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Research Article

The Construction and Validation of the Revised Arabic Scale of Obsession-Compulsion (ASOC)

Ahmed M. Abdel-Khalek*

Department of Psychology, Alexandria University, Alexandria, Egypt

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***Corresponding author:** Ahmed M. Abdel-Khalek, Department of Psychology, Faculty of Arts, Alexandria University, Alexandria, Egypt

Abstract

Background: Recent surveys estimated that prevalence rates of obsessive-compulsive disorder (OCD) were more than those estimated by earlier surveys. Moreover, in the general non-clinical population, many studies found high incidence of obsessions and compulsions (OC).

Objective: To develop and validate a revised version of the Arabic Scale of Obsession-Compulsion (ASOC) as a trait scale, suitable for research studies.

Methods: A Sample of 150 non-clinical undergraduates was recruited. The latest version of the revised ASOC is comprised of 20 short statements, plus five filler items. Two subscales of OC were used as criteria from the MMPI, and the Symptom Checklist, (SCL), as well as the Obsessive-Compulsive Inventory (OCI).

Results: Cronbach alpha reliabilities reached .882 (men), .910 (women), and .897 (total group). The correlation coefficients of the ASOC with the MMPI, SCL, and OCI scales were .759, .783, and .885, respectively. A principal component analysis retained one high–loaded factor labeled "Obsession-compulsion". The loading of the ASOC onto this factor was .948, indicating very high factorial validity.

Conclusion: The ASOC has good psychometric characteristics, i.e., high internal consistency and concurrent and factorial validities.

Keywords: Arabic Scale of Obsession-Compulsion; Minnesota Multiphasic Personality Inventory; Symptom Checklist; Obsession-Compulsion Inventory; Reliability; Validity; Egypt

Abbreviations: OCD: Obsessive-Compulsive Disorder; OC: Obsessions and Compulsions; ASOC: Arabic Scale of Obsession-Compulsion; MMPI: Minnesota Multiphasic Personality Inventory; SCL: Symptom Checklist; OCI: Obsessive-Compulsive Inventory; DSM: Diagnostic and Statistical Manual of Mental Disorders

Introduction

The fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM) classified obsessive-compulsive disorder (OCD) under the category: anxiety disorders. However, more recently, in the fifth edition of the DSM [1], OCD has become the first item in a separate category under the name: Obsessive-Compulsive and Related Disorders. It includes OCD, body dysmorphic disorder, hoarding disorder, trichotillomania, excoriation, substance/medication – induced obsessive-compulsive and related disorders.

OCD is characterized by the presence of obsessions and/or compulsions. Obsessions are recurrent and persistent thoughts, urges, or images that are experienced as intrusive and unwanted, whereas compulsions are repetitive behaviors or mental acts that an individual feels driven to perform in response to an obsession or according to rules that must be applied rigidly (p. 235) [1]. In earlier surveys, the prevalence of OCD in the general population was 0.5% [2], but more recent surveys estimated the 12–month

prevalence of OCD in the United States at 1.2 %, with a similar prevalence internationally (1.1% - 1.8 %) [1]. In Egypt, a study in 1991 showed the incidence of OCD at 2.3 % [3].

On the other hand, a number of research studies indicated the high incidence of obsession (about 80 %) in the general non-clinical population, as well as the similarity between normal and pathological obsessions [4-6]. Furthermore, the form and content of the obsessions did not differ between normals and OCD patients. Nevertheless, obsessions of patients occur more frequently, last longer, are more intense, disrupt their lives, arouse more discomfort and resistance, and are difficult to dismiss. The same results applied well to compulsions [4]. Therefore, it seems suitable to consider normal and abnormal obsessions and compulsions (OC) on the basis of the quantitative and dimensional approach.

Egypt, as a developing country, like the rest of the Arab countries, is in great need of psychological tests and questionnaires. In 1992, Abdel-Khalek [7] developed the Arabic Scale of Obsession-Compulsion (ASOC), and in 1998, he developed an equivalent English version of this scale [8]. Several studies were published using this English version [9-16], as well as the Arabic form. Moreover, a Spanish form of the scale is available [17].

