Developing a Jordanian Image of Frost Multidimensional Perfectionism Scale (FMPS) among a Sample of University Gifted and Ordinary Students: A Field Study on the Students of the Faculty of Educational Sciences and Arts (UNRWA)

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Abstract
The aim of this study is to define the psychometric characteristics of Frost Multidimensional Perfectionism Scale FMPS (1990) for Frost and his colleagues to develop a Jordanian image of the scale. The study sample composed of (260) university students, 64 males and 196 females, they were chosen randomly. To achieve the objectives of the study, the original scale was translated into Arabic and applied to an exploratory sample to verify the validity and reliability of the primary image. The results indicated that both the content validity and discriminate were verified. The results of the factor analysis confirmed the validity of its factors. The combined factors (81,069) explained the variation on the scale. The results indicated that the Split-half reliability coefficient of the scale (Spearman - Brown equation) ranged between (0.840-0.776) and using Kronbach Alpha ranged between (0.8344 - 0.7599) which indicates a high degree of reliability. The results also showed statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the level of perfectionism among the students in favor of the gifted students. The results did not show statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the level of perfectionism due to the difference of gender variable.
Keywords: Multidimensional Perfectionism, Neurotic Perfectionism, Psychometric properties, Gifted and Talented students

Introduction
Perfectionism has long been regarded by researchers and psychologists as being one of the psychological variables that can be used to explain the differences in individual behavior. In general, perfectionism appears in determining high levels of performance require the individual to achieve the satisfaction of others. A number of measures have been developed to measure it as a double-edged sword that may evolve from ideal perfection to non-adaptive perfectionism or so-called neuroticism. Some are viewed as a negative feature of its extreme impact. In the adaptation of the individual and his psychological health and others considered it a healthy appearance as a desirable feature that can drive the individual to achieve and strive for excellence.

The researchers' view of the concept of perfectionism differed, as Adelson (2007) sees the concept of perfectionism as an individual performing so well that he is not allowed to commit any errors. In the event of failure to reach that distinction, perfectionism is passive. It seems to the individual in perfectionism many exaggerated behaviors do not correspond to the situation faced by the individual, which loses his self-confidence and can only be achieved if he achieved the performance that he thought he will reach it with the potential and capabilities he has. Perfectionism was classified as the fourth diagnostic guide for psychological and mental disorders (DSM-IV) of a symptom of personality disorder as the second test for diagnosis of this disorder, where perfectionism appeared to be incompatible with the achievement of the goal or task where the individual becomes unable to do what is required and completed it (Abaza, 2000; Chan, 2007), as seen in psychology as one of the problems of adaptation and one of the personal and negative characteristics that cause some psychological problems (Greenspan, 2000).

Flemish and Hewitt (2002: 14) defined perfectionism as the continuous pursuit and struggle for error-freeness. Nugent (2000) defined it as the struggle to achieve high levels of goals set by the individual , And self-exposure to extreme criticism if performance is too low.

Frost, Marten, lahart & Rosenbalte (1990) envisioned the concept of perfectionism as a strict adherence to high standards of performance accompanied by excessive self-criticism, inability to accept the level of achievement or satisfaction, and met with adaptive perfectionism in setting high standards but it does not lead to low self-esteem or loss of confidence and dissatisfaction (Silverman, 1999). Stober (2006) defined it as the individual adopting high standards of performance, struggle to avoid mistakes, over-self-evaluation, and pursuit of excellence.

Some of the literature also considers perfectionism to be a distinguishing characteristic of the individual by setting himself high expectations and goals accompanied by a work of sporadic, serious and exhausting, in order

to master and avoid errors to avoid the criticism of others. What is agreed among the researchers is that perfectionism is usually classified into two main types: which is flexible in the standards set, since these high standards correspond to the limits of the individual's ability and potential, as well as the struggle to succeed with logical thinking and balanced with the ability to accomplish tasks in a timely and specific time (Schuler, 2000). However, perfectionism as a positive trait may motivate the individual to focus his efforts towards achievement and excellence. It expresses a strong, coherent personality and a positive and self-confident concept, as well as an orderly personality that sets high achievable standards (Parker, 2000) Non-adaptive perfectionism is characterized by a lack of flexibility in thinking or standards, where thinking is confused with a focus on avoiding mistakes, linking feelings of inferiority and intrinsic value to the extent to which the goal is achieved. This leads to dissatisfaction with the achievement level and decreases self-concept in the individual. Or procrastination in performing tasks on time. Therefore, perfectionism was regarded as a negative and non-adaptive feature in most of its forms. This led researchers to study its effects on individuals and to try to find the appropriate adaptation strategies to help people who develop neural perfection to enable them to get rid of the control of false beliefs which led them to the perfectionist and attempt to replace them with adaptive perfection by providing extension services (Mendaglio, 2007; Greenspan, 2008).

