

Internal validity, performance and dimensionality of the Body Shape Questionnaire among female students in the Kurdistan Iraq Region

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Abstract

The objective of this study to modify and adapt the “Body Shape Questionnaire” for use in the Kurdistan Iraq society; to study the internal validity and the dimensionality of the measure when used with normal sample in the Iraqi society. Across-survey research was complete comprising (160) female students selected in the Salahaddin University, and (120) female students selected in the AL-Hyate University and Chihan University in Kurdistan Iraq. The thirty four items of “Body shape Questionnaire” original version and a questionnaire to evaluate demographic data were used. The result of “internal consistency” of BSQ-34 measured by “Cronbach Alpha” was (0.98) for Kurdish version and (0.97) for Arabic version, indicated that the items of the measure converge to the same concept. The principle component analysis “PCA” of the measure resulted in four-dimension solution accounting by 160 Kurdish female student, however the “PCA” for the measure resulted three-dimensions accounting by 120 Arab female students. The old age was (18-20) 53.1% and (21-25) 46.9% for Kurdish sample, while Arabs student old age was (18-20) 55.0% and (21-25) 45.0%. Regarding the final results of BSQ, the mean score of BSQ Arab students were 89.13 with SD (33.83). The mean score of BSQ Kurdish female students were 103.03 with SD (43.40). The study found statistically significant race variances in the mean of “BSQ” scores. Kurdish female students showed higher dissatisfaction than Arab female students as to their body shape concern as measured by “BSQ” scale. The adapted versions of the scale seem to maintain the properties of the original one.

Keywords: Body concern; Body Shape Questionnaire BSQ; Principle component analysis PCA; Students; Direct translation.

1. Introduction

1.1 Introduce the problem

The last two decades have seen a significant change and good turn of increasing the participant population in body image studies in psychology and development psychology. Researchers also have become interested in factors that influence people’s experience with appearance and effect of body image on behavior (Grogen, 2008). The concept of body image in the beginning set onward in (1935) by the German authors “Schilder” “as existence the image we have of our own bodies in our mind”. Furthermore, it is describing the path in which our appearance exists to ourselves. Also the authors extended on the construct by defining it as mentions to the person’s perceptions, attitudes and experiences concerning his/her body, especially its appearance, so body shape concern has three main components: a perception, attitudes, and experiences (Cash & Pruzinsky, 2002; Thompson, Heinberg, Ahab & Tantleff-Dunn, 1999).

1.2 Relevant Scholarship

Principles of “body image” or body shape concern can be found together in psychiatric disorder and neurological, being part of “Diagnostic and Statistical Manual of Mental Disorder” DSM IV fourth edition for “Body Dysmorphic Disorder”, Anorexia Nervosa, “Bulimia Nervosa” (Veal & Neziroglu, 2010). Some studies have pointed that disaffection with appearance or body shape is equal between men and women. However, most of the studies found a greater majority of women, but this may happen because of appointment preference (Neziroglu & Yaryura, 1993; Phillips & Diaz, 1997; Rosen et al., 1995).

Dissatisfaction with appearance, which is common among “Western” women and it is the core concern when we concentrate on body dysmorphic, disorder (BDD) or eating disorders. Until (1987) there were no tools that would reasonably measure for these concerns. The “Body Shape Questionnaire” BSQ-34 items developed by “Cooper” and collaborators the scale assesses the participant’s level of body satisfaction during the past 4 weeks. This measure has been structured to have significant test and retest reliability as well as parallel validity against the Body Dysmorphic Disorder Examination BDDE clinical structural interview by Rosen and collaborators (1996). The self-report 34-items questionnaire states to the disorder of the objectives in a previous four weeks

were validated in objectives English female from the population N=535 compared with a group of “bulimic” patients N=38 The results showed practically both from eating disorders and non-clinical samples (Cooper et al., 1987). In this study, we present the results of the internal validity of the “Body shape Questionnaire” among female students in the Kurdistan region. In addition, the study is conducted to explore the level of the Body Shape Dissatisfaction among female students at Salahaddin University.

1.3 The objective of the study

The main target of this study is to adapt the “BSQ-34” items scale to be available in Kurdistan Iraqi region by in two languages of Arabic and Kurdish. The second objective was to distinguish the internal validity and dimensionality with non-clinical female student in the Kurdistan region. The third is to determine the levels of Body Shape dissatisfaction among female students according to the race [Arab, Kurd].

2. Method

2.1 Sample

One hundred and sixty (160) junior and senior Kurdish female students, who were at their first and fourth years of study at the Educational Sciences and Psychology department of the Salahaddin University. The total number of the female students paralleled to 48.5% of females attended in the university. Similar to the Arabian race one hundred and twenty (120) female students were conveniently selected in two private universities, Al-Hayte University and Al-Chihan University in the Kurdistan region.