Twenty-six years have passed since the publication of the Arabic form of the ASOC. Furthermore, its author found some aspects to be improved which are as follows: (a) the first version consists of too many items (32), a short form is badly needed to avoid the participant's boredom and carelessness, in answering the questionnaire and to save their time, (b) some items consist of long statements and it is preferable to use short ones, (c) the response alternatives were dichotomous (Yes/No), while the Likert format has psychometric advantages, and (d) the old scale contained 28% negative items scored as "No" indicating non OC behavior (e.g., I do not like strict discipline and too much accuracy). Some authors stated that negatively worded items often turn out to be harder to understand or more complicated to answer than positively worded ones [18]. Other authors concluded that negatively worded items impair response accuracy [19], so there seems to be a need to use only positively worded items. The aim of the present research was to develop a revised version of the ASOC as a trait scale to be used in research in the general population, and to estimate its psychometric properties.

Material and Methods

Participants

A convenience sample of 150 undergraduates enrolled in different faculties in Alexandria University, Alexandria, Egypt took part in this study (74 men; 76 women). Their ages ranged from 17 to 25 years (*M* age = 20.95, *SD* = 2.01). They were non-paid volunteers, and were neither classified as clinical cases nor diagnosed institutionalized patients, but, rather were presumably healthy individuals. That is, they were not selected from hospitals or clinics. However, no psychiatric assessment was conducted to support that these participants had no mental illness.

Psychometric Scales

The Arabic Scale of Obsession-Compulsion (ASOC)

Construction of the revised scale: The 32 items of the original ASOC were shortened and the negative wording changed to positive to avoid the problem of double negatives. Five new items were added. The 37 statements were brief and written in standard, modern, and simple Arabic. A sample of 150 undergraduates responded to the 37 items based on a 5–point Likert scale. Then, the corrected item-rest-of-test score correlations (i.e., the item-remainder correlations) were computed. All the correlations were statistically significant. Since the aim was to develop a 20 item scale, the items with highest correlations with the remainder were retained.

Response alternatives: Each item of the ASOC is answered on a 4-point Likert-type scale : 1 (No), 2 (Some), 3 (Much), and 4 (Always). The total score could range from 20 to 80, with higher scores indicating higher OC. The ASOC was intended to be used as a trait and not a state scale, inasmuch as the instructions use the term "in general".

Response set: Since negatively worded items show psychometric problems, and since many persons face difficulty in responding to them, particularly the double negative, it was decided to use only positively worded statements. To control acquiescence response bias and other response sets, to some extent, five filler items were randomly added with a normal, positive, and non-OCD content. These items were not considered in the total score. Examples of the filler items are as follows: "I am happy with my life style", "I feel optimistic about the future", and "I am satisfied with myself".

Scoring: The ASOC consists of 25 items but five of them are fillers and must be excluded from the computation of the total score (Items number: 1, 5, 12, 17, and 20). The remaining 20 items are positive indicators of OC. The algebraic sum of a participant's scores on the 20 items represents his/her total score on the ASOC.

The MMPI Psychasthenia Scale

The Minnesota Multiphasic Personality Inventory (MMPI) Psychasthenia Scale [20] was used to test the concurrent validity of the ASOC.

The SCL-90-R Obsessive-Compulsive Scale

The Symptom Checklist-90-revised (SCL-90-R) [21] OC subscale was administered to estimate the validity of the ASOC.

Obsessive-Compulsive Inventory

The OCI [22] was also used to estimate the concurrent validity of the ASOC.

Procedure

The four scales were administered anonymously in Arabic to participants in group sessions of a small number of participants in their classrooms, during regular university hours. The time of administration ranged from 15 to 30 minutes. Participants provided verbal agreement to offer themselves as subjects after the objectives of the study were briefly outlined. Assurances were made that anonymity would be maintained. Graduates studying for a Master's Degree in Psychology carried out the administration of the scales.

