RESPONSE OF PAKISTANI SAMPLE TO EAT AND BODY SHAPE QUESTIONNAIRE: AN EXPLORATORY STUDY[#]

Fareed Aslam Minhas
Department of Psychiatry
Rawalpindi General Hospital
Rawalpindi, Pakistan

&

Shazia Haris
Fatima Jinnah Women University
Rawalpindi, Pakistan

Research indicate that eating disorders can not only be life threatening for the one afflicted but also cause of great distress for the family as a whole. Unfortunately, not many instruments to identify high risk population for the disorder are at present available in our culture. This research is an exploratory attempt to modify and adopt already developed scales, i.e., Eating Attitude Test (EAT) and Body Shape Questionnaire (BSQ), known for their reliability to clinically identify eating disorders in Western culture. English version questionnaires were administered to 61 girl students aged 11 to 16 years, with good English reading ability studying at Federal Government Model School. Split-half reliability for original 36 item questionnaire was 0.87, with alpha value 0.94, indicating high internal consistency. It is thus recommended that original BSQ can be used for clinical purposes in Pakistan for similar population. Alpha value for original 26 item EAT was 0.64, which came up to 0.73 when items 13, 17, 18, 19, and 52 were deleted. Split-half reliability for 21 item EAT was 0.68. It is therefore recommended that 21 item EAT may be more useful for diagnostic purposes in Pakistan.

Research indicates that eating disorders seriously affect the physical and psychological well being of not only the individual affected, but the family as a whole (Singh & Watson, 1986). Eating disorders usually involve repeated in-patient treatment, premorbid personality difficulties, and disturbed relationship with the family (Morgan &

[#]   Correspondence concerning this article should be addressed to Fareed Aslam Minhas, Department of Psychiatry, Rawalpindi General Hospital, Rawalpindi, Pakistan.

    For convenience, abbreviated form of questionnaires is presented in the Tables of the article. Please contact the author for details.

Russell, 1975; Steinhausen & Galville, 1983). Anorexia can be life threatening and researches suggest that multifaceted therapeutic approaches may be effective in treating eating disorders. Eating disorders when identified at earlier stages can prevent serious future repercussions of the disease (King & Remenyi, 1986). There is a strong need for identification of high risk groups for the disorder so that preventive strategies at primary and secondary level may help reduce the incidence of this disease.

Unfortunately, in Pakistan absence of longitudinal data on eating disorders not only restricts us to estimate prevalence of the disorder, but also inhibits us to target high risk population for future preventative strategies. One of the major hazards in conducting such a research is lack of valid and reliable measures that can identify high risk groups for eating disorders. Although such scales exist, but are not of much relevance for our culture. This study aimed at adopting Eating Attitude Test (EAT) and Body Shape Questionnaire (BSQ) (Mumford, Whitehouse, & Platts, 1991), and their utility in identifying prevalence of eating disorders in a Pakistani sample. Urdu version of this scale has also been used (Chaudry & Mumford, 1992), however, the validation of English version for school going females of Islamabad and Rawalpindi is being conducted here for the first time.

METHOD

Sample

Sixty-one girl students aged 11 to 16 years ($M = 12.5$ years), from Federal Government Model School set up participated in the study. Every third student enrolled in seventh and tenth grade was selected for the study. Since English is taught as a compulsory subjects and medium of instruction for other compulsory subjects are in English at model institutes, English reading ability of the students was good enough to help them understand the questionnaires independent of any aid. This population serves two purposes: (a) large portion of population residing in twin cities of Islamabad and Rawalpindi are represented, (b) model institutes offer educational facilities from grade one to post graduate level, the population is ideal for longitudinal study in future.

Instrument

English version of EAT (Mumford et al., 1991) is a 26 item questionnaire, with a 6-point scale, which is used to mark the responses

as Never (1), Rarely (2), Sometimes, (3), Often (4), Very Often (5), and Always (6). The questionnaire aims at exploring different eating habits and food choices of the subjects. Although, the responses are measured on a 6-point scale, but responses which fall under the category of often, sometimes, and always are considered as indicating strong attitudes towards food habits and attitudes. Following the criterion suggested by previous research (Mumford et al., 1991), these responses were later re-coded to Never (0), Rarely (0), Sometimes (0), Often (1), Very Often (2), and Always (3), for statistical analysis. A total score of 20 and above indicated eating disorder (Mumford et al., 1991). Similar scoring procedure was adopted for the BSQ (Mumford et al., 1991) which consists of 32 items measuring subjects perception about their body shape.

