

Development of Parents' Own Child Scale of the Greek Sexuality Attitudes Questionnaire – Learning Disabilities (GSAQ-LD)

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Abstract

The issue of sexuality is a major concern for parents of children with learning disability and causes them great anxiety. Due to the lack of large-scale studies examining parental attitudes towards the sexuality of people with learning disability in Greece, it was decided to develop and evaluate a culturally appropriate instrument to use with Greek parents. Thus, the Parents' Own Child scale was developed to assess parents' attitudes towards the sexuality of their own offspring with learning disability, as a part of the GSAQ-LD-PARENTS. The evaluation process of the measure indicated that the 11-item, Likert-type scale presents satisfactory item characteristics, adequate reliability and homogeneity and preliminary support for criterion-related validity.

Before looking at the way parents react to their children's developing sexuality, it is important to remember that today's parents have been subjected to sexual values that were prevalent a generation or more ago, and this fact is bound to mould their own views about human sexuality. It would be fair to say that, over the years, parents have not been good at helping their children achieve psychosexual maturity. The purpose of this paper is to describe and evaluate a scale used to examine Greek parents' attitudes towards the sexuality of their offspring with learning disabilities. The term "people with learning disabilities" (LD) is used in the U.K. to refer to what is called "people with mental retardation" in Greece. Since the construction and the name of the instrument were originally developed in the context of that thesis, the former term is used, from this point onwards.

¹ Editors' Note: The Ministry of Community and Social Services in Ontario uses the term "developmental disabilities" to group the same conditions and syndromes that define 'learning disabilities' in the United Kingdom, and "mental retardation" in Greece. (See Brown, I., & Percy, M. (2007). *A comprehensive guide to intellectual and developmental disabilities*. Baltimore: Paul H. Brookes Publishing Co., for additional information about terminology.)

As Craft & Craft (1981) have pointed out, many children without LD mature sexually in spite of, rather than because of, their parents. Like the rest of society, parents of people with LD are a heterogeneous group with many differences that need to be acknowledged. The issue of sexuality is a major concern for them and they usually become quite worried in response to the first signs of secondary sex characteristics and sexual awareness expressed by their children (Kempton & Caparulo, 1983). Fairbrother (1983) discusses how many parents view their growing disabled sons and daughters as perpetual children, who are sexless and innocent and who should not have ideas put into their heads. She goes on to argue that even amongst those parents who accept that children with LD become adults with sexual needs and desires, there is a very strong feeling that it is wrong to let these desires develop.

Goodman (1973 and 1975) describes a variety of common parental responses to their offspring's developing sexuality. The denial of the disabled child's sexuality is based on parents' fear and ignorance about sexual issues. A pseudo-enlightened attitude towards sexuality is another common reaction of parents, which declare a restrictive definition of the term not encouraging close interaction with others or a healthy socio-sexual functioning. A lot of parents develop also confused and ambivalent thinking, about the sexuality of their offspring sending unclear messages to the disabled child. This often happens when parents are not consistent when allowing specific behaviours to occur some times but not at others. A strict moralistic attitude is expressed by those parents who consider sexual expression to be appropriate only within the context of marriage. There are also parents who believe that sex is too risky and therefore, should be avoided – developing in this way an over-protective "eternal child" attitude.

Looking at these views it seems that parents feel concerned about the sexuality of their children with LD. They witness the development of secondary sexual characteristics but they are confused as to how they should deal with issues arising from that development. They are often reluctant to acknowledge that their offspring will gain any benefit from any reference to sexual matters and they prefer to view them as "eternal children" and treat them accordingly.

Although they seem to believe that their children are entitled to some sexual knowledge, they are uncertain as to who should teach them and what they should be taught. They consider masturbation in private as a part of their children's sexual development but they have mixed feelings about marriage, contraception and reproduction. They are not at ease with the issue of sterilization, yet they do not deny that it can provide their offspring

the chance to form sexual relationships without the danger of conception. Homosexuality is not perceived as occurring more often among people with than without LD, but it creates considerable negative attitudes among parents. It was also noted that parents hold different sets of sexual attitudes towards LD children and their non-LD peers.

