Factor structure of the Schalock and Keith Quality of Life Questionnaire (QOL-Q): validation on Mexican and Spanish samples

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Abstract

Background The Quality of Life Questionnaire (QOL-Q) is used widely to evaluate the quality of life of persons with intellectual disability (ID). Its validity for use with Spanish-speaking cultures has been demonstrated for individuals with visual disabilities, but not for those with physical or intellectual disabilities. Such was the purpose of the present study.

Method Two samples were administered the QOL-Q under standardized procedures. The first sample was composed of 209 Mexican participants with physical disabilities; the second was composed of 424 Spanish participants with ID. The hypothesis tested was: the applicability (i.e. etic properties) of the measure across countries and respondents would be demonstrated if reliability data and if factor composition were similar to the original measure. Cronbach’s alpha was used to test reliability and exploratory factor analyses were used to test validity (i.e. factor structure).

Results Data indicated that the reliability and factor structure was similar to that reported in the questionnaire’s standardization manual and consistent with that reported in a number of Anglo-Saxon countries.

Conclusion The present study offers additional support for the valid use of the QOL-Q with Spanish-speaking populations.

Keywords factorial structure, intellectual disabilities, physical disabilities, quality of life assessment

One of the most used measures in quality of life (QOL) research of people with intellectual disability (ID) is the Schalock & Keith (1993) Quality of Life Questionnaire (QOL-Q). Several studies have been conducted on its psychometric properties from Anglo-Saxon countries (Schalock & Keith 1993; Rapley & Lobley 1995; Kober & Eggleton 2002). There is also evidence of its valid use with Spanish persons with visual disabilities (Verdugo et al. 2005). To date, however, it has not been validated on individuals with physical disabilities and those with ID. Such was the purpose of the present study.
Method

Participants

For the Mexican replication (Study 1), participants were 209 adults with physical disabilities selected from rehabilitation centers and associations for people with disabilities at Mexico DF. Of the total, 59.8% were male and 40.2% female. Ages ranged between 18 and 76 years (mean age = 38). The disabilities represented were cerebral palsy (14%), amputation (12%), poliomyelitis sequelae (30%), medullary impairment (12%), neurological disorder (3%), and other motor disabilities (29%). The Spanish study (Study 2) sample was composed of 424 individuals with borderline (25.3%), mild (46.4%), or moderate (28.3%) ID from seven different autonomous communities of Spain. Of the total sample 66.3% were male and 33.7% female. Ages ranged from 22 to 40 years. They were attending sheltered (62%) or supported employment (38%) services.

Measures

A Spanish translation of the QOL-Q was used in both studies. Back-translation technique was used to ensure semantic equivalence (Brislin 1986). Standards from the International Tests Commission (Tanzer & Sim 1999) were also followed to ensure that the adaptation process took account of linguistic and cultural differences.

Procedure

The questionnaire was applied to all participants through a one-on-one interview carried out after informed consent was obtained. An interviewer asked each participant each of the 40 questions, and provided them, consistent with standardized procedures, three possible responses for selecting the most appropriate to their life situation. All participants were able to respond to the QOL-Q, and there was no need to use proxy respondents.

Data analysis

Internal consistency of the scale and sub-scales were tested with Cronbach’s alpha methods. Construct validity was tested with an exploratory principal components factor analysis (Varimax Rotation). All analyses used the SPSS statistical package for social sciences (SPSS 1998).

Results

Table 1 presents the Cronbach (alpha) reliability coefficients and the main results of the factor analyses. Both sets of results are consistent with those reported in the QOL-Q Standardization Manual (Schalock & Keith 1993). For both studies we selected the items with loads higher than 0.30 in one of the factors. Using this criterion, in Study 1, items 12 and 21 were removed from further analysis. Regarding validity, data resulting from the factor analysis suggest that four dimensions (Competence/productivity, Satisfaction, Empowerment/independence and Social belonging) represented the best fit. The first factor includes eight items from the original Competence/productivity sub-scale. Two of the source items were removed (item 11 was included in the table).

