

Psychometric Properties of the Portuguese Adaptation of General Functioning of Family Assessment Device: A Comparative Study

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Introduction: The General Family Functioning is a subscale of the Family Assessment Device (FAD) that assess overall family functioning. This study analyzed the psychometric properties of the General Family Functioning subscale in Portuguese families with adolescents diagnosed with Type I Diabetes and healthy adolescents comparing also family functioning in both samples. **Method:** A total of 100 parents of adolescents with Type I Diabetes and 106 parents of healthy adolescents participated in this study. A confirmatory factor analysis was performed for both samples to analyze the adequacy of each model. **Results:** Both confirmatory factor analyses maintained the design in one-factor models with good fit indexes. The internal consistency in both samples was good, but slightly higher in parents of healthy adolescents. The instrument also presented good convergent and divergent validity. **Discussion:** The Portuguese version of the General Family Functioning subscale showed good psychometric properties and reliability in healthy adolescents and in adolescent with Type I Diabetes.

Keywords: Family Assessment Device, family functioning, general functioning, parents of adolescents, instrument validation

Family functioning plays a protective role either in adolescents with chronic illness, like Type I Diabetes (T1D) or in healthy adolescents (Turliuc, Ciudin, & Robu, 2016). The prevalence of Portuguese adolescents with T1D was about 3327 cases in individuals aged between 0 and 19, in 2015 (Portuguese Society of Diabetology, 2016). In families with

adolescents with T1D, family functioning influences not only the diabetes self-care management during routine daily activities, but also the adjustment process to T1D including quality of life (Almeida, Leandro, & Pereira, 2015).

The characteristic patterns of family communication, problem-solving skills and parental involvement interfere with the adaptation process to T1D and, consequently, with family functioning (Whittemore, Jaser, Guo, & Grey, 2010). Family functioning is strongly associated with better diabetes outcomes but when perceived as negative, family conflicts may arise or increase, which may compromise diabetes self-management tasks and the adolescent's autonomy and independence (Jaser & Grey, 2010; Whittemore, Liberti, Jeon, Chao, Jaser, et al., 2014). In turn, the quality of the family interactions between parents and adolescents, based on positive protective interactions and consistent discipline, may prevent risk behaviors in

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adolescents (Öngel Atar, Yalçın, Uygun, Demirci, & Erdogan, 2016).

The McMaster Model of Family Functioning provides a framework to understand the family system through one or various family members' perspectives based on systems theory (Ryan, Epstein, Keitner, Miller, & Bishop, 2005). To evaluate and understand family organization and patterns, the McMaster Model focuses on six dimensions: problem-solving (i.e., family's capacity to solve problems), communication (i.e., how information exchange occurs), roles (i.e., patterns that guide the family's routine behaviors), affective responsiveness (i.e., family's capacity to face different stimuli in their daily routines), affective involvement (i.e., degree of involvement of the overall family in individual activities), and behavior control (i.e., behavior patterns the family adopts to deal with different situations), (Miller, Ryan, Keitner, Bishop, & Epstein, 2000; Ryan et al., 2005). These dimensions show the effectiveness of family behaviors related to emotional and physical health or with family members' problems (Ryan et al., 2005). The Family Assessment Device-General Functioning [FAD-GF] subscale was developed to briefly assess overall family functioning and characterizes the family levels of healthy or unhealthy behaviors (Miller et al., 2000). This subscale assesses all six dimensions of the McMaster Model of Family Functioning (Miller et al., 2000; Ryan et al., 2005).

The FAD-GF has good psychometric properties in the assessment of family functioning in different types of nonclinical, psychiatric, and medical samples in adolescents and adults (Baronet, 2003; Beevers, Wells, & Miller, 2007; Boterhoven de Haan, Hafekost, Lawrence, Sawyer, & Zubrick, 2015; Byles, Byrne, Boyle, & Offord, 1988; Bylund, Årestedt, Benzein, Thorell, & Persson, 2016; Cooke, Marais, Cavanagh, Kendall, & Priddis, 2015; Hausken et al., 2019; Pires, Assis, Avanci, & Pesce, 2016; Smith, Montaña, Maynard, & Miloh, 2017; Shek, 2001; Thastum et al., 2009; Turluc et al., 2016; Weinstock & Miller, 2010). In Cooke and colleagues' study (2015), fathers presented worse family functioning when compared to mothers, which may be an indicator of unhealthy functioning and may provide important information regarding the family structure and parental attitudes (Öngel Atar et al., 2016).