The results of a number of studies indicate that gifted and talented students face severe pressures in their different education stages that they are trying to get the highest scores on assignments and are trying to challenge their abilities to achieve the goals they set for themselves that they cannot achieve on the ground being unrealistic. Schuler (2000) and Sliverman (1999) show that outstanding students show different degrees on the scale of perfection and obtain a variety of degrees ranging from perfect perfection to neural perfection. Neihart & Robinson (2000) sees perfection as a positive force, and to achieve creative production or negative force or an innovative look at the frustration, helplessness and despair. According to the National Organization for gifted and talented children, perfectionism is a characteristic of this group of children (NAGC, 2008). According to Baldwin and Vialle (1999), Worth in the 1920s asserted that perfectionism is one of the most important characteristics established as a risk factor for excellence, which may require the need to provide multiple mental and psychological services, as it is not easy to distinguish between the pursuit of excellence and the coercive and destructive pursuit of expectations and objectives that cannot be reached or achieved.

Davis and Rimm (2004) point out that parents have a major role to play in the quality of child-centered perfection. Parents work on child-centered, full-fledged, or full-fledged childbearing, which results in increased stress to meet parents' expectations. Adelson (2007) also shows that gifted and talented people are very concerned about their pursuit of perfectionism. Abdul Samad (2003) considered perfection as an integral component of talent and excellence, and it is evident in the outstanding individuals who suffer from the negative effects of the neural perfection. Nugent (2000) noted that students who excel are more susceptible to problems of adaptation in the emotional, psychological and social aspects, as those characterized by the perfection of nervousness characterized by the drive to achieve perfection for fear of failure and feeling inferior.

Thus, the study of perfectionism has received great attention in clinical and psychological research, in individuals in general and in gifted and talented individuals in particular. It has been shown that perfectionism is one of the common characteristics to this group of society. As the most important part of the progress and development of society, and study it in most educational and psychological research, as a number of researchers confirmed that perfectionism in their neurological form may develop.

Scales of perfectionism:
- The scale of negative and positive perfectionism prepared by Shan (2009), which consists of (16) paragraphs representing perfectionism of both types, followed by (12) open questions for each type.
- Flett & Hewitt (2002) is a multidimensional quantitative scale, a self-report consisting of a group of (45) paragraphs representing perfectionism and responding to paragraphs according to Likert scale, where the answer ranges from (1) strongly opposed to 7 - Strongly agree), the scale assesses the degree of self-orientation toward perfectionism, as the scale reflects a person's psychological characteristics well.
- The Almost Perfect Scale-Revised (APSR) scale, compiled by Lericero & Ashby (2000).
- Orange (1997) scale consists of (30) paragraphs, in which individuals are classified into four categories ranging from adaptive perfectionism to neural or non-adaptive perfectionism.
- Burns (1980) Perfectionism Scale one of the most widely used scales of perfectionism in the 1980s is the measurement of perfectionism from one dimension. Specifically, the scales focus on defeatist attitudes because of the concern to avoid mistakes and personal standards in individuals. The scale consists of (10) paragraphs, the subjects are asked to indicate the degree of applicability of each paragraph according to Likert scale.

The Study Problem and its Questions

There has been a growing interest in the characteristics of gifted and talented students in recent times, which require the development of appropriate scales and verification of its psychometric characteristics, and despite the importance of Frost Multidimensional perfectionism scale (FMPS), some studies have cast doubt on the psychometric properties of the scale, especially in the last two dimensions of doubts about behavior and parental criticism which led the researchers to conduct this study to ascertain the psychometric properties of the scale and its ability to measure perfectionism for later use for diagnosis, orientation and guidance purposes.

The problem of the current study is determined by developing a Jordanian image of Frost's multidimensional perfectionism scale among a sample of talented and ordinary university students.

This study attempted to answer the following questions:

1- What are the validity indications of the Jordanian image of the multidimensional perfectionism scale among a Jordanian sample of gifted and ordinary students?
2- What are the reliability indications of the Jordanian image of the multidimensional perfectionism scale among a Jordanian sample of gifted and ordinary students?
3- Does the level of multidimensional perfectionism vary according to variables of (gender, academic achievement)?

The Importance of the Study

The importance of this study appears in:

1- Preparing a Jordanian image of the multidimensional perfectionism scale, with good psychometric properties that can be trusted and used to measure this feature.
2- The scale can be used for diagnostic, orientation and guidance purposes.
3- The study dealt with the variable of perfectionism among gifted students at high school, as it is a very important stage.
4- The scarcity of studies that tried to study this subject among gifted and ordinary high school students.
5- The study provides a scale of multidimensional perfectionism that can be used in subsequent studies in the Jordanian environment.

Objectives of the study

1- Developing a Jordanian image of the Multidimensional perfectionism scale for Frost and his colleagues.
2- Ensuring the psychometric properties (the 6 th factor analysis) of Frost's multidimensional perfectionism scale for Frost and his colleagues from the responses of a sample of university students.
3- Measurement of differences in the level of perfectionism in a sample of gifted and ordinary university students.

Terminology of study:

Perfectionism: Frost et al. (1990) defined it as setting high standards of performance accompanied by an overvalued evaluation of self. In this study, the degree achieved by the respondent on the scale of perfectionism used in this study.

Gifted and Talented Student: Garwan (2008) defined him as a student with high level of mental abilities, and showed high performance in the experimental units and was among the highest (5%) of students in the school.

In this study, talented student is defined as the student who is above average in the results of the general secondary examination in its literary and scientific streams from those who responded to the study tool.

Study determinants:

The generalization of the results of this study is determined as follows:

- limited to a sample of university students at the level of the first year of talented and ordinary in the Faculty of Educational Sciences and Arts (UNRWA)
- The psychometric characteristics of the scale of perfectionism developed in this study.
- The validity of sample responses' on the used scale.