2.2 Instruments

The Body Shape Questionnaire was used in its (34-items) original version of “Cooper” and collaborate (Cooper, Taylor, Cooper, Fairburn, 1987). The following grades were reserved into consideration to calculate concern with “body image”, according to values of original study for.

No concern: when the total grades were equal to or lower than (110) which agrees to the mean grades of the respondent from the original version of BSQ (plus one standard deviation).

Mild concern: when the sum of grades were higher than (110) and equal or lower than (138) (plus two standard deviation) from the mean of the non-clinical population.

Moderator concern: when the sum of grades were higher than (138) and equal to or lower than (167) (the same mean plus three standard deviation from non-clinical-population).

Marked concern: when the sum of grades were higher than (167) which agree to standards higher than the means core of the non-clinical society plus three standards deviation (Cooper &, Fairburn, 1987). Corresponding to this, we have established an initial questionnaire to investing demographic data, this information allow us to know the cultural information like student race, also student age was (18-20) and (21-25) also female. Table 1, showed the scores levels for non-clinical BSQ scale.

Table1: Body Shape Questionnaire levels with non-clinical population (Cooper et al., 1978)

Laves of BSQ Scores	Scores Concern of Body Shape
No Body concern	>=110
Mild Body concern	<110=138
Moderate Body concern	<138=167
Marked Body concern	>167

2.3 Procedures

The Body Shape Questionnaire BSQ-34 items was adapted through a direct translation, many researchers especially in cross-cultural studies have supported it. Some of them discuss the fact that back translation is hindrance, due to its introduction of translation errors every time the survey is translated from one language to another (Health et al.2005; McKay et al.1996). Inopportunately it was not possible to contact with authors directly, but we could contact with author shortened version and she/ he was able to contact all of them (Taylor is now and Bash) and they expressed their consent for others to copy and use full or shortened BSQs provided that the text is not changed in any further way (Evans by emailed contact) (Evans, Chris & Bridget, 1993). Female students answered the questionnaires in the class, while they received pre-information about the target of the study first. Respondents were asked to sign an informed permission that clarified the questionnaires would completely intimate in order to the standard of study Ethic Instruction of the Salahaddin University. Figure 1.1 showed the two direct translations phase.

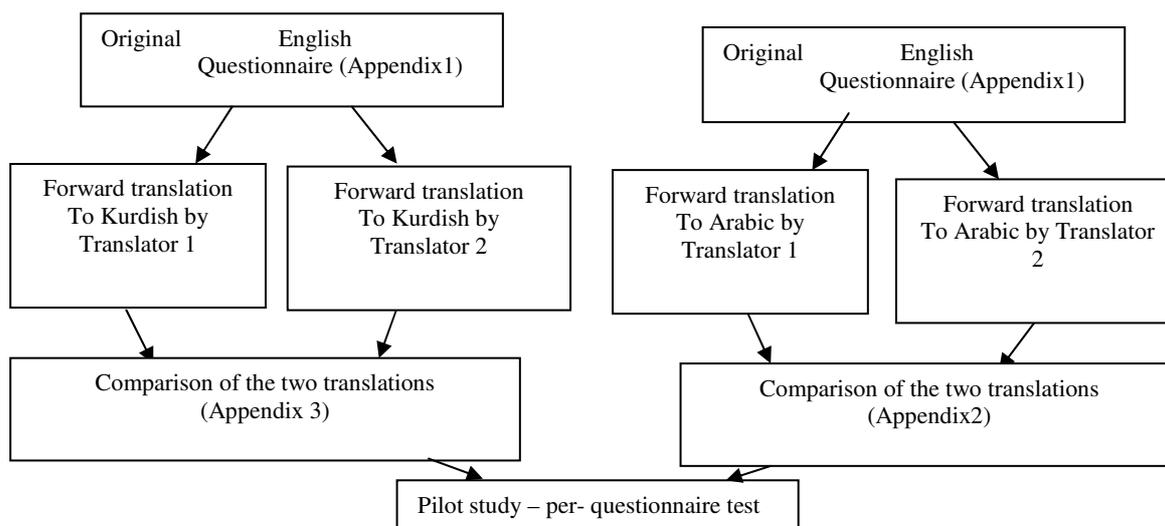


Figure 1.1. Translation phase

2.4 Data analysis

The internal consistency of the BSQs was the “Cronbach’s alpha”. The adjusted items-total relationship constants were premeditated for every item of the measure. Validity of the measure was checked using principle component analysis method of stricture estimation; meanwhile this technique does not need normal distribution of data. The questions loading at (0.35) or overhead were comprised in the last factor solution. A consequent matrix by varimax rotation was attained Thurston’s requirements. Analytic procedures were consummate with the “Statistical Package for the Social Sciences (SPSS)”.