Also, adolescents with depression showed worse family functioning than their parents (Chen et al., 2017). However, as Staccini, Tomba, Grandi, and Keitner (2015) reported, there are only a small number of studies that employed a confirmatory factor analysis to study the psychometric properties of FAD-GF (Boterhoven de Haan et al., 2015; Bylund et al., 2016; Pires et al., 2016; Shek, 2001;). In these studies, the FAD-GF showed good internal consistency and sensitivity to discriminate between clinical and nonclinical samples (Shek, 2001). The Chinese version of FAD-GF in adolescents revealed good psychometric properties, and satisfactory convergent and construct validity in clinical and nonclinical samples, showing higher correlations with different measures of family functioning. The reliability and validity of the Swedish version of FAD-GF were analyzed in a sample of adults who had undergone bariatric surgery and the confirmatory factor analysis (CFA) showed a one-factor model with satisfactory fit indexes and good internal consistency (Bylund et al., 2016). The reliability and validity of the Brazilian version were tested in parents of schoolchildren (between 6 and 8 years old) and the CFA also showed one-factor model with satisfactory fit indexes, with one item being eliminated due to overlap (Pires et al., 2016). Internal consistency was satisfactory and the construct validity showed an association between family functioning assessed with the Brazilian version of the FAD-GF and drinking habits of mothers and fathers as well as with violent behaviors between them (Pires et al., 2016). Also, the internal consistency and validity of the six positive items of the FAD-GF in Australian samples of pregnant women and primary caregivers of children concluded that this shorter version showed similar psychometric properties to the FAD-GF (Boterhoven de Haan et al., 2015).

The usual Portuguese family structure is a nuclear family in which the woman/mother is recognized as the primary caregiver of family members (Leandro, 2001). This cultural context is important since parenting practices regarding diabetes self-management may be different from other countries. Therefore, assessing Portuguese families on family functioning is important to inform interventions to meet parents and adolescents' needs regarding T1D. The aims of this study were: 1) the validation of the

FAD-GF in Portuguese families with adolescents with T1D and healthy adolescents; 2) to compare family functioning in both samples.

Method

Study Design and Participants

This study followed a cross-sectional design and included two independent samples: one composed of 100 families with adolescents with T1D and the other composed of 106 families with healthy adolescents. Data collection for families with T1D adolescents took place in two Portuguese urban hospitals. The inclusion criteria for this sample were: being the parent of an adolescent with a T1D diagnosis for more than one year, aged between 12 and 19 years old, followed in an ambulatory medical unit, with no other medical conditions. The instruments were answered while the adolescent and the parent waited for a routine medical appointment.

In the sample of parents of healthy adolescents, data were collected in schools located in

the urban central region of Portugal similar to the urban areas of the two hospitals were T1D adolescents were recruited. In Portugal, education and health care are sponsored by the government until the end of adolescence representing no costs for the family. Adolescents attended middle to high school classes, were aged between 12 and 19 years old, and had no chronic disease diagnosis in order to meet inclusion criteria. The FAD-GF was handed to the adolescent who was requested to take it home and ask a parent to answer and return it the following day. [Table 1](#) summarizes the sociodemographic characteristics of both samples.