A review of the literature clearly showed that there is a lack of large-scale studies examining parental attitudes towards the sexuality of people with LD. The existing studies were quite limited in terms of the sophistication of their instrumentation (Mercier et al, 1994). For instance, several researchers used a small number of questions to explore approval of sexual activities engaged in by individuals with LD (e.g., Bambrick & Roberts, 1991; Turner, 1970). In addition, the majority of them omitted to address the issue of parental sexual attitudes towards persons without LD (e.g., Davies & Johnson, 1989).

Most studies claimed that they assessed parents' attitudes towards the sexuality of people with LD; however, closer examination of the items included in the questionnaires revealed that these studies very often investigated parents' perceptions of the feelings and various sexual activities engaged in by their children (e.g. Alcorn, 1974; Squire, 1989; Turchin, 1974). Only Mercier et al. (1994) attempted to compare parents' attitudes towards the sexuality of people with LD in general and their attitudes towards aspects of the sexuality of their own child with LD in particular. It should be noted though that from the five questions only two were asked in reference to their own child.

In Greece the issue of sexuality of people with LD was tackled in three studies. The one conducted by Matinopoulou (1990) focused on parental experiences and difficulties when raising children with LD. In this study respondents' opinions about sexual issues were addressed by only three questions. Stasinou (1994) used parents and professionals to assess the acceptability of various sexual activities engaged in by individuals with Down syndrome. However, the overall findings were presented in two sentences creating a great gap in our understanding of participants' perceptions associated with aspects of sexuality of this particular population. Finally, Nitsopoulos (1991) examined parental views on the sexual development of their offspring with LD through retrospective data. However, issues related to methodology, analysis and documentation of the results should be taken into account when considering findings of this study.

Due to the lack of a culturally appropriate research instrument, the main objective of the present article was to describe the development of a scale which assesses parents' attitudes towards the sexuality of their own child with LD.

From the reviewed studies, only two presented information about the evaluation of the questionnaires used. Evidence for internal consistency of the measure employed by Brantlinger (1983) was based on a high alpha coefficient (0.95) for her total sample of 232 participants. She also reported good test-retest reliability based on 35 participants by a Pearson correlation coefficient of 0.93. Watson (1980) supported the reliability of his 14-item instrument by an alpha coefficient of 0.75. However, although those figures suggested good psychometric properties of the measures employed, they are not enough to support firm conclusions about the reliability of the measures. Davies and Johnson (1989) reported that they carried out a pilot study to assess the split-half reliability and external validity of the measure with sufficiently encouraging results. However, they did not present any of these results to convince the readers about the quality of the measure.

A second objective was to evaluate the new scale using data collected from a sample of 100 parents of people with LD in Greece. Having established good psychometric properties of the measure it could then be employed in future research to allow comparisons across studies.

Methods

Approach

The criteria used to select the sample of the present study were the place where the family was living, their offspring's age and his/her degree of disability. Three Greek towns were chosen to provide the population for the present study. The sample thus comprised families who live in either the greater area of Athens, Patra and Ioannina and had a young member with LD. The selection of the particular towns was based on the perspective that they represented a characteristic of contemporary Greece. The town of Ioannina is characterized by a massive and rapid urbanization of the rural population around the Hypiros region, which was particularly profound after the last war. On the contrary, Patra has always been considered as the traditional urban traders' society which has had a steady progress in the economic arena since at least the last hundred years. Finally, Athens reflects the stratification of a society found in a large city which has attracted the major internal immigration waves of the country (Marselos & Frigidis, 1985).

Studies of sexual maturation show that people with LD develop sexually in broadly the same way as their normally developing counterparts (Craft, 1986). However, based on the fact that this development might delay as IQ decreases, it was decided that only those families having a member with LD between 15 and 30 years old would be contacted.

It was the original intention of the researcher to include only the people who had a child with a moderate to mild LD and the ability to communicate verbally, since adolescents and young adults with this degree of LD would be subsequently interviewed. However, due to the different procedure that each unit used to bring the researcher in contact with the families of their clients with LD, some parents of offspring with poorer levels of communication skills were also included in the study.

Procedure

Once the above criteria were decided upon, letters explaining the purpose of the study were sent to different training units for people with LD as well as to parents' associations in the three towns long before the estimated period of the data collection. Out of 18 units and associations that were contacted only 4 replied.