Results

Reliability

The corrected item-total correlations of the 20 ASOC items ranged between 0.26 and 0.71. Cronbach's alphas were 0.882 (men), 0.910 (women), and 0.897 (total sample), indicating high internal consistency.

Concurrent Validity

The Pearson product-moment correlation coefficients were computed between the four aforementioned OC scales. Table 1 shows that all the correlations are statistically significant and positive. The correlations between the ASOC and the other scales ranged between .759 and .885, indicating the concurrent validity of the ASOC.

The Factorial Validity of the ASOC

The correlation matrix of the last-mentioned four OC scales was subjected to a principal component analysis. The Kaiser criterion of eigen value ≥ 1.0, and the scree test followed to determine the number of factors to be retained [23]. Both criteria defined one high-loaded factor, accounting for a high percentage of the explained variance (82.1%), and labeled "Obsession- compulsion". The loading of the ASOC onto this factor was .948, indicating its high factorial validity (Table 1) and (Figure 1).

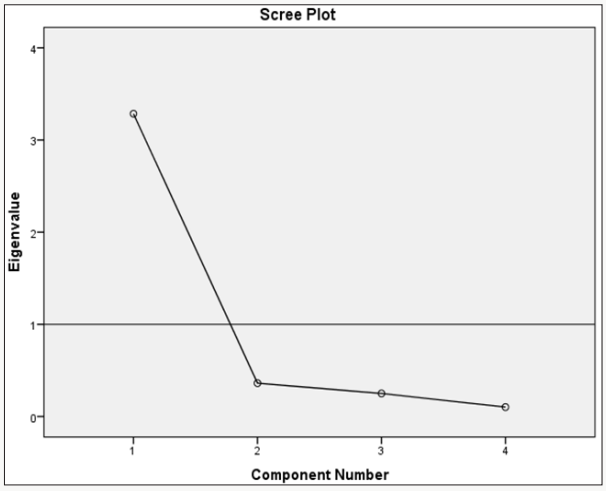

Figure 1: Scree plot for the OC factor.

Table 1: Pearson correlation coefficients, the extracted first factor, and the communalities (h^2).

Scales	Correlations*				Factor I	h2
	ASOC	MMPI	SCL-90-R	OCI		
1. ASOC	-				0.948	0.898
2. MMPI	0.759	-			0.871	0.759
3. SCL	0.783	0.741	-		0.896	0.803
4. OCI	0.885	0.670	0.728	-	0.908	0.824
Eigen Value						3.285
% Variance						82.133

*All correlations p<0001

Preliminary Descriptive Statistics

Mean (M) and standard deviation (SD) were computed for men and women separately. Then, the t-test for the difference between the mean scores of men and women was computed. Fore men, M = 51.32, SD = 14.09, and women, M = 49.95, SD = 16.15 (t = .814, n.s.).

The English version of the ASOC

The Arabic form of the ASOC was translated into English by a competent psychologist. This translation was revised and edited by the present researcher. Then, a back translation [24, 25] of the scale items from English into Arabic was performed as a check on the adequacy of the Arabic into English translation. This preliminary English translation was given to an Arab linguist competent in both languages to translate back into Arabic. The original Arabic form was compared with the back translation form for similarity. Few corrections were made. Two American Professors edited the English version (see the Appendix).

Discussion

Recent studies indicated that the prevalence rates of OCD are higher than those of earlier estimations, i.e., more than double the previous prevalence rates [1, 2]. Following a similar pattern, empirical studies found that OC symptoms are prevalent among the non-clinical population [4-6]. For these reasons and others, researches on OCD and OC using clinical cases and participants from the general non-clinical population have burgeoned. However, the vast majority of the studies in this endeavor were carried out mainly in Western countries. Researches on the third world, including Arab countries, are scarce. There is ample need to carry out studies using samples from these under-studied and under-represented countries.

Measurement and assessment in this field are very important. The Arabic Scale of Obsession-Compulsion (ASOC) has three forms: Arabic, English, and Spanish. The Arabic form was published 26 years ago and some improvements seem mandatory. The present study successfully fulfilled its objective i.e., to construct and validate the revised ASOC.