Procedure

The study was approved by the ethical committees of both hospitals where data were collected for families with adolescents with T1D. Regarding the sample of families with healthy adolescents, the school principal's office approved the study. All parents participated voluntarily and anonymously in this study. Family

Table 1
Socio-Demographic Characteristics of Parents of Adolescents With T1D and of Parents of Healthy Adolescents

	Parents of adolescents with T1D (<i>n</i> = 100)		Parents of healthy adolescents (<i>n</i> = 106)	
	<i>n</i> (%)	Mean (<i>SD</i>)	<i>n</i> (%)	Mean (<i>SD</i>)
Adolescents				
Gender				
Female	48 (48%)		57 (53.8%)	
Male	52 (52%)		49 (46.2%)	
Age		15.12 (1.92)		14.40 (1.80)
Education level				
Middle school	34 (34%)		38 (35.8%)	
High school	63 (63%)		68 (64.2%)	
Illness duration		6.60 (3.77)	—	
Parents				
Gender				
Female	78 (78%)		83 (78.3%)	
Male	12(12%)		23 (21.7%)	
Age		44.51 (5.66)		43.81 (6.35%)
Education level				
High school	25 (25%)		38 (35.8%)	
Higher school	22 (22%)		36 (34%)	
Family typology				
Two parent family	73 (73%)		91 (85.8%)	
Single parent family	29 (29%)		15 (14.2%)	
Professional status				
Full-time job	71 (71%)		101 (95.3%)	

Note. T1D = Type I Diabetes.

functioning was assessed only in the parents' perspective. A written informed consent was obtained from all parents. In both samples, the parent considered the adolescent's primary caregiver was the one invited to participate in the study.

Measures

FAD's General Functioning Subscale. FAD-GF is a self-report measure composed of 12 items that assess overall family functioning perception (Ryan et al., 2005). Each item is scored on a 4-point Likert-type scale ranging from 1 (strongly agree) to 4 (strongly disagree) (Ryan et al., 2005). Half of these items are positively worded, reflecting healthy family functioning, while the remaining reflect unhealthy family functioning (Botelho de Haan et al., 2015). After answering the FAD-FG scale, negative items need to be inverted (Ryan et al., 2005) and the total score computed (sum of all items scores divided by the number of items). Higher scores indicate worse family functioning (Miller et al., 2000). The original cutoff scores is 2.00, that is, a total score greater or equal than 2.00 indicates unhealthy functioning, while less than 2.00 indicates healthy functioning (Ryan et al., 2005).

Diabetes Family Behavior Scale (DFBS). This scale assesses family behaviors implicated in the daily management of adolescents' diabetes self-care (McKelvey, Waller, North, Marks, Schreiner, Travis, et al., 1993). The Portuguese version (Almeida & Pereira, 2011) is composed of 33 items organized into a total scale ($\alpha = .91$) and two subscales: Warmth-Caring ($\alpha = .81$) and Guidance and Control ($\alpha = .76$). Each item is answered in a 5-point Likert-type scale. Higher scores indicate lower family support. In this study only the total scale ($\alpha = .83$) was considered.

Coping Health Inventory for Parents (CHIP). This scale assesses how parents of adolescents with a chronic disease cope with the illness demands keeping their family daily routines (McCubbin, McCubbin, Patterson, Cauble, Wilson, & Warwick, 1983). The Portuguese version is composed of 44 items organized into three components: Maintaining Family Integration, Cooperation and Optimistic Definition of the Situation ($\alpha = .80$), Maintaining Social Support, Self-Esteem and Psycholog-

ical Stability ($\alpha = .82$), and Understanding of the Medical Situation through Communication with other Parents and Health care Professionals ($\alpha = .76$) (Almeida & Pereira, 2016). In this study the alphas for each of the three components were .72, .81 and .71, respectively. Each item is scored on a 4-point Likert-type scale with higher results indicating high parental coping.

Data Analyses

Amos Version 23 and SPSS Version 23.0 (Statistical Package for the Social Sciences) were used to perform all the analysis. CFA was performed on both samples of families of healthy adolescents and of adolescents with T1D. To determine the adequacy of each model chi-square (χ^2), root-mean-squared error of approximations (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI) indexes (Brown, 2006) were calculated. RMSEA values below .05 indicate a close fit and between .05 and .08 an adequate fit (Hu & Bentler, 1999). CFI and TLI, should present values above .95 to indicate a model with a good fit (Brown, 2006). The option regarding the goodness-of-fit indexes took into account the categorical nature of the data and the common used indexes in Structural Equation Modeling that have shown evidence of their strong behavior in simulation studies (Brown, 2006; Yu, 2002). Model 1 in both samples showed a simple one-factor model and served as a comparison baseline to Model 2. The Model 2 was restructured according to the covariances.

