the significance of validity in the Jordanian environment, where the results of the study showed that the values of Pearson's correlation coefficients between the items of the sub-scales and the sub-scales and the overall scale were statistically significant at the α=0.01, which indicates the verification of the construct validity of the self-control and self-management scale and its sincerity of internal consistency, where the values of the correlation coefficient between the items of the first dimension with the first sub-scale ranged between (0.34-0.55), and the values of the correlation coefficient of the items of the first sub-scale with the total scale (0.53-0.80), the values of the correlation coefficient between the items of the second sub-scale with the second sub-scale (0.39-0.65), and the values of the correlation coefficient between the items of the second sub-scale with the overall scale (0.46-0.75) The values of the correlation coefficient ranged between the items of the third dimension with the third sub-scale (0.54-0.72), and the values of the correlation coefficient of the items of the third sub-scale with the overall scale (0.61-0.72), all of which are statistically significant at the level of significance (0.01).

The scale enjoyed reliability through three methods: Reliability by Cronbach's alpha method, where the three dimensions ranged between (0.77 - 0.80). For the overall scale (0.84), and the standard error method as an indicator of reliability, where its value ranged between (0.021-0.039), and the half-segmentation method through Spearman-Brown coefficient and Gutman's coefficient, where its value reached (0.754). The scale has a characteristic of reliability in the Arab (Jordanian) environment. Therefore, the results indicate that the scale of self-control and self-management skills has the characteristics of validity and reliability, and the validity of its application in the Arab (Jordanian) environment.

The results of the exploratory factor Validity analysis showed that the scale of self-control and self-management skills was applied after making simple adjustments to the items of the second dimension. The scale is in the Principal Component Analysis method for its accuracy, where each factor extracts the most possible variance, and the axes were rotated orthogonally by the method (Varimax with Kaiser Normalization). 3) Factors that, in total, explained the percentage of (52.338) of the total variance: the first factor (self-monitoring), where all items of the scale were saturated after the rotation process, and the second factor (self-assessment): a pure factor that absorbed a saturation percentage of (15.061) of the total variance, And the third factor (self-reinforcement): It is a pure factor that absorbed a saturation percentage (10.026) of the total variance, as the first, second and third sub-scale items were saturated in the original scale, thus showing the results of the study. The existence of a factor construct that matches the theoretical framework and the original scale, which is an acceptable indicator of the scale's validity and validity in the Jordanian environment.

Conclusion

The findings demonstrate that the self-control and self-management scale has accepted psychometric properties. The exploratory factor analysis showed one trait lying behind the performance on this scale. The factorial component of the scale lined up with the theoretical structure of the scale. Finally, we the researchers recommend using this scale in the Jordan environment by researchers.

Recommendation

In light of the study results, the researchers recommend the followings:

- Using this scale by the researchers and those working in the educational institutions.
- Conducting more studies using this scale on other samples.

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Conflict of interests

the authors declare that there is no conflict of interest, and this research has not been published anywhere else.

Contribution of authors

Dr. Marawn Alsmadi : writing original draft, writing, reviewing & editing, reading and approving the final draft.

Dr. Moen Salamn Salim Alnasraween: validation, writing-original draft, writing, reviewing & editing, reading and approving the final draft, formal analysis, software supervision.

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