The revised ASOC has specific ameliorations. That is, shorter

(20 items plus five fillers vis-a-vis 32 items in the original form). Some authors studied the length of personality inventories and concluded that the short form is more favorably evaluated [26]. In three studies, Burisch [27] maintained that short scales were as valid on the average as long scales. He added [28] that lengthening a scale beyond some point can actually weaken its validity. In a similar vein, the items (statements) of the revised ASOC have become shorter, so it takes less time to administer compared to the original scale. A reduction of administration time can be considered as an advantage to the enhancement of the cost–effectiveness of the revised scale, particularly in research projects with loaded test batteries.

Another advantage of the revised ASOC is not using the negatively worded items. Many participants face difficulties in responding to these items, especially when seeing double negatives. Moreover, the psychological meaning of the negatively worded items are, ipso facto, not the exact meaning of the opposite of the positively worded items, e.g., "I am depressed" is not the contrary of "I am happy". Baumeister et al. [29] wrote a paper entitled: "Bad is stronger than good". They stated that items describing negative emotions tend to evoke much stronger responses than items describing positive emotions. People tended to under-estimate the frequency of positive affect, but not negative affect. They concluded that bad emotions generally produce more cognitive processing and have other effects on behavior that are stronger than positive emotions. To solve the problem of the negatively worded items, and to partially control the response set, all the items of the ASOC have become positive indicators of OC, and five filler items referring to mental health were randomly added to the scale as distracters. Furthermore, the revised ASOC has good psychometric characteristics.

Regarding the reliability, the alphas were 0.88 and 0.91 for men and women, respectively, indicating high internal consistency. References of psychometrics [30,31] suggested that reliabilities approaching 0.70 or higher are acceptable for research. The present results are higher than that limit. Furthermore, the ASOC has high concurrent validity and very high factorial validity.

Conclusion

The revised ASOC has many advantages, i.e., brevity of scale, short and simple statements, no use of negatively worded items, use of fillers as distracters, avoidance of double negatives, and use of multiple response alternatives. Moreover, it has good internal consistency, high concurrent validity, and very high factorial validity, as well as the availability of two equivalent Arabic and English forms.

Limitations

Despite the good psychometric properties of the ASOC, the scale is in need of: computing the test-retest reliability, carrying out exploratory and confirmatory factor analysis, assessing its associations with the Big Five personality factors, and determining normative values for a large sample of different ages. Further, the English version of the ASOC merits investigation using an English-speaking sample. These points are subjects for further investigation.

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Appendix: The ASOC

Respondent Age: Respondent Sex: Male or Female (circle the appropriate)

Instructions

Please read each of the following statements carefully, and determine how much it describes your feelings and behavior. Indicate how it applies to you in general, by circling one of the following words in front of each statement: No, Some, Much and Always.

1-I am happy with my lifestyle.	No	Some	Much	Always
2-Before going to sleep, I check several times to make sure that the doors are closed.	No	Some	Much	Always
3-I keep thinking about particular sentences or words.	No	Some	Much	Always
4- I like strict discipline.	No	Some	Much	Always
5- I feel optimistic about the future.	No	Some	Much	Always
6- Trivial things preoccupy me and dominate my thoughts.	No	Some	Much	Always
7- I wash and clean obsessively.	No	Some	Much	Always
8-My problem is reviewing things repeatedly.	No	Some	Much	Always
9- I count unimportant things.	No	Some	Much	Always
10- Repetitive thoughts press into my mind.	No	Some	Much	Always
11- I like collecting and saving many things.	No	Some	Much	Always
12-Life seems beautiful to me.	No	Some	Much	Always
13- I think of ugly things that I can't talk about.	No	Some	Much	Always
14- Trivial ideas dominate me and keep annoying me for days.	No	Some	Much	Always
15- I have to repeat the same actions such as touching, counting or washing.	No	Some	Much	Always
16- It is difficult for me to make decisions.	No	Some	Much	Always
17- I am satisfied with myself.	No	Some	Much	Always
18- I care about small details.	No	Some	Much	Always
19- I am an obsessive person.	No	Some	Much	Always
20- I feel comfortable and reassured.	No	Some	Much	Always
21- I collect things I don't need.	No	Some	Much	Always
22- I feel compelled to do certain things.	No	Some	Much	Always
23- I have to do things many times to make sure they are accurate.	No	Some	Much	Always
24-I wash my hands more often, or for longer than necessary.	No	Some	Much	Always
25- I repeatedly check doors, windows and drawers.	No	Some	Much	Always