To analyze the internal consistency of the FAD-GF in both samples, interitem correlations, item-total correlations, and Cronbach's alpha were calculated. The evaluation of convergent and divergent validity was performed with Pearson correlations with family support (DFBS) and parental coping (CHIP) measures, respectively, in the sample of families with adolescents with T1D. Only the FAD-GF questionnaire was answered by healthy adolescents since the school board considered family functioning the only relevant instrument for their students and parents taking also in consideration class time constraints. As a result, the evaluation of convergent and divergent validity in the healthy sample was not possible. To examine the differences in FAD-GF, in both

samples, according to gender, stage of adolescence, age, adolescents and parents' education level, type of family unit, and between families with healthy versus T1D adolescents, the *t* test and Mann–Whitney test were performed.

Results

Construct Validity

The CFA performed to assess the construct validity of the Portuguese version of the FAD-GF in families of adolescents with T1D showed that Model I presented the poorest fit indexes. The lowest standardized factor loadings were found in items 3 (.410), 4 (.411), and 8 (.403). The highest standardized factor loading was found in item 1 (.685). Through the analysis of the highest modification suggested indexes, the results showed that some items were overlapping such as 3, 4, and 12. There-

fore, the model was restructured, and these items were removed (see Figure 1). The restructured model showed improved fit indexes (see Table 2). The variance explained by each item ranged between 13% (item 2) to 55% (item 1).

CFA was also performed to examine the construct validity of the Portuguese version of the FAD-GF in a sample of families with healthy adolescents. The Model 1 showed reasonable fit indexes. Items 4 (.380), 3 (.411), and item 5 (.409) showed the lowest standardized factor loadings, and the highest coefficient was found in item 12 (.684). The analyses of the highest modification proposed indexes revealed that items 4 and 5 indicate an overlap. Thus, the model was restructured and with the removal of these two items, fit indexes improved (see Table 2 and Figure 2). The variance explained by each item in Model 2, ranged from 16% (item 3) to 47% (item 12).

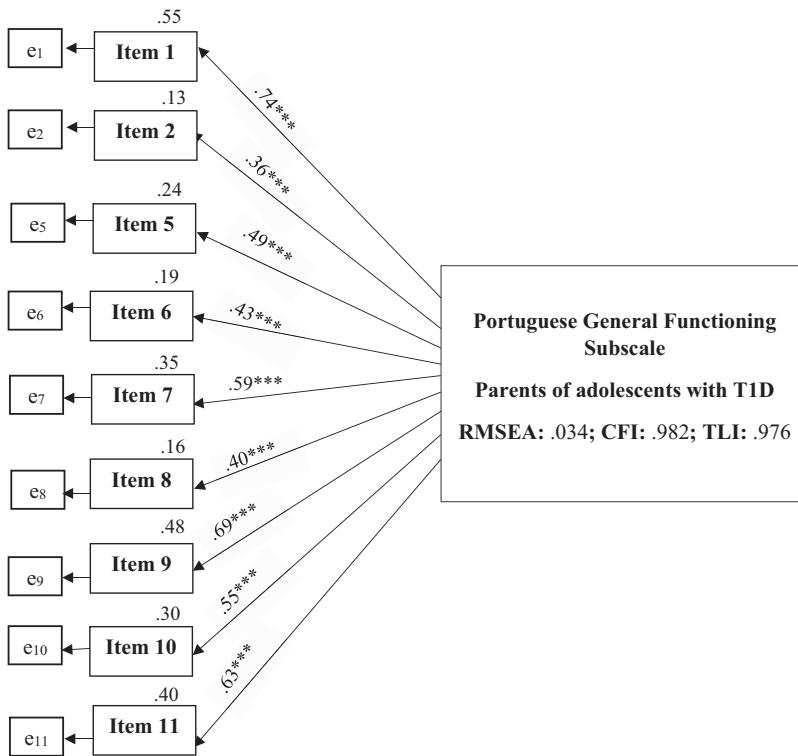


Figure 1. Final model of the General Functioning Scale in parents of adolescents with Type I Diabetes (T1D) with standardized estimates results to each item. * $p < .05$. ** $p < .01$. *** $p < .001$. RMSEA: root mean square error for approximation; CFI: comparative fit index; TLI: Tucker-Lewis index. Reference values: RMSEA $< .05$ good fit; CFI/TLI $> .95$ good fit.