Previous Studies

The previous studies are divided into two parts, including studies that have worked on the preparation of other images of Multidimensional perfectionism scale of Frost and others, including the treatment of perfectionism among the gifted and talented.

First: Studies on the development of images of the Multidimensional perfectionism scale (FMPS).

Amaral, Soares, Pereira, Bos, Marques, Valente, Nogueira, Azevedo & Macedo (2013) developed an image of the multidimensional perfectionism scale for Frost and his colleagues to ensure that the scale was applied in its

preliminary version on a sample of (217) students from two universities in Portugal (178) females, and (39) males between the ages of (17-35), the results showed good signs of validity and reliability, The correlation coefficients ranged from (19 for item 35 and 0.548 for item 16). All correlation coefficients were higher than (0.20) except item (13) and organization dimension obtained the lowest correlation coefficients while item (24) obtained correlation coefficients higher than (0.30) and in the internal consistency calculation, the results showed that (29) paragraphs have good correlation coefficients, and the re-application showed high validity and reliability indicators reached (0.765). The Concurrent validity was also extracted to confirm the indicators using (Hewitt & Flett) to ensure the fourth and sixth dimension, where alpha reached (0.857), which is high and can be trusted.

Gelabert, Esteve, Santos, Gutierrez, Torres & Subira (2011) also developed a Spanish image of the multi-dimensional perfectionism scale for Frost and his colleagues. The sample consisted of (582) females enrolled in a university college, they were selected with an average age of 21 years.The reliability coefficient Kronbach alpha (0.89) was achieved by applying the reliability coefficient (0.93). The results showed the level of trust of the reliability and validity of the scale to be used in the detection of risk factors in women.

In another study by Stober (1998), a sample of 283 students (161) of the students at the average age (26) 19) after the personal criteria which states (I am very good at focusing my efforts on achieving my goals), and paragraph (12) after the attention to mistakes, which states (I hate being less than the best in anything) Which were obtained by females in some dimensions higher than males, while males had higher scores in the parental expectations dimension, the results also indicated low correlation coefficients where it was recommended to combine some dimensions together to make the scale limited to four dimensions rather than six, to incorporate the attention to errors and doubt about behaviors dimensions in one dimension called Concern about errors and doubts, as well as parental criticism and parental expectations in one dimension called parental expectations and criticism (PEC) , while the results showed that the alpha coefficient was (0.80). On the other hand, the results indicated a positive correlation between Neurotic Perfectionism and gifted and talented students.

Second: Studies that dealt with the variables of academic achievement and gender and its relation to perfectionism:

Attiya (2009) studied the relationship between perfectionism and delay in a sample of the university students who are mentally gifted on a sample of (200) students enrolled in the first class in the faculties of science and pharmacy at Zagazig University (78 male students and 122 female students) between the ages of (18.6 and 19.5), The researcher applied a perfectionism scale developed by him which is consisted of (76) items, then he investigated the characteristics of validity and reliability, and a scale of the postponement of the study. The results showed a statistically significant positive relationship between the scores of gifted students on the scale of negative perfectionism and their degrees on the postponement scale, and a negative correlation between Students' grades and the existence of statistically significant differences between the average scores of gifted male students and the grades of gifted female students in favor of the average of gifted female students.

Ram (2005) conducted a study that aimed to define the relation between positive and negative perfectionism in academic achievement, achievement motivation, emotional feeling, personal characteristics, and strategies used to confront the pressure on a sample of 99 students from a university in Thailand, Frost et al scale was applied on them and the results showed a relation between positive perfectionism with academic achievement, motivation of achievement, emotional feeling and positive traits, in contrast with negative perfectionism.

Dixon, Lapsley and Homchon (2004) conducted a study aimed at identifying perfectionism among gifted students on a sample of (560) adolescent students and the relationship of perfectionism to some psychological disorders, compatibility and self-esteem. Among the most important results reached the existence of a positive correlations between positive perfectionism, academic competition, self-esteem, and adaptation, and a negative correlative relationship between negative perfectionism, adaptation and mental health. The results also found that gifted students with positive perfectionism were characterized by compatibility and keen academic competition. Those characterized by negative perfectionism suffer from psychological problems and are less compatible.

The Locicero& Achby (2000) study found that gifted students tended to develop negative perfectionism, making them more likely than others to have some mental disorders. This was confirmed by the Schuler (2000) study, which confirmed that there was a strong correlation between negative perfectionism among gifted students' and anxious.

Among the most important studies was Orange (1997) study, which aimed to identify the perfectionism of gifted students, on a sample of (109) students of the higher stage. The results revealed the perfectionist attitudes of the gifted students compared to the ordinary students. And ensuring the perfectionism dimensions and the need to organization, ideas and And obsessive-compulsive and the concern of making mistakes and the difficulty of decision-making and hesitation in actions.

On the differences in perfectionism according to gender, Tsui & Mazzocco (2007), which was conducted on a sample of (480) students, indicated that the level of perfectionism among gifted students is higher than that of

gifted students who strive to achieve high-level goals that they may be unable to achieve because it is often unrealistic, and Kronbach's alpha coefficient is (0.87) for the multidimensional perfectionism scale of Frost et al. Schuler (1999) asserts that perfectionism is an attribute of mental superiority and that females are keen to achieve excellence in everything and are characterized by high levels of organization, and that the gifted show high levels of subjective standards.