Data for the present study were collected from January to June, 1998. The researcher personally approached eight service organizations (including some that had been contacted in writing), that provided a variety of training and/or leisure activities for people with LD in the greater area of Athens. Managers of three of the organizations refused to introduce the researcher to the families. The remaining five services agreed to inform the families about the research and to ask their permission to give their personal information to the researcher so that she could contact them and explain further the purpose and the procedure of the study. The only training centre serving families with the above criteria based in Patra, as well as the one in Ioannina, agreed to get in touch with the families of their clients and expressed their support regarding the importance of the particular research.

Parents living in Athens were asked, either at group meetings or at individual interviews, to sign the consent form and were given a copy of the questionnaire along with a prepaid (where needed) envelope to return the completed questionnaire. Questionnaires were either collected from the units or were mailed back to the researcher. Personal information regarding their offspring's gender, age, IQ, quality of education and sexual behaviour was gathered during personal meetings with parents. In the other two towns, consent as well as information related to their offspring was obtained through personal interviews.

Sample

A total of 100 questionnaires were collected from the Greek parents. However, 5 parents omitted a substantial number of responses (more than

five items) and they were not included in the data analysis. Consequently, the results of the present study are based on responses of 95 Greek parents. It is worth noting though that some of the parents neglected to fill in some of their personal characteristics (age, family status, level of education, type of employment) which caused some discrepancy in the sample distribution based on that information.

Table 1 shows the total sample distribution according to parents' gender and age. Participants were divided into five age categories: 20-30, 31-40, 41-50, 51-60 and more than 61 years old. The majority of parents were between 41 and 60 years old ($n=71$). It also should be noted that there were almost 20% more women than men in the total sample of parents.

Table 1. Sample distribution by age and gender

| <i>Age</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|------------------|-------------|---------------|------------------|
| 20 - 30 yr. | 1 | 1 | 2 (2.2) |
| 31 - 40 yr. | 2 | 9 | 11 (11.8) |
| 41 - 50 yr. | 9 | 31 | 40 (43.0) |
| 51 - 60 yr. | 19 | 12 | 31 (33.3) |
| 61 + yr. | 7 | 2 | 9 (9.7) |
| <i>Total (%)</i> | 38 (40.9) | 55 (59.1) | 93 (100.0) |

In order to explore whether or not there was a difference in the distribution of respondents' age based on their gender, chi-square analysis was used to compare the proportions of mothers and fathers in three different age groups: 20-40, 41-50, and 51+ years old. Results are shown in Table 2 below; these revealed a significant difference in the proportion of mothers and fathers in the three different age groups ($\chi^2= 16.927$, $df=2$, $p < 0.01$).

Table 2. Sample distribution by age and gender

| <i>Age</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|------------------|-------------|---------------|------------------|
| 20 - 40 yr. | 3 | 10 | 13 (14.0) |
| 41 - 50 yr. | 9 | 31 | 40 (43.0) |
| 51 + yr. | 26 | 14 | 40 (43.0) |
| <i>Total (%)</i> | 38 (40.9) | 55 (59.1) | 93 (100.0) |

The structure of the whole educational system in Greece is developed across three levels: elementary education, secondary education and higher education. Postgraduate (PG) studies are currently being developing in

Greece and there are departments that do not offer PG courses. Therefore, most PG degrees have been awarded by foreign institutions. Participants of the present study were classified into the following six categories according to their educational level: some primary school, primary school, Gymnasium, Lyceum, Technological Educational Institution (T.E.I.), and University. Graduates of secondary education who did not enter higher education were grouped into a seventh category labelled "other". They were qualified as skilled workers by attending some specialized courses.

Table 3 shows that a great number of participants (33.3%) have only completed elementary education and only 22.6% have completed secondary education. In all levels of education there are slightly more females than males. Two respondents failed to give any information about their educational attainment.

Table 3. Sample distribution by educational level and gender

| <i>Educational level¹</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|--------------------------------------|-------------|---------------|------------------|
| Some primary school | - | 1 | 1 (1.1) |
| Elementary school | 13 | 18 | 31 (33.3) |
| Gymnasium | 6 | 7 | 13 (14.0) |
| Lyceum | 6 | 15 | 21 (22.6) |
| T.E.I. | 4 | 8 | 12 (12.9) |
| University | 6 | 6 | 12 (12.9) |
| Other | 3 | - | 3 (3.2) |
| <i>Total (%)</i> | 38 (40.9) | 55 (59.1) | 93 (100.0) |

In order to explore any difference in the distribution of respondents' educational level based on their gender a chi-square (χ^2) was calculated between those who had a degree from higher education (T.E.I., University, Postgraduate studies) and those without such a degree (Elementary, Gymnasium, Lyceum, other). Results are shown in Table 4 below and indicated that there was no significant difference between males and females with and without a higher level of education ($\chi^2= 0.009$, $df=1$, *ns*).