Table 2

Goodness of fit Indexes of CFA of Sample of Parents of Adolescents With T1D ($n = 100$) and of Parents of Healthy Adolescents ($n = 106$)

	χ^2	<i>df</i>	χ^2/df	<i>p</i>	RMSEA	CI 90%	<i>p</i>	CFI	TLI
One-factor models—Sample of adolescents with T1D									
Model 1—Original model	90.494	54	1.676	.001	.083	.051; .112	.044	.866	.836
Model 2—Final model (removed items 3, 4 and 12)	30.090	27	1.114	.310	.034	.000; .088	.628	.982	.976
One-factor models—Sample of healthy adolescents									
Model 1—Original model	80.821	54	1.497	.010	.069	.034; .099	.161	.918	.900
Model 2—Final model (removed item 4 and 5)	39.557	35	1.130	.274	.035	.000; .081	.651	.983	.979

Note. χ^2 - chi-square; Df—Degree of freedom; RMSEA—Root Mean Square Error for Approximation; CI 90%—90% Confidence Interval (LL—Lower limit; HL—Higher Limit); CFI—Comparative Fit Index; TLI—Tucker-Lewis Index. T1D = Type I Diabetes Reference values: RMSEA < .05 good fit, .05–.08 adequate fit, >.10 poor fit; CFI/TLI > .95 good fit.

Reliability

In the sample of parents of adolescents with T1D, the mean obtained in FAD-GF was 1.871 ($SD = .41$), which represents healthy functioning (Ryan et al., 2005). The internal consistency showed a good Cronbach's alpha of .79, representing an acceptable measure of reliability (Tavakol & Dennick, 2011). The correlations of the items with the total FAD-GF subscale ranged from .484 (item 1) to .755 (item 2) (see Table 2).

In the sample of parents of healthy adolescents, Cronbach's alpha was .844, which reflects a good internal consistency of the Portuguese version of the FAD-GF. The FAD-GF showed a mean of 1.648 ($SD = .42$), which indicates healthy functioning (Ryan et al., 2005). The correlations of each item with the total FAD-GF subscale ranged from .530 (item 3) to .718 (item 7) (see Table 2).

Convergent and Divergent Validity

A negative correlation was found between the FAD-GF and social support ($r = -.277$; $p < .01$). Thus, the convergent validity showed that worse family functioning was related to better family support in families of adolescents with T1D.

Regarding divergent validity, no significant relationships were observed between the FAD-GF and the three components of Parental Coping, that is, Maintaining family integration ($r = -.056$; $p > .05$), Maintaining social support ($r = .037$; $p > .05$), and Understanding of the medical situation ($r = -.012$; $p > .05$).

Differences According to Gender, Age, Educational Level of Adolescents and Parents, Type of Family Unit, and Families With Healthy Versus T1D Adolescents

In the sample of families of adolescents with T1D, and taking into account parents' education level, there were significant differences in FAD-GF [$F(2) = 9.13$; $p < .01$], that is, parents with higher education reported better family functioning ($M = 1.70$; $SD = .39$), whereas parents with an educational level below high school showed worse family functioning ($M = 2.01$; $SD = .35$). In the sample of families of healthy adolescents, no significant differences were found on family functioning regarding education level.

There were significant differences in FAD-GF between parents of healthy versus adolescents with T1D [$t(203) = -3.96$; $p < .001$], i.e. parents of healthy adolescents showed better family functioning ($M = 1.64$; $SD = .42$) than parents of adolescents with T1D ($M = 1.88$; $SD = .43$). No significant differences were found on family functioning based on adolescents and parents' age and gender, adolescents' educations, and family typology in both samples.