This is what Selany, rise, Mobley, Trippi & Ashby (2001) found that female passive perfectionism is higher than that of males, which leads them to focus more on performance without errors, which is the basis for many of the disorders they experience.

Looking at previous studies, the researchers concluded:

There are studies aimed at developing the Frost et al scale in other non-Arab environments to ascertain the psychometric characteristics of the scale, such as the study of (Amaral et al, 2013 ;Gelabert etal, 2011; Stober, 1998). Thus, the current study is suitable for use in the Jordanian environment.

The results also showed the validity of the use of the multidimensional perfectionism scale to measure the quality of perfectionism among individuals, with some suggestions for its development such as (Stober, 1998) suggestions, when he preferred to merge dimensions to make the scale consisted of four dimensions instead of six.

- Many studies have shown perfectionism as a distinguishing feature of the gifted students, such as the study of: Dixon, Lapsley & Homchon, 2004; Orange, 1997; Lolerero & Achby, 2000; Ram, 2005; Schuler, 1999).

The results of the studies also indicated that perfectionism as a feature of females is higher than that of males (eg, Slaney et al., 2001; Tsui & Mazzocco, 2007; Schuler, 1999).

Method and procedures

Study Methodology: The study adopted the analytical descriptive approach, in relation to the nature of the study objectives.

Study sample

a. **Pilot Study:** The pilot study composed of (50) students from the study population. They were selected randomly in order to extract the indications of validity and reliability of the study tool.

b. **Basic Sample:** The basic sample of the study was composed of (260) students of the first year students in the Faculty of Educational Sciences and Arts (UNRWA) during the second semester of the academic year 2015/2016, (64) male students, and (196) female students who were chosen randomly as shown in Table (1).

Table (1): Distribution of Main Study Sample Members according to its variables (Gender and Academic Achievement)

Variables	Level	N	Percentage
Gender	Males	64	24.62%
	Females	196	75.38%
General average in Tawjihi	Gifted(90 and above)	109	41.92%
	Ordinary students (less than 90)	151	58.08%
Total		**260**	**100.00%**

Study tool

The researchers developed an image of the Multidimensional Perfectionism Scale (FMPS) prepared by Frost and his colleagues (1990).

The scale validity in its preliminary form:

The validity of the scale has been verified in its initial form

Construct validity

To ascertain the construct validity of the scale, Pearson correlation coefficients were calculated between the grade on each paragraph of the scale with the degree to the dimension to which they were included, and with the total score of the scale, after the application to the survey sample, as shown in Table (2).

Table 2: Pearson correlation coefficients for each of the scales with the dimension to which they were included and with the scale as a whole after applying them to the initial experiment sample

N	Degree of paragraph correlation		N	Degree of paragraph correlation	
	with dimension	With total tool		With dimension	With total tool
1	0.69	0.45	3	0.64	0.62
2	0.65	0.58	4	0.50	0.42
3	0.46	0.61	5	0.21	0.33
4	0.75	0.52	6	0.57	0.61
5	0.61	0.48	1	0.55	0.44
6	0.66	0.39	2	0.66	0.49
1	0.54	0.44	3	0.59	*0.14
2	0.59	0.57	5	0.60	0.52
3	0.46	0.43	1	0.59	0.48
4	0.83	0.48	2	0.94	0.21
5	0.72	0.53	3	0.60	0.51
6	0.58	0.42	4	0.54	0.64
7	0.47	0.55	1	0.49	0.38
9	0.71	0.58	2	0.55	*0.12
1	0.49	0.44	3	0.63	0.49
2	0.53	0.40	4	0.54	0.62

Table 2 shows the values of the Pearson correlation coefficients between the score of each of the scales with the total score of the dimension to which they were included and the total score of the scale after applying them to the exploratory sample. All paragraphs were adopted. Two paragraphs their link to the scale as a whole were weak paragraph (3) in the fourth dimension and paragraph (2) in the sixth dimension, while the rest of the paragraphs have values of correlation coefficients greater than (0.20) with the degree on the dimension, and with the total score of the scale and this is acceptable as specified by (Lord, 1980), thus the scale consisted of (35) paragraphs.

Reliability of the Scale

To verify the reliability of the scale, it was applied to the pilot study. Reliability was calculated using the internal consistency of each dimension of the scale using the Kronbach alpha equation. The values of the reliability coefficients ranged between (0.84-0.92) for the scale and (0.89) for the scale as a whole. Table (3) shows the values of the reliability coefficients of the scale and the scale as a whole.

Table (3): Values of reliability coefficients for the dimensions of the scale and the scale as a whole in the Kronbach Alpha method

N	Dimensions	final number of paragraphs of the scale	Kronbach alpha coefficient
1	**Organization**	6	0.92
2	**Attention to mistakes**	9	0.89
3	**Personal standards**	7	0.84
4	**Parental Expectations**	5	0.89
5	**Doubts about behavior**	4	0.85
6	**Parental criticism**	4	0.89
	Scale as a whole	**35**	**0.89**

Results of the Study and its Discussion

Following is an overview of the findings, after analyzing the data collected using the study scale.