The Arabic form of (ASOC)

السن: الجنس: ذكر / أنثى (ضع دائرة)

تعليمات: اقرأ من فضلك كل عبارة مما يلي بعناية، وقرر إلى أي حد تصف مشاعرك وسلوكك، ثم بين مدى انطباقها عليك بوجهٍ عام، بوضع دائرة حول كلمة من الكلمات التالية لكلٍ منها وهي: لا، أحيانًا، كثيرًا، دائمًا.

1-أنا سعيد بأسلوب حياتي.	لا	أحيانًا	كثيرًا	دائمًا
2-أتأكد عدة مرات قبل النوم من إغلاق الأبواب.	لا	أحيانًا	كثيرًا	دائمًا
3-تلح على ذهني عبارة أو كلمة معينة.	لا	أحيانًا	كثيرًا	دائمًا
4-أحب النظام الدقيق.	لا	أحيانًا	كثيرًا	دائمًا
5-أشعر بالتفاؤل تجاه المستقبل.	لا	أحيانًا	كثيرًا	دائمًا
6-تشغلني أشياء تافهة وتسيطر على تفكيري.	لا	أحيانًا	كثيرًا	دائمًا
7-أقوم بالغسل والتنظيف بشكل وسواسي.	لا	أحيانًا	كثيرًا	دائمًا
8-مشكلتي مراجعة الأشياء بصورة متكررة.	لا	أحيانًا	كثيرًا	دائمًا
9-أقوم بعملية عد الأشياء غير الهامة.	لا	أحيانًا	كثيرًا	دائمًا
10-تضغط على ذهني أفكار متكررة.	لا	أحيانًا	كثيرًا	دائمًا
11-أحب جمع أشياء كثيرة والاحتفاظ بها.	لا	أحيانًا	كثيرًا	دائمًا
12-تبدو لي الحياة جميلة.	لا	أحيانًا	كثيرًا	دائمًا
13-أفكر في أشياء قبيحة بحيث لا يمكن التحدث عنها.	لا	أحيانًا	كثيرًا	دائمًا
14-تسيطر عليّ أفكار تافهة وتظل تضايقني عدة أيام.	لا	أحيانًا	كثيرًا	دائمًا
15-أضطر إلى تكرار نفس الأفعال كاللمس والعد أو الغسيل.	لا	أحيانًا	كثيرًا	دائمًا
16-لديّ صعوبة في اتخاذ القرارات.	لا	أحيانًا	كثيرًا	دائمًا
17-أنا راضي عن نفسي.	لا	أحيانًا	كثيرًا	دائمًا
18-أهتم بالتفاصيل الصغيرة.	لا	أحيانًا	كثيرًا	دائمًا
19-أنا شخص موسوس.	لا	أحيانًا	كثيرًا	دائمًا
20-أشعر بالراحة والاطمئنان.	لا	أحيانًا	كثيرًا	دائمًا
21-أجمع أشياء لا أحتاج إليها.	لا	أحيانًا	كثيرًا	دائمًا
22-أشعر بأنني مجبر على فعل أشياء معينة.	لا	أحيانًا	كثيرًا	دائمًا
23-يجب أن أفعل الأشياء مرات كثيرة للتأكد من أنها دقيقة.	لا	أحيانًا	كثيرًا	دائمًا
24-أغسل يداي مرات كثيرة أو لفترة أطول من اللازم.	لا	أحيانًا	كثيرًا	دائمًا
25-أراجع الأبواب، والنوافذ، والأدراج بشكل متكرر.	لا	أحيانًا	كثيرًا	دائمًا

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