<table>
<thead>
<tr>
<th></th>
<th>Mexico</th>
<th>Spain</th>
<th>Standardization Manual (Schalock &amp; Keith 1993)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>α</td>
<td>Eigen %</td>
<td>α</td>
</tr>
<tr>
<td>Competence/productivity</td>
<td>0.91</td>
<td>10.1</td>
<td>0.91</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.84</td>
<td>3.4</td>
<td>0.70</td>
</tr>
<tr>
<td>Empowerment/independence</td>
<td>0.84</td>
<td>2.2</td>
<td>0.69</td>
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<tr>
<td>Social belonging/community integration</td>
<td>0.71</td>
<td>1.9</td>
<td>0.62</td>
</tr>
<tr>
<td>Total</td>
<td>0.91</td>
<td>0.83</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Table 1 Reliability coefficients (alpha) and results of factor analysis of Quality of Life Questionnaire (QOL-Q)
Factor structure of the Schalock and Keith QOL-Q

Satisfaction; item 12 was removed). The second factor included all the items from the original Satisfaction sub-scale plus item 11. The third factor included the original items of Empowerment/independence with the exception of item 21, which was removed from further analyses. The third factor also includes items 33, 38 and 40 from the original Social belonging sub-scale. Finally, the fourth factor consisted of the remaining seven items from the original Social belonging sub-scale. Correlations among factors converge with theoretical assumptions, which postulate that the factors are interrelated. Low-medium relations between sub-scales (from 0.32 to 0.60, \( P < 0.01 \)), and moderate correlations with total were found (from 0.65 to 0.81).

For Study 2, items 1 and 33 were removed from further analyses since they did not exceed 0.30. The first factor includes eight items from the original Competence/productivity sub-scale; item 11 was removed from further analyses and item 12 loaded on the Satisfaction sub-scale. The second factor included nine items from the Empowerment/independence sub-scale (item 29 loaded on Satisfaction sub-scale and item 38 also loaded on this factor). The third factor (Empowerment/independence) was composed of the original items plus items 12, 29, and 40. Finally, the fourth factor included seven items from the original measure (item 33 was removed, item 38 loaded in the Empowerment sub-scale and item 40 loaded in Satisfaction). Correlations among factors converged with theoretical assumptions, given the low inter-factor correlations (from 0.13 to 0.36) and the medium–moderate factor-total correlations (from 0.53 to 0.77; \( P < 0.01 \)).

Discussion

The present study offers support toward the applicability of the QOL-Q with Spanish-speaking populations. Reliability coefficients suggest appropriate levels of internal consistency. Likewise, the factor analyses further validate the etic properties of the multidimensionality of the QOL construct. Data suggested that four factors would be reasonable, explaining 44% (Mexican sample) and 35.4% (Spanish sample) of variance. These results are similar to Schalock & Keith (1993), Rapley & Lobley (1995) and Kober & Eggleton (2002) who also found four underlying factors explaining 33.7%, 45% and 32.4% respectively.

In the present studies, 34 items loaded in the same factors as that reported by Schalock & Keith (1993) with only six items failing to load. These data are slightly different from those obtained by Kober & Eggleton (2002) who found that 37 of the 40 loaded as per Schalock & Keith (1993), and those reported by Rapley & Lobley (1995) who found only 32 items loaded as per Schalock & Keith (1993) study. In the present study, as with the Kober and Eggleton and Rapley and Lobley studies, four items seem to account for most of the variance from the model: items 11, 12, 21, and 33. These items relate to 'how well did your educational or training program prepare you for what you are doing now?' (#11); ‘do you feel you job or other daily activity is worthwhile and relevant to either yourself or others?’ (#12); ‘how did you decide to do the job or other daily activities you do now?’ (#21); and ‘do you worry about what people expect of you?’ (#33). These items deserve further attention in subsequent studies. Divergences in item loadings among the Mexican, Spanish, and the original study appear to be a function of differences in culture and life situation of participants.

Some limitations of this study need to be underscored. First, there is a need for additional reliability tests, such as inter-rater reliability, test-retest, and other types of validity analyses, such as face validity and concurrent validity, as in the original study (Schalock & Keith 1993). In addition, given that sample selection procedures were neither randomized nor purposeful, data may not be generalizable to other populations. Further research with more diverse population will provide further clarification.

References


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