First: Results related to the first question:

What are the indications of the validity of the Jordanian image of the multidimensional perfectionism scale among a Jordanian sample of gifted students?

The indications of validity were verified through the following methods:

1) Content validity (arbitrators): content validity of the scale was verified through (10) arbitrators of specialists in education, psychology, measurement, evaluation, and sociology were asked to evaluate the appropriateness of the scales in terms of what they were designed to measure, their belonging to the dimension to which they were included, The clarity of the wording of the paragraphs, and therefore suggest the appropriate amendments.

The criterion of agreement (80%) of the arbitrators was adopted to indicate the validity of the paragraph, its appropriateness and belonging to remain within the scale, and on the basis of the opinions of the competent arbitrators, some paragraphs were modified in terms of wording to increase their clarity.

2) Discriminative validity: The indicators of discriminative validity of the scale were extracted by comparing the results of the performance of the main study sample according to their achievement (through the secondary rate) on the scale. The mean and standard deviations were calculated according to the dimensions of the scale according to the achievement variable. The results were as shown in the table No. (4).

Table (4): The arithmetical averages and the standard deviations of the estimates of the sample members on the dimensions of the scale, according to the achievement variable

Dimensions	The level of achievement	N	Mean	Standard deviation	Df	T value	Sig
Organization	Gifted students	109	4.30	.539	258	3.517	0.002*
	Ordinary students	151	3.86	.599			
Attention to mistakes	Gifted students	109	2.98	.540	258	3.199	0.009*
	Ordinary students	151	2.47	.601			
Personal standards	Gifted students	109	4.01	.469	258	4.012	0.001*
	Ordinary students	151	3.52	.529			
Parental Expectations	Gifted students	109	4.06	.688	258	3.983	0.001*
	Ordinary students	151	3.58	.698			
Doubts about behavior	Gifted students	109	3.44	.847	258	3.543	0.002*
	Ordinary students	151	3.19	.804			
Parental criticism	Gifted students	109	2.84	.838	258	4.526	0.001*
	Ordinary students	151	2.42	.967			
Scale as a whole	Gifted students	109	3.59	.338	258	4.108	0.001*
	Ordinary students	151	3.16	.360			

* Statistical significance at the level of statistical significance ($\alpha = 0.05$)

Table (4) shows that there are statistically significant differences at (0.05) between the average of the sample estimates on the dimensions of the scale according to the achievement variable, in all dimensions of the scale and the scale as a whole, and these results represent a kind of indication of the discriminative validity of the scale.

3) Factor analysis

To verify the validity of the scale, the Factor Analysis was performed using the Principle Component Analysis for each dimension of the scale, where the Eigen Value values were extracted for the measured factors and the variance ratio explained by each factor of these factors, and the percentage of explained cumulative discrepancies, are as follows:

First dimension: organization

The latent root values of the saturated factors were extracted by the parameters of this dimension, the variance ratio explained by each of these factors, and the percentage of explained cumulative discrepancies, where the results were as shown in Table (5).

Table (5): The value of Latent root of factors saturated with organization dimension and variation ratio which is interpreted by each factor and the percentage of cumulative discrepancies explained

Factors	Latent root	Ratio of interpreted variation%	Cumulative percentage of explained variance%
1	2.875	47.910	47.910
2	1.015	16.922	64.832
3	.703	11.723	76.556
4	.548	9.135	85.691
5	.443	7.389	93.081
6	.415	6.919	100.000

Table (5) shows that there are two latent factors, the underlying root value of each is greater than (1), but there is a common factor (factor 1), which is indicated by the large difference between the value of the first latent root and the second latent value and the interpreted variance greater than 20 % According to the (Reckase) criterion, and the graph in Figure (1_1) shows the underlying root values of the factors.

Second dimension: attention to mistakes
The latent root values of the saturated factors were extracted by the paragraphs of this dimension, the variance ratio explained by each of these factors, and the percentage of interpreted cumulative discrepancies, where the results were as shown in Table (6)

Table (6): The intrinsic root values of the saturated factors with respect to errors and the percentage of variance explained by each of these factors and the percentage of interpreted cumulative discrepancies

Factors	Latent root	Ratio of interpreted variation%	Cumulative percentage of explained variance%
1	3.691	25.455	25.455
2	1.558	17.307	42.762
3	1.199	13.318	56.081
4	.889	9.877	65.958
5	.798	8.863	74.820
6	.745	8.277	83.098
7	.615	6.830	89.928
8	.534	5.935	95.863
9	.372	4.137	100.000

Table (6) shows that there are three latent factors, each of which has a latent root value greater than 1, but there is a common factor (factor 1), which is indicated by the large difference between the value of the first latent root and the second latent root value. Figure (1_2) the latent root values of the factors.

Third dimension: personal standards
The latent root values of the saturated factors were extracted by the paragraphs of this dimension, the variance ratio explained by each of these factors, and the percentage of interpreted cumulative discrepancies, where the results were as shown in Table (7)

Table (7): The latent root values of the saturated factors by the personal paragraphs dimension and the percentage of variance explained by each of these factors and the percentage of interpreted cumulative discrepancies

Factors	Latent root	Ratio of interpreted variation%	Cumulative percentage of explained variance%
1	3.022	28.883	28.883
2	1.336	19.080	47.963
3	1.043	14.900	62.863
4	.867	12.385	75.249
5	.681	9.725	84.974
6	.573	8.180	93.154
7	.479	6.846	100.000

Table (7) shows that there are three latent factors, each of which has a latent root value greater than (1), but there is a common factor (factor 1), which is shown by the large difference between the value of the first latent root and the second latent root value, Figure (1_3) The underlying latent root values of the factors.

