ORIGINAL ARTICLE

Development and validation of a Quality of Life Scale for elementary school students

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Abstract
Background/Objective: Emotional well-being affects the school performance of elementary school children. Quality of life (QoL) measurements are indicative of emotional well-being; however, the development of assessment tools suitable for measuring the QoL of elementary school children has received little attention and, therefore, the creation of reliable assessment tools for measuring QoL among this population is required. *Method:* We employed qualitative and quantitative research methods to develop and validate a QoL scale for elementary school children in Taiwan. We used cluster random sampling to recruit 711 fifth and sixth grade students, aged 10–12 years, from 14 elementary schools. *Results:* The scale comprised six factors (School function, Family function, Environmental life, Vitality for life, Learning ability, and Peer relationships) that explained 44% of the variance. The developed 21-item elementary school QoL (ESQoL) instrument had high internal consistency and satisfactory reliability and validity. *Conclusions:* The ESQoL instrument can facilitate the evaluation of factors associated with students' emotional well-being. Additional studies using the ESQoL instrument are required to assess its applicability for evaluating relationships between QoL and school performance and other areas of student life.
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Desarrollo y validadción de la Quality Life Scale para escolares de Educación Primaria

Resumen

Antecedentes/Objetivo: El bienestar emocional afecta el rendimiento escolar de los niños de Educación Primaria. Las mediciones de la calidad de vida (QoL) son indicativas del bienestar emocional. Sin embargo, el desarrollo de herramientas de evaluación adecuadas para medir la calidad de vida de niños de Educación Primaria ha recibido escasa atención y, por lo tanto, se requiere la creación de herramientas de evaluación confiables para medir la calidad de vida en esta población. *Método:* Se emplearon métodos de investigación cualitativa y cuantitativa para desarrollar y validar una escala de QoL para niños de Primaria en Taiwán. Se utilizó un muestreo aleatorio por grupos para reclutar a 711 estudiantes de Quinto y Sexto Grado, de 10 a 12 años, de 14 escuelas primarias. *Resultados:* La escala agrupa seis factores (Función escolar, Función familiar, Vida ambiental, Vitalidad para la vida, Capacidad de aprendizaje y Relaciones entre compañeros) que explican el 44% de la varianza. El instrumento de QoL (ESQoL) de 21 ítems tiene alta fiabilidad de consistencia interna y validez satisfactoria. *Conclusiones:* El instrumento ESQoL puede facilitar la evaluación de factores asociados con el bienestar emocional de los escolares. Se requieren estudios adicionales utilizando el instrumento ESQoL para evaluar su aplicabilidad en el análisis de las relaciones entre QoL y rendimiento escolar, y otras áreas del ámbito escolar.

According to the World Health Organization (WHO), mental health and emotional well-being are as crucial as physical health in determining the performance and success of children in school. Quality of life (QoL) is a construct for quantifying well-being and evaluating the effectiveness of interventions for children and adolescents (Ravens-Sieberer, Karow, Barthel, & Klasen, 2014), and schools offer the most suitable environments for providing interventions for children with poor QoL (Weare & Nind, 2011). The World Health Organization (WHO, 1996) defines QoL as an ''individual's perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns''. However, this definition of QoL does not specifically apply to children and adolescents. Children's QoL has been defined as the subjective perception of well-being and happiness (Davis, Waters, Shelly, & Gold, 2008). A multifaceted concept, QoL has extensive outcome measures (Rodrigues, Pedroso, & Pontes, 2015).

In previous studies, children's QoL has been measured by employing ''adult-centric'' instruments (Parizi et al., 2014). Therefore, developing child-specific QoL instruments is imperative. Moreover, instruments specifically customized to assess QoL in children and adolescents are inferior to those available for adults (Ravens-Sieberer et al., 2014). Social, community, family, and school environments are more relevant in assessing children's QoL than that of adults (Thorrington & Eames, 2015). In addition to overall health, QoL affects children's learning and academic achievements, which are regulated by factors such as familial and societal influences and life experiences (Maggino, 2016). Furthermore, children's QoL assessments must be age sensitive because physical and cognitive development is a major influence; children experience various problems and concerns at the different development stages (Wee, Chua, & Li, 2006). For instance, children aged between 10 and 12 years are in the early stages of puberty, which is a period of rapid growth, characterized by a desire for more independence, increased attention to appearance, disagreement with parents, and increased importance of peer relationships (Missotten, Luyckx, Branje, Vanhalst, & Goossens, 2011).

In addition to the difference in concerns among age groups, the relevance of relationships with parents, teachers, and peers varies among cultures (Clefberg Liberman, Altuzarra, Ost, & Oilendren, 2012; Schwarz et al., 2012). Although cultural differences are diminishing because of globalization, certain disparities remain, necessitating the cross-cultural validation of QoL instruments (Carbó-Carreté, Guàrdia-Olmos, & Giné, 2015; Rajmil et al., 2012). However, most QoL instruments for children and adolescents have been developed in Western countries and therefore cannot be applied to children and adolescents from countries with different cultural backgrounds (Houben-van Herten, Bai, Hafkamp, Landgraf, & Raat, 2015; Simões, Santos, & Biscaia, 2016). In Asian countries such as China, Taiwan, Japan, and Korea, emphasis has traditionally been placed on school performance, and this emphasis persists today.

In 2015, there were 35 publications on English-language instruments relevant to health-related QOL for children and adolescents (Janssens et al., 2015): only 21 have been used in published studies and only one was specifically for adolescents, aged 13–15 years, in Taiwan (Fuh, Wang, Lu, & Juang, 2005); none of the studies applied to early adolescents in Taiwan. An age- and culture-specific QoL measurement instrument for children can facilitate the evaluation of their well-being. Therefore, we developed and validated a