¹ Editor's note: Gymnasium, in the Greek education system, is a compulsory, lower level secondary school for ages 12-15. The Lyceum and the Technical Vocational Educational Institutes (here, T.E.I.) are non-compulsory upper level secondary schools. Other post-secondary education includes 'Higher Education Institutes' and 'Higher Education Technical Institutes'. (information retrieved from <http://www.ekep.gr/english/education/main.asp>, June 6, 2007)

Table 4. Sample distribution in higher and < higher education

| <i>Educational level</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|--------------------------|-------------|---------------|------------------|
| Higher | 10 | 14 | 24 (25.8) |
| < Higher | 28 | 41 | 69 (74.2) |
| <i>Total (%)</i> | 38 (40.9) | 55 (59.1) | 93 (100.0) |

According to Table 5, 86.2 % of the participants were married. The rest of the parents were widowed, divorced or separated and they represented 13.8% of the total sample. One respondent failed to give any information about his family status.

Table 5. Sample distribution by family status and gender

| <i>Family status</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|----------------------|-------------|---------------|------------------|
| Married | 35 | 46 | 81 (86.2) |
| Other | 3 | 10 | 13 (13.8) |
| <i>Total (%)</i> | 38 (40.4) | 56 (59.6) | 94 (100.0) |

Details about participants' employment status according to their gender are presented in Table 6, below. A Chi-square (χ^2) between gender and employment status revealed a significant difference of the distribution ($\chi^2=10.469$, $df=1$, $p<0.001$). It was found that males were more likely to be in employment than were females.

Table 6. Sample distribution by employment status and gender

| <i>Employment status</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|--------------------------|-------------|---------------|------------------|
| In employment | 31 | 26 | 57 |
| Not in employment | 8 | 30 | 38 |
| <i>Total (%)</i> | 39 (41.1) | 56 (58.9) | 95 (100.0) |

In order to explore any difference in the distribution of respondents' educational level based on their employment status a chi-square (χ^2) was calculated between those who had a higher education degree (T.E.I., University, Postgraduate studies) and those with less than a higher education degree (Elementary, Gymnasium, Lyceum, other). Results indicated no significant difference between respondents with and respondents without a high level of education who were in full time employment and those who

were not in full time employment ($\chi^2=0.562$, $df=1$, *ns*). Another chi-square (χ^2) was calculated between employment status and three different categories of age (20-40, 41-50 and 51+ years old). The results of this analysis also revealed no significant difference between participants' employment status and their age ($\chi^2=0.011$, $df=2$, *ns*).

The socio-economic class in the present study was determined using the same system described in a previous study by Karelou (2003). Parents were allocated to the following three social classes according to their level of educational and their occupation: upper middle class, lower middle class and working class. There were no parents from the high social class in the present study. Parents who were not in full-time paid employment were identified by a fourth category called "unemployed". Table 7 below shows the sample distribution according to respondents' social class. Information about social class was available only for 92 respondents.

Table 7: Sample distribution by social class and gender

| <i>Social class</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|---------------------|-------------|---------------|------------------|
| Upper middle class | 8 | 6 | 14 (15.2) |
| Lower middle class | 2 | 5 | 7 (7.6) |
| Working class | 19 | 12 | 31 (33.7) |
| Unemployed | 9 | 31 | 40 (43.5) |
| <i>Total (%)</i> | 38 (41.3) | 54 (58.7) | 92 (100.0) |

In order to avoid problems of low expected frequencies in further analyses, respondents of upper middle and lower middle classes were combined together to produce a sample of middle class respondents. The sample distribution according to the new combined middle class is shown in Table 8 below. A chi-square (χ^2) between gender and social class revealed significant differences in the proportion of males and females across the three social classes ($\chi^2=11.287$, $df=2$, $p<0.004$).