Fourth Dimension: Parental Expectations
The underlying root values of the saturated factors were extracted by the parameters of this dimension, the variance ratio explained by each of these factors, and the percentage of interpreted cumulative discrepancies, where the results were as shown in Table (8)

Table (8): The latent root values of predictive factors with parental expectations and the variance ratio explained by each of these factors and the explained percentage of cumulative variation

Factors	Latent root	Ratio of interpreted variation%	Cumulative percentage of explained variance%
1	3.148	42.958	42.958
2	1.248	24.954	67.911
3	.740	14.800	82.712
4	.523	10.463	93.174
5	.341	6.826	100.000

Fifth dimension: Doubts about behavior
The latent root values of the saturated factors were extracted by the parameters of this dimension, the variance ratio explained by each of these factors, and the percentage of interpreted cumulative discrepancies, where the results were as shown in Table (9)

Table (9): The latent root values of the saturated factors by the doubt of the behavior and the percentage of variance explained by each of these factors and the percentage of the explained cumulative variation

Factors	Latent root	Ratio of interpreted variation%	Cumulative percentage of explained variance%
1	2.151	53.765	53.765
2	.734	18.346	72.111
3	.595	14.881	86.991
4	.520	13.009	100.000

Table (9) shows that there is a single latent factor whose underlying root value is greater than (1), the graph in figure (1_5) shows the underlying root values of the factors.

Sixth dimension: Parental criticism
The latent root values of the saturated factors were extracted by the paragraphs of this dimension, the variance ratio explained by each of these factors, and the percentage of interpreted cumulative discrepancies, where the results were as shown in Table (10)

Table (10): The latent root values of the impregnated factors with the parental criticism dimension and the percentage of variance explained by each of these factors and the percentage of explained cumulative variation

Factors	Latent root	Ratio of interpreted variation%	Cumulative percentage of explained variance%
1	1.109	14.060	14.060
2	1.486	9.905	23.966
3	1.420	9.467	33.432
4	1.288	8.585	42.017

Table (10) shows that there are four latent factors, the latent root value of each is greater than (1), but there is a common factor (factor 1), which is indicated by the large difference between the value of the first latent root and the second latent root value, Figure (9) The underlying root values of the factors.

To verify the independence of each dimension of the scale from each other, the underlying root values of the saturated factors of the scale as a whole, the variance ratio explained by each factor, and the cumulative discrepancy ratio were extracted. The results, as shown in Table 11

Table (11): The latent root values of the saturated factors of the scale as a whole and the percentage of variance explained by each of these factors and the percentage of the explained cumulative variation

Factors	Latent root	Ratio of interpreted variation%	Cumulative percentage of explained variance%
1	1.541	16.767	16.767
2	1.391	15.392	32.159
3	1.365	14.312	46.471
4	1.162	12.108	58.579
5	1.002	11.918	70.497
6	0.927	10.572	81.069

Table (11) shows that there are five latent factors. The underlying root value of each is greater than (1), but there is no single factor between them, which is shown by the simple differences between the value of the first latent root and the second latent root value, these factors explain the value of (81,069). The graph in Fig (1_7) shows the underlying root values of the factors. There are no significant changes in the slope of the curve between the value of the first latent root and the second latent root value, the second latent root value, third and so on. This assumes that the dimensions of the scale are independent of each other.
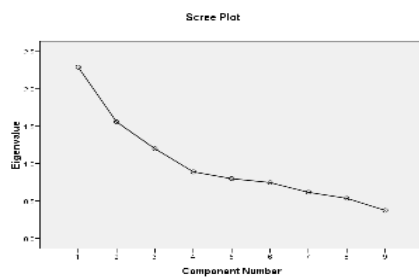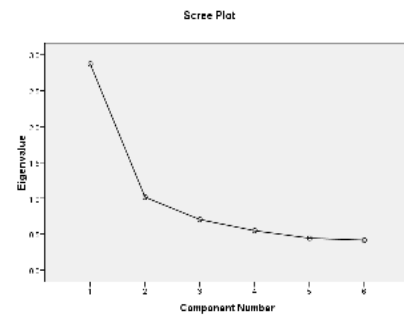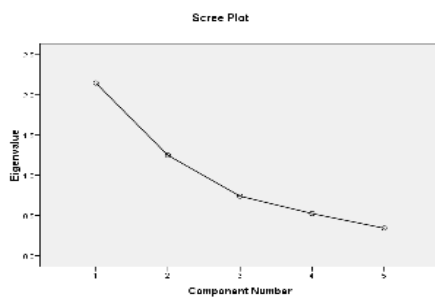