Discussion

This study was focused on the validation of the FAD-GF in Portuguese families with adolescents with T1D and families with healthy adolescents taking also in consideration the comparison of family functioning in both samples. The CFA showed, in both samples, that the

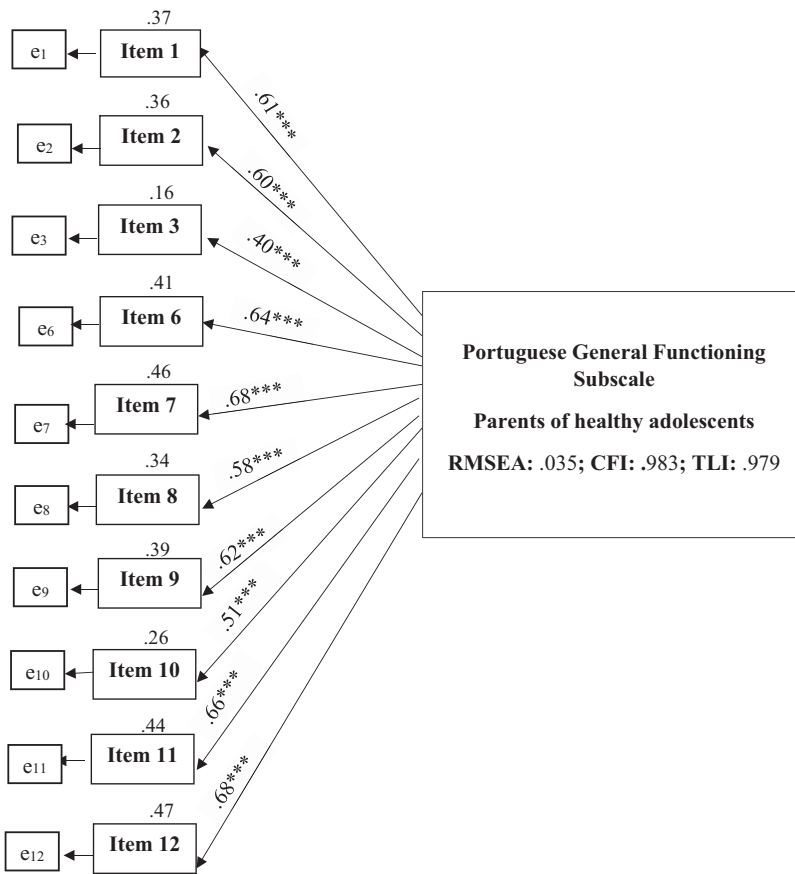


Figure 2. Final model of the General Functioning Scale in parents of healthy adolescents with standardized estimates results to each item. * $p < .05$. ** $p < .01$. *** $p < .001$. RMSEA: root mean square error for approximation; CFI: comparative fit index; TLI: Tucker-Lewis index. Reference values: RMSEA $< .05$ good fit; CFI/TLI $> .95$ good fit.

initial model had poor fit indexes, as the initial Brazilian (Pires et al., 2016) and Swedish (Bylund et al., 2016) versions of the FAD-GF. The present study also found an overlap between items 3, 4, and 12 in the sample of adolescents with T1D and between items 4 and 5 in the sample of healthy adolescents, and were therefore removed, resulting in improvements in RMSEA, CFI and TLI indexes (Brown, 2006). Also, in the Brazilian version (2016), the item 3 was removed to improve the model fit index. Both the Brazilian (Pires et al., 2016) and Swedish versions (Bylund et al., 2016) maintained correlated measurement errors to improve fit indexes. In the Swedish version (Bylund et al., 2016), the Likert scale was reduced to three options instead of the four proposed in the orig-

inal version (Ryan et al., 2005), in order to make the version more sensitive. In this study, the authors decided, in each sample, to remove the items that the CFA analysis suggested were overlapping instead of correlating measurement errors or change the Likert scale (Brown, 2006).

Both Portuguese versions presented a good internal consistency, similar to the Cronbach's alpha of the Brazilian version ($\alpha = .81$) (Pires et al., 2016) but lower than the Swedish version ($\alpha = .92$) (Bylund et al., 2016). Shek (