Procedure

English version of EAT and BSQ were administered in group form during their usual class timings. A consent form attached to the questionnaires was read aloud in the class. All the students present on the day of data collection participated in the research with exception of three students from tenth grade who declined to participate. Grade seventh students faced some difficulty in understanding the meaning of some terms (e.g., 'diet foods', calorie content', 'foods with carbohydrates'), which were explained in Urdu. Grade tenth students, however, completed the questionnaires with ease on their own.

RESULTS

Reliability Analysis for EAT

Internal Consistency

Cronbach Alpha was calculated using SPSS for Windows. Cronbach Alpha value for the original 26 items EAT questionnaire was 0.64, however, analysis indicated there were few items with very low inter-item correlation and high alpha value for the scale when item deleted. Several attempts to identity high alpha value for the scale resulted in deleting total of 5 items, i.e., item 18 (I feel food controls my life), 19 (1 display self control around food), 25 (1 enjoy trying rich foods), 13 (other people think I am too fat), and 17 (I eat diet foods),

which gave us alpha value of .75 for the scale. Thus, 21 item scale was adopted as highly internally consistent for Pakistani sample.

Table 1

Mean response values, and reliability analysis of original 26 item EAT.

Items		Mean	Item Total Correlation	Alpha of scale when item deleted
1.	Terrified about being over weight.	.901	.38	.57
2.	Avoid eating when hungry.	.131	.14	.60
3.	Find myself preoccupied with food.	.147	.05	.60
4.	Gone on dieting binges where I feel I may not be able to stop.	.163	.045	.61
5.	I cut my food in small pieces before I eat.	1.240	.24	.59
6.	I am aware of the caloric content of foods I eat.	.623	.09	.61
7.	Avoid foods with high carbohydrate content.	.524	.11	.61
8.	I feel others prefer if I ate more.	.868	.42	.56
9.	I vomit after I eat food.	.098	.32	.59
10.	I feel extremely guilty after I eat.	.229	.62	.56
11.	Preoccupied with desire to get thinner.	.311	.48	.57
12.	Think about burning up calories when exercise.	.409	.40	.57
13.	Other people think I am too thin.	.901	.03	.63
14.	Preoccupied with thought of extra fat on my body.	.442	.27	.59
15.	Take longer than others to eat my food.	.508	.20	.59
16.	Avoid foods with sugar in them.	.475	.25	.59
17.	I eat diet foods.	.344	-.05	.63
18.	Feel food controls my life.	.780	-.05	.62
19.	Display self control around food.	1.040	.03	.63
20.	Others pressure me to eat.	.754	.28	.58

Items	Mean	Item Total Correlation	Alpha of scale when item deleted
21 Give too much time and thought to food.	.098	.14	.60
22. Feel uncomfortable after eating sweets.	.491	.33	.57
23. Engage in dieting behaviour.	.311	.20	.59
24. Like my stomach to be empty.	.098	.28	.59
25. Enjoy trying new rich foods.	1.240	.03	.63
26. Have impulse to vomit after meals.	.032	.01	.60

Alpha value for 26 item EAT = .60; Correlation between two forms = .48; Alpha value for 21 item EAT (items 13, 17, 18, 19, 25 deleted) = .70; correlation between two forms = .65.

Test-Retest Reliability

Test-retest reliability indicates consistency of response over time and ideally the questionnaire should be administered twice over a period of four weeks to the same subjects. This study is phase one of a larger study we intended to carry out targeting students of the same institution in near future. Therefore, to avoid response bias we carried out split-half reliability, which is recommended and supported by research in similar situations where single administration of questionnaire seems more logical for future purposes (Judd, Smith, & Kidder, 1991). The split-half-reliability of original 26 item questionnaire gave us a correlation of 0.48 between the two forms which is very modest, however, the adopted 21 item questionnaire had

a correlation of 0.68 between the two forms, indicating high test-retest reliability for the adopted version of the scale.