Figure 1_2
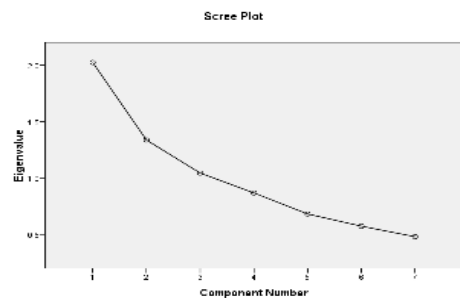

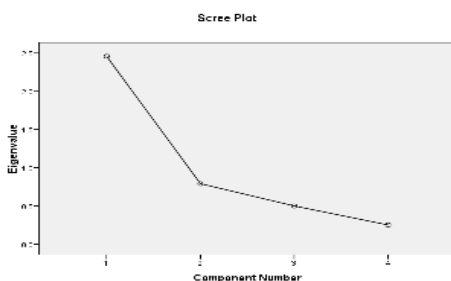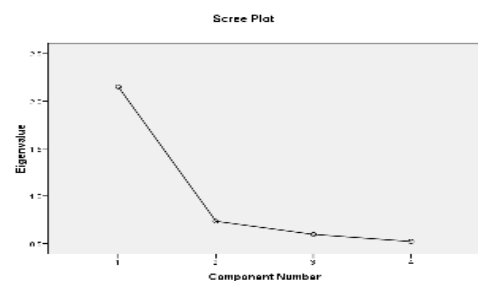
Figure 1_1

Figure 1_4

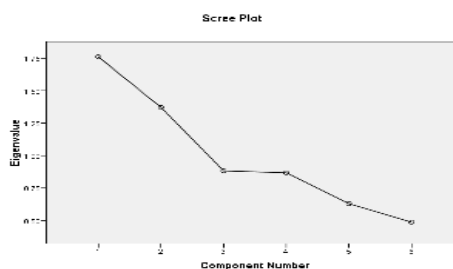Figure 1_3

Figure 1_6

Figure 1_5

Figure 1_7

Figure (1)
The results of this study are in line with the results of Stober (1998), which indicated low correlation coefficients for vertebrates in some dimensions, especially dimensions 4 and 6, which led to the preference that the scale is made up of four dimensions rather than six, excluding some paragraphs and replacing them with other paragraphs.

These results differ in part from the results of previous studies that used the Frost et al scale such as the study of (Amaral, et al., 2013; Gelabert et al., 2011). The study (Amaral, et al., 2013) indicated good validity indicators, and the correlation between (19 for item 35 - 0.548 for item 16) and all correlation coefficients higher than (0.20) except item (13). After organization, the lowest correlation coefficients were obtained. Item (24) obtained correlation coefficients greater than (0.30), by calculating internal consistency the results showed that (29) paragraphs correlation coefficients were good, and re-application showed high indicators of validity (0.765), concurrent validity was also extracted to Check the indicators using the (Hewitt & Flett) scale to make sure the fourth and sixth dimensions are (0.857), which is high and can be trusted.

Second: Results related to the second question: What are the indications of the reliability of the Jordanian image of the multidimensional perfectionism scale in a Jordanian sample of gifted and ordinary students?
The indicators of the reliability of the scale were derived using two methods: reliability in the half-split method, modified by the Spearman-Brown equation, and the Kronbach alpha method.
The reliability of the half-way split after modified using the Spearman-Brown equation: Reliability was computed using the Spearman-Brown equation for each dimension of the scale. The paragraphs of each dimension were divided into two halves, with the odd and even numbers, and the correlation coefficients were calculated between them. Table 12 shows the values of the reliability coefficients.

Table (12): Reliability coefficients using Split- Half reliability adjusted by the Spearman-Brown formula for each dimension of the scale

N	Scale dimensions	The values of the reliability coefficients in Split-Half reliability
1	Organization	0.7924
2	Attention to mistakes	0.8127
3	Personal standards	0.8407
4	Parental Expectations	0.8349
5	Doubts about behavior	0.7994
6	Parental criticism	0.7768

Table (12) shows that the values of reliability in the half-split method after adjusting with Spearman-Brown equation for each dimension of the scale ranged from (0.7768 to 0.8407), which are values that indicate the appropriate reliability of the scale.

Reliability in the Cronbach Alpha Method:
Reliability was calculated in an internal consistency method using the alpha Kronbach equation for each dimension of the scale, and table 13 shows the values of reliability coefficients.

Table (13): Values of reliability coefficients in the internal consistency method using the Alpha Kronbach formula for each dimension of the scale

N	Scale dimensions	Determination of reliability coefficients using the α Kronbach equation
1	Organization	0.7628
2	Attention to mistakes	0.7958
3	Personal standards	0.8344
4	Parental Expectations	0.8215
5	Doubts about behavior	0.7599
6	Parental criticism	0.7826

Table 13 shows that the values of reliability in the internal consistency method using the Kronbach alpha formula for each test of the scale ranged from (0.7599 - 0.8344), which is an indication of the appropriate reliability of the scale.
These results are consistent with the study by Stober (1998; Tsui & Mazzocco, 2007; Amaral, et al., 2013; Gelabert et al., 2011), all of which indicated reliability indices ranging from (0.67 to 0.90).

Third: Results related to the third question:
Does the level of multidimensional perfectionism vary according to variables of (gender, academic achievement)? To answer this question, the arithmetical averages and standard deviations of the sample estimates were calculated on each dimension of the scale, as follows:

   A) According to Gender variable:
The arithmetical averages and standard deviations of the sample estimates were calculated on each dimension of the scale by gender variable, as they were shown in Table (14).