Table 8. Sample distribution by social class and gender

| <i>Social class</i> | <i>Male</i> | <i>Female</i> | <i>Total (%)</i> |
|---------------------|-------------|---------------|------------------|
| Middle class | 10 | 11 | 21 (22.8) |
| Working class | 19 | 12 | 31 (33.7) |
| Unemployed | 9 | 31 | 40 (43.5) |
| <i>Total (%)</i> | 38 (41.3) | 54 (58.7) | 92 (100.0) |

Materials

Parental attitudes towards the sexuality of people with LD were examined through the GSAQ-LD (Karellou, 2003). One additional dimension was developed by the author in order to examine parental attitudes towards the sexuality of their own offspring with LD. The new dimension of the questionnaire consisted of 13 items referring to parents' attitudes towards sexual feelings, masturbation, sexual education, sexual expression and contraception of their offspring with a disability. Those items were generated from previous international research referred to parents' attitudes towards the sexuality of people with learning disabilities (e.g. Bambrick & Roberts, 1991; Katoda, 1993; Pueschel & Scola, 1988). As in the previous parts of the measure, statements were expressed in either positive or negative forms and their order was randomised. Each item was scored from 1 to 5 on a 5 point agree - disagree continuum and, for statistical reasons, scores on items expressed in a positive way were reversed so that a high score always implies a contemporary attitude. The 13 items of the additional part of the GSAQ-LD were preceded by some general instructions prompting parents to think of their son or daughter with LD while choosing a response to each item.

Parents were also asked questions referring to their personal characteristics (gender, age, educational level, family status and working status) as well as one question regarding the number and gender of children in the family.

Results

The psychometric qualities of the measure with the present sample of Greek parents were determined in three different ways: first, by calculating item-total correlation coefficients for each item of the scale; second, using Cronbach's alpha reliability coefficients; and finally, by factor analysis.

Two different procedures were used to deal with missing data in the present study. An alternative to treating missing data is to simply delete any cases with missing values. If there are only a few cases that omit several values and they seem to be a random sub-sample of the total data set, deletion is a good alternative (Tabachnick & Fidell, 1989). However, if missing values are scattered throughout cases and variables, deletion of cases can result in substantial loss of data. As stated earlier, the alternative of deleting whole cases was applied to 5 of the 100 questionnaires that were initially returned from the participants of the present study.

Estimating missing data and then using the estimates for the analysis is another option for dealing with missing values. The three most popular approaches for this kind of estimation are: using prior knowledge, inserting mean values for the variable and using regression (Tabachnick & Fidell, 1989). Inspection of the data set revealed 21 cases with between 1 and 5 missing values. The alternative used to treat these missing data was to replace them with the column mean of the respective variable. It was decided to calculate the mean from the available data on each variable in question and use it to replace missing values. According to Tabachnick and Fidell (1989) in the absence of all other information, the column mean is the best estimation of the value of the variable because the mean of the distribution as a whole does not change and the researcher is not required to guess at missing values.

In order to examine the suitability for inclusion of the 13 items in the additional part of the GSAQ-LD, it was decided to examine their means and standard deviations. One of the characteristics of a good test is to produce responses that spread out individuals' scores along a continuum. According to Rust and Golombok (1989) a larger spread is equivalent to a greater test variance. The extent to which an item is suitable to be included in a test is whether or not it makes a contribution to this variance. It has been suggested that for a 5-point Likert scale in which individual items are scored from 1 to 5, a mean score in excess of 4.5 or less than 1.5 fails to sufficiently differentiate between respondents. Having in mind the recommendations of Rust and Golombok (1989), one item was not retained in the questionnaire because of its excessively high mean score. Item 69 that read: "my child should learn some things about the sexual act" had a mean score of 4.44. More than ninety three per cent (93.7%) of the participants disagreed or strongly disagreed with this statement.

The variance of respondents' scores on a test is also made up of the correlation coefficients between the items. Rust and Golombok (1989) suggested that an item which is highly correlated with other items in the test, and which itself has a large item variance, would make a large contribution to the total variance of the test. The same authors argued that a minimum correlation value of 0.2 is required to accept a particular item as appropriate.

The scores for the 12 remaining items were summated and used to calculate item-total correlations between each individual item and the total score, minus the contribution of that item. Item-total correlation coefficients (r), mean scores (M) and standard deviations (SD) are shown in Table 9.