3. Results

Paralleled outcomes of female divided by race (Arab, Kurd) are presented below on Table2. The “coefficient of internal consistency” for the Body Shape Questionnaire was equal to 0.98 for Kurdish version and 0.97 for Arab version, not any of the items showed small item-total correlation coefficients, representing that totally questions demonstrated to be significant component of the composite. Principle component analysis of the Kurdish version composite resulted in a four dimensions.

Of the thirty four items, items 1,2,3,4,5,9,11,13,14,15,16,20,21,22,23,24,28,30,31, and 32 made up the first factor consistent to a dimension possibly will be called self-attention of body shape. The items 12, 18, 25, 29, and 33 are gathered in a second factor that might be consistent comparative observation of body image, while items 6, 7, 17, 19 and 26 were gathered in a factor named attitude toward body shape concern. Lastly, items 8, 10, 27, and 34 consistent to the last dimension, which refers to marked modification in body perception. However the principle composite analysis of the Arabic version scale composite in a three dimensions. Of the 34-questions, questions 1, 3, 4, 5, 9, 10, 11, 14, 15, 16, 19, 20, 21, 24, 26, 28, 32 and 34 made up the first dimension could be called self-perception of body. The second factor content the questions 2, 6, 7, 8, 17, 22, 23, 25, 30, and 33 are integrate in a factor named attitude toward body shape concern. Finally, items 12, 13, 18, 24, 27 and 31 consistent to the last dimension which refers to the social experience.

Table 2: The differences between race and the range of the age differences score in evaluation of means and the standard deviations.

Variable	Arab	Kurd	P value
BSQ scores-means (SD)	89.1 3(33.83)	103.03(43.30)	< 0.01
Age between 18 to 20, N (%)	66(55.0%)	85(53.1%)	
Age between 21 to 25 N (%)	54(45.0%)	75(46.9%)	
N(number of subjective)	120	160	

3.1 Level of the Body Shape Concern

Scores found from the scale of Body Shape Questionnaire of the 120 Arab female responded to the survey, 5.00% from the respondents have marked body concern, 5.83% have moderators body concern, 32.50% have mild body concern, and 56.67% responded don't have body concern. While, of the 160 Kurdish female responded to the questionnaire 5% also have marked body concern, 22.50% from respondents have moderate body concern, 23.75% have mild body concern, lastly 48.75% from the respondents don't have body concern Table 3., showed the level scores.

Table 3: Scores of the BSQs according to Arab-Kurd.

Score range BSQ levels (%)	Arab	Kurd
No concern	56.67%	48.75%
Mild concern	32.50%	23.75%
Moderate concern	5.83%	22.50%
Marked concern	5.00%	5.00%

4. Discussion

The benefit of recognizing modifications in body shape concern is essential for early identification of body dysmorphic disorder (BDD) and Eating disorders, as inaccessible indications of these syndromes lead their occupied appearance. This statement restates the necessary of consuming a scale such as the Body Shape Questionnaire modified to the Iraqi society.

In this study, the internal consistency of Body Shape Questionnaire BSQs measured by "Cronbach's alpha" was of 0.98 for Kurdish version and 0.91 for Arabic version, representing that the items of the scale converge to the similar structures. While these results might propose that some questions could be rejected, a pilot analysis does not support this hypothesis. A study of reliability and validation of the Body Shape Questionnaire performed by Rosan and traitors in (1995) indicate a reliability coefficient of (0.88) (Rosen et al., 1996). In 2001 study with 14-items decreased version of the measure, validated by Dowson and traitors with 75 women have total or partial Anorexia Nervosa. They found an internal reliability coefficient of (0.93) (Dowson & Henderson, 2001). Another Brazilian study with 160 college student and translator BSQ version found the internal consistency was 0.97. Also the study resulted in a 4-dimensional solution mentioning to different components of phenomenon.

The factor analysis of the body shape questionnaire scale in our study also shaped in a three-dimensional for Arabic version and four dimensions for Kurdish version scale. Overall most BSQ items kept an acceptable performance, content in terms of factor solution that mentions to the psychopathological dimensions of body shape concern.

As a limitation of study, we can mention the limitation of the sample study which was only female students. Therefore, the founding of the study doesn't apply to the Iraqi male. The lack of objective diagnostic criteria that might be measured as a "gold standard" to distinguish body shape concern epitomizes a difficulty to develop and study the standard validity of Body Shape Questionnaire.

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Appendix 1 The Arabic Version BSQs-34

Demographic factors

العمر.....
 العرق.....
 الجامعة.....

التعليمات: نود معرفه كيف كان شعورك تجاه مظهرك على مدار الاسبوع الرابع الاخير. يرجى قراءه كل سوال ووضع الرقم الوزن المناسب في المربع المقابل للسوال للدلاله على الاجابه التي ترغيبها. يرجى الاجابه على جميع الاسئله.