Table (14): The arithmetical means and the standard deviations of the estimates of the sample members on each dimension of the scale according to gender variable

N	Scale dimensions	Male (n = 64)		Female (n = 196)	
		Mean	Standard deviation	Mean	Standard deviation
1	Organization	4.18	.501	4.05	.593
2	Attention to mistakes	2.78	.609	2.72	.567
3	Personal standards	3.80	.514	3.74	.503
4	Parental Expectations	3.89	.598	3.79	.722
5	Doubts about behavior	3.37	.844	3.23	.813
6	Parental criticism	2.72	.901	2.62	.934
	Scale as a whole	3.44	.341	3.35	.351

According to the academic achievement variable:

The mean and standard deviations of the estimates of the sample were calculated on each dimension of the scale according to the academic achievement variable, as they were shown in Table (15).

Table (15): The arithmetical means and the standard deviations of the estimates of the sample members on each dimension of the scale according to the academic achievement variable

N	Scale dimensions	Outstanding students (n = 109)		Ordinary students (n = 196)	
		Mean	Standard deviation	Mean	Standard deviation
1	**Organization**	4.30	.539	3.86	.599
2	**Attention to mistakes**	2.98	.540	2.47	.601
3	**Personal standards**	4.01	.469	3.52	.529
4	**Parental Expectations**	4.06	.688	3.58	.698
5	**Doubts about behavior**	3.44	.847	3.19	.804
6	**Parental criticism**	2.84	.838	2.42	.967
	Scale as a whole	3.59	.338	3.16	.360

Tables 14 and 15 show that there are apparent differences between the average of the sample estimates on the dimensions of the scale according to the difference in the gender variable and the variable of achievement, to determine the levels of statistical significance of these differences, the binary variance analysis test was used, as shown in Table (16).

Table (16): Results of analysis of variance of the differences between the estimates of the sample members on the dimensions of the scale according to the difference of the gender variable and the achievement variable

Variables	Domains	Sum of squares	Df	Mean of squares	F	Sig
Gender Value of Hotling = 0.019H = 0.563	**Organization**	.848	1	.848	2.578	.110
	Attention to mistakes	.136	1	.136	.407	.524
	Personal standards	.167	1	.167	.653	.420
	Parental Expectations	.711	1	.711	1.475	.226
	Doubts about behavior	1.194	1	1.194	1.767	.185
	Parental criticism	.516	1	.516	.614	.434
Acheivement Value of Hotling = 0.651H = 0.005	**Organization**	2.549	1	2.549	7.748	.003*
	Attention to mistakes	3.021	1	3.021	9.045	.001*
	Personal standards	2.518	1	2.518	9.836	.001*
	Parental Expectations	2.894	1	2.894	6.004	.011*
	Doubts about behavior	4.522	1	4.522	6.699	.006*
	Parental criticism	4.858	1	4.858	5.776	.017
Error	**Organization**	84.243	256	.329		
	Attention to mistakes	85.461	256	.334		
	Personal standards	65.583	256	.256		
	Parental Expectations	123.380	256	.482		
	Doubts about behavior	172.913	256	.675		
	Parental criticism	215.213	256	.841		

* Statistical significance at the level of statistical significance (α= 0.05)

Table (16) shows that there are differences due to the variable of achievement, where the differences were in favor of the estimates of gifted students, and the absence of statistically significant differences at the level of

statistical significance (α= 00.05) between the mean differences between the estimates of the sample on the dimensions of the scale due to the difference of gender variable.

The analysis of the variance of the differences between the estimates of the sample members on the dimensions of the scale as a whole was conducted according to the difference between the gender variables and the achievement, as shown in Table (17).

Table (17): The results of analysis of variance of the differences between the estimates of the sample members on the dimensions of the scale as a whole according to the difference between the gender and the achievement variables

Variables	Sum of squares	Df	Mean of squares	F	Sig
Gender	.438	1	.438	3.587	.059
Achievement	1.102	1	1.102	9.033	.001*
Error	31.267	256	.122		
Total	2991.880	259			

Statistically significant at significance level (α=0.05)

Table (17) shows that there are differences due to the variable of achievement. The table shows that there are no statistically significant differences at the level of statistical significance (α= 0.05) between the average differences between the estimates of the sample members on the dimensions of the scale as a whole due to differences gender variable.

These results are consistent with Attieh's study (2009), and the study of:(Tusi & Mazzocco, 2007; Slaney et al., 2001; Ram, 2005; Dixon et al., 2004; Lolicero & Achby, 2000; Schuler, 1999; Orang, 1997), which indicated that gifted students got higher academic scores than ordinary students on the standards of perfectionism in different dimensions.

The results of the study differ on the other hand with the results of the study of: (Slaney et al, 2001; Tusi & Mazzocco,2007; Dixon et al,2004;Schuler,1999), and the study of Attieh (2009), which indicated that females receive higher scores than males in answering the scales of perfection measures, Stober (1998) found that females get higher scores in the personal standards dimension than males who got higher scores in parental expectations dimensions.

Recommendations

In light of the results of the current study, the researchers recommend the following:

- Conduct further studies to confirm the psychometric characteristics of the scale on samples of different age levels.
- The study of perfectionism with its adaptive and neurological dimensions among the gifted students, in order to intervene with appropriate treatment and preventive programs.
- Development of other measures to measure the attribute of perfectionism.

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