Reliability Analysis for BSQ

Table 2
Reliability analysis and mean response values of BSQ

Items	Mean	Item Total Correlation	Alpha of scale when item deleted
1. Feeling bored made you brood about body shape.	.22	.38	.92
2. So worried about body shape that have feeling to diet.	.32	.65	.92
3. Your thighs, hips, and bottom are too large for your body.	.082	.47	.92
4. Afraid that you might become fat or fatter.	.45	.67	.92
5. Worried about your flesh being not too firm.	.14	.73	.93
6. Feeling of full stomach made you feel fat.	.21	.70	.92
7. Felt so bad about your shape that you cried.	.21	.86	.92
8. Avoided participating in games because your flesh may wobble.	.09	.50	.92
9. Being with thin women made you self conscious.	.31	.79	.92
10. Worried about your thighs being too fat or spreading out while sitting.	.098	.71	.92
11. Compared yourself with other Women and felt they had better shape	.27	.58	.92
12. Compared yourself with other women and felt they had better shape.	.27	.58	.92
13. Preoccupied with thinking about your shape.	.19	.45	.93

Items	Mean	Item Total Correlation	Alpha of scale when item deleted
14. Changing your cloths or taking a bath ever thought you are too fat.	.16	.73	.92
15. Avoided wearing cloths that make you aware of your shape.	.80	.40	.93
16. Thoughts of cutting off fleshy parts of your body occurred to you.	.19	.76	.92
17. Eating sweets or cakes made you feel fat.	.34	.60	.92
18. Bad feelings about your shape stopped you from going to social occasions.	.06	.34	.96
19. Felt excessively large and rounded.	.16	.76	.97
20. Felt ashamed of your body.	.32	.88	.92
21. Worry about your shape made you diet.	.11	.31	.96
22. Felt happiest when stomach is empty.	.13	.02	.91
23. Thought that you are the shape because you lack self control.	.21	.60	.92
24. Worried about other people seeing rolls of flesh around your waist.	.24	.59	.93
25. Thought it is not fair that other women are thinner than you.	.24	.76	.93
26. Vomited after having food.	.00	.57	.92
27. In company worried about taking too much room.	.08	.26	.93
28. Seeing your image in mirror made you feel bad about your shape.	.31	.28	.92
29. Worried about your flesh being dimply.	.03	.35	.92
30. Taken laxatives or medication to feel thin.	.03	.006	.93
31. Felt self conscious about your shape in company of others.	.06	.68	.92
32. Worry about your shape made you feel like exercising.	.24	.41	.92

Cronbach alpha value for the original Body Shape Questionnaire = .95; Correlation between the two forms = .90.

Internal Consistency

Analysis was much simpler for the BSQ where the original 32 item English version had an alpha value of 0.94, indicating high internal consistency for the items of the scale.

Split-Half Reliability

The original English version showed a correlation of 0.90 between the two forms indicating high reliability, thus the original version of BSQ can be adopted for similar future studies.

DISCUSSION

Eating disorders are one of the most difficult to treat amongst other psychiatric disorders. Questionnaires are an important tool for collecting information, for all the prevalence studies need reliable tools to identify and target groups that are vulnerable for the disease.

As mentioned earlier, although Urdu version of EAT and BSQ have been used in Pakistan, however, reliability and internal consistency of the original questionnaires have not been tested in past. Such study not only identifies items that may not be culturally specific for the target population, but also is a necessary step for reliable and scientific research in a specific area.

The results of this study indicate that adopted 21-item English version EAT can be safely used in institutions from seventh grade onwards for screening eating disorders amongst girls with an average age of 12.5 years onwards. Adopted 21-item EAT not only shows high internal consistency indicating that items are good enough to measure prevalence of eating disorders, but also shows high test-retest reliability between the two forms. BSQ can be used as it is in its original form along with EAT, while screening, because body shape perceptions and eating habits correlate with each other.

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