ابدا=1 نادرا=2 بعض الاحيان=3 غالبا=4 غالبا جدا=5 دائما=6

الفقرات						
6	5	4	3	2	1	1. هل شعورك بالملل يجعلك تشعرين بالملل من مظهرك؟
6	5	4	3	2	1	2. هل كنت قلقة بشأن مظهرك الخارجي مما استدعى ان تفكري بعمل برنامج تخفيف وزن؟
6	5	4	3	2	1	3. هل كنت تعتقدين ان اردافك غير ملائمتا لمظهر جسمك؟
6	5	4	3	2	1	4. هل كنت قلقة من السمنة؟
6	5	4	3	2	1	5. هل تخشين ان الزيادة في وزنك غير ثابتة؟
6	5	4	3	2	1	6. هل الشعور بالشبع يجعل منك سمينه؟
6	5	4	3	2	1	7. هل شعورك بالاحباط من مظهرك سبب لك البكاء؟
6	5	4	3	2	1	8. هل تجنبتي الركض نتيجة خشيتك من اهتزاز اللحوم الزائدة او الشحوم في جسمك.
6	5	4	3	2	1	9. هل تشعرين بالثقة عندما تصبحين نحيفه؟
6	5	4	3	2	1	10. هل تشعرين بالاحراج وقد تمددت اردافك على مكان جلوسك؟
6	5	4	3	2	1	11. هل تشعرين انك اصبحتي سمينه عند تناولك كميه قليله من الطعام؟
6	5	4	3	2	1	12. هل قمتي بمقارنه مظهرك الخارجي مع نساء اخريات ووجدتي انهن افضل شكلا؟
6	5	4	3	2	1	13. هل التفكير في المظهر يفقدتك قدرتك على التركيز (الاستماع للحوار مثلا)؟
6	5	4	3	2	1	14. عندما تتعريين او تنزعين ثيابك في الحمام مثلا هل تشعرين انك سمينه؟
6	5	4	3	2	1	15. هل سبق وان لبستي ملابس اظهرتك سمين؟
6	5	4	3	2	1	16. هل فكرتي يوما بقطع جزء معين من جسمك لانه سمين؟
6	5	4	3	2	1	17. هل اكل الحلويات وقطع الكيك والمواد ذات السعرات الحراريه تزيد من من سمنتك؟
6	5	4	3	2	1	18. هل امتنعت عن الذهاب الى المناسبات الاجتماعيه بسبب سمنتك؟
6	5	4	3	2	1	19. هل شعرتي بانك ضخمه الحجم ومستديره؟
6	5	4	3	2	1	20. هل تشعرين بالخجل من جسمك؟
6	5	4	3	2	1	21. هل الشعور بالحرج من جسمك يدفعك الى عمل رجييم؟
6	5	4	3	2	1	22. هل تشعرين بالسعاده عندما تكون معدتك خاويه (في الصباح مثلا)
6	5	4	3	2	1	23. هل تشعرين ان سبب سمنتك يعود الى عدم مقدرتك على ضبط نفسك؟
6	5	4	3	2	1	24. هل تشعرين بالانزعاج من رويه الاخرين لثرهلاتك بسبب السمنه حول وسطك او اردافك؟
6	5	4	3	2	1	25. هل تشعرين بانك لیس من العدل ان هناك نساء انحف منك؟
6	5	4	3	2	1	27. عندما تكونين ي برفقه احد ، هل تشعرين بالانزعاج من كونيك تجلسين على الجزء الاكبر من الكرسي (كرسي الباص او الصوفايه)
6	5	4	3	2	1	28. هل تشعرين بالانزعاج من رويه اجزاء من جسمك اصبحت كدمامل من اللحم؟
6	5	4	3	2	1	29. هل رده فعلك عندما ترين مظهرك في المرآه يولد شعور سى عندك؟
6	5	4	3	2	1	30. هل سبق وان قمتي ببيع قرص الجزء السمين من جسمك لتقيسي مدى سمنتك؟
6	5	4	3	2	1	31. هل تتجنبين المواقف التي يستطيع الاخرون رويه جسمك فيها (غرف تغيير الملابس، المسابح)؟
6	5	4	3	2	1	32. هل تتناولين علاجا يساعد على الاسهال لكي تنحفي؟
6	5	4	3	2	1	33. هل تشعرين بالخجل من مرافقه الاخرين بسبب مظهرك الخارجي (وزنك الزائد)؟
6	5	4	3	2	1	34. هل شعورك بوزنك الزائد يحفزك لكي تقومي بتمارين رياضييه؟

Appendix 2 The Kurdish Version BSQs-34

Demographic factors

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