Table 9. *Item-total coefficients, means and standard deviations of 12 items measuring attitudes towards sexuality of parents' own child*

| <i>Item</i> | <i>M</i> | <i>SD</i> | <i>r</i> |
|-------------------------------------------------------------------------------|----------|-----------|----------|
| 62 It is difficult for my child to control his/her sexual feelings | 3.07 | 1.16 | 0.355 |
| 63* I do not mind my child masturbating in private | 4.04 | 0.91 | 0.425 |
| 64 My child is not ready to learn about sexual issues | 3.87 | 0.96 | 0.505 |
| 65 Sterilisation is the only appropriate method of birth control for my child | 3.74 | 1.12 | 0.307 |
| 66* Masturbation is a good way for my child to release sexual tension | 3.77 | 0.99 | 0.058 |
| 67 My child is not capable of having a romantic relationship | 3.11 | 1.18 | 0.516 |
| 68* I do not mind my child engaging in petting in private | 3.58 | 1.05 | 0.550 |
| 70 My child is not interested in the opposite sex | 4.04 | 1.06 | 0.453 |
| 71 Information about sexual issues will give my child the wrong ideas | 4.13 | 0.85 | 0.544 |
| 72* My child should be allowed to get contraception when he/she needs to | 4.10 | 0.86 | 0.376 |
| 73* I talk with my child about sex | 3.89 | 1.04 | 0.443 |
| 74 My child is not capable of feeling sexual desire | 4.09 | 0.98 | 0.712 |

* *Indicates a positively worded item in which a strong agreement is scored 5/1 and a strong disagreement is scored 1/5.*

Item 66 produced a low correlation value (0.058) indicating that it did not share much of the total variance and thus it did not make a large contribution to the test. This fact led to the conclusion that it could not be considered to be measuring the same thing as the other items. It was therefore decided to delete this item from the questionnaire and to recalculate the total score for the remaining eleven items. This revised total score was then used to calculate a second set of item-total correlation coefficients (r), the results of which are shown in Table 10.

Table 10. Item-total coefficients of 11 items measuring attitudes towards sexuality of parents' own child

| <i>Item</i> | <i>r</i> |
|-------------------------------------------------------------------------------|----------|
| 62 It is difficult for my child to control his/her sexual feelings | 0.375 |
| 63* I do not mind my child masturbating in private | 0.347 |
| 64 My child is not ready to learn about sexual issues | 0.533 |
| 65 Sterilisation is the only appropriate method of birth control for my child | 0.306 |
| 67 My child is not capable of having a romantic relationship | 0.566 |
| 68* I do not mind my child engaging in petting in private | 0.564 |
| 70 My child is not interested in the opposite sex | 0.457 |
| 71 Information about sexual issues will give my child the wrong ideas | 0.569 |
| 72* My child should be allowed to get contraception when he/she needs to | 0.374 |
| 73* I talk with my child about sex | 0.427 |
| 74 My child is not capable of feeling sexual desire | 0.719 |

* Indicates a positively worded item in which a strong agreement is scored 5/1 and a strong disagreement is scored 1/5.

Cronbach's Alpha: 0.80, n=95

The next step of the evaluation of the new part of the questionnaire was to subject the 11 remaining items to a Cronbach's alpha analysis in order to assess its internal reliability. This analysis produced a value of 0.80 indicating that these items formed a relatively coherent set of items that reliably assessed the attitudes of the sample towards the sexuality of their offspring with LD.

Having established that these 11 items constituted an internally reliable scale it was decided to examine the construct validity of the resultant scale through the technique of Principal component factor analysis using the SPSS for Windows (version 8). The aim of this procedure was to find factors (hypothetical constructs) that could explain the relationships between scores on the variables included in the scale using objective statistic techniques rather than subjective intuition.

The Kaiser, Meyer, Olkin measure of sampling adequacy (KMO) yielded a value of 0.76 indicating that the data were suitable for use in a factor analysis. Bartlett's sphericity test of the attitude item response correlation matrix also supported the prerequisite assumption for factor analysis, $\chi^2=314.551$, $p<0.001$ since its associated probability was greater than 0.05 (Kinnear & Gray, 1997).

Applying Kaiser's criterion of eigen-values equal to or greater than unity, three factors were extracted which accounted for 23.68%, 18.59%, and 14.85% of the variance. However, application of Cattell's scree test indicated that one factor should be extracted. The scree test is shown in Figure 1.

Figure 1. Scree test of 11 items

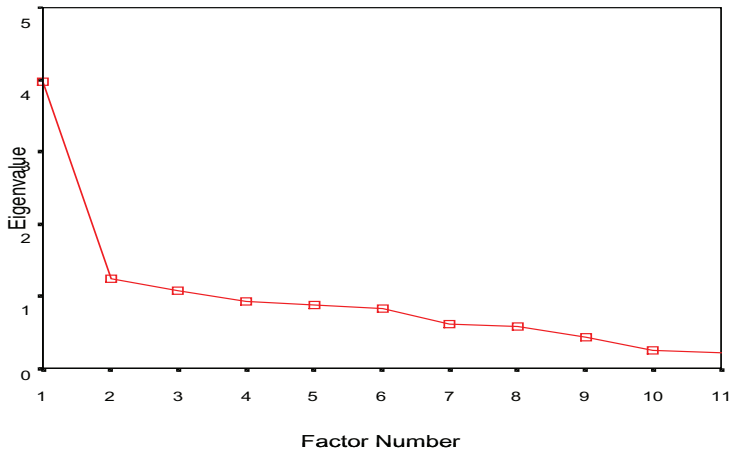


Table 11 shows that factor loadings for the 11 items ranged from a low of 0.384 to a high of 0.824, with a median loading of 0.606. Examination of the content of those items led to the conclusion that they were connected with parents' attitudes towards different aspects of their child's developing sexuality such as their sexual feelings, sexual education, masturbation, and contraception. It was therefore decided to call this factor the parents' Own Child scale.

A high score on this scale represents the parents' view that their child is capable of having romantic feelings for another person; it suggests greater tolerance for individual choice regarding sexual behaviour and encourages access to sexual information and contraception. On the other hand, a low

score indicates that the child with LD is not capable of having sexual desires, and that it should be protected from the consequences of sexual information and any knowledge of sexuality.

Table 11. Factor loadings

| <i>Item</i> | <i>Loadings</i> |
|-------------------------------------------------------------------------------|-----------------|
| 62 It is difficult for my child to control his/her sexual feelings | 0.468 |
| 63*I do not mind my child masturbating in private | 0.446 |
| 64 My child is not ready to learn about sexual issues | 0.684 |
| 65 Sterilisation is the only appropriate method of birth control for my child | 0.384 |
| 67 My child is not capable of having a romantic relationship | 0.677 |
| 68*I do not mind my child engaging in petting in private | 0.651 |
| 70 My child is not interested in the opposite sex | 0.600 |
| 71 Information about sexual issues will give my child the wrong ideas | 0.693 |
| 72*My child should be allowed to get contraception when he/she needs to | 0.481 |
| 73*I talk with my child about sex | 0.550 |
| 74 My child is not capable of feeling sexual desire | 0.824 |
| Total variance % | |

* *Indicates a positively worded item in which a strong agreement is scored 5/1 and a strong disagreement is scored 1/5.*

Conclusion

The main purpose of the present paper was to describe and evaluate a measure used to assess parents' attitudes towards the sexuality of their offspring with LD. The review of the literature showed that most of the previously used measures were not standard devices that could produce reliable results. They were rather developed for the purposes of the particular studies and mainly involved a small number of questions related to approval of sexual activities engaged by people with LD (e.g. Bambrick & Roberts, 1991; Turner, 1970;). Additionally, only two researchers provided information about the evaluation

of their instruments and this information was limited (e.g. Brantlinger, 1983; Watson, 1980). Davies & Johnson (1989) claimed that their measure had good reliability and external validity but they did not provide any proof to support that claim. Most of the researchers also failed to examine perceptions of the sexuality of normally developing people which could provide valuable information about similarities or differences in parental attitudes regarding the sexuality of people with or without LD.

The psychometric qualities of the measure employed in the present study were determined by a series of different analyses. Examination of mean scores and standard deviation of each item indicated one item with a mean score less than 1.5 which was excluded from further analysis. A calculation of item-total correlation coefficients (r) revealed a low value of item 66 and it was therefore deleted from the questionnaire. Based on the item-total correlation coefficients, Cronbach's alpha, and factor analysis results, it can be argued that the 11-item scale efficiently and reliably measured a single construct representing attitudes towards sexuality of parents' own offspring with LD. The version of the GSAQ-LD that includes the parents' Own Child scale was subsequently named GSAQ-LD-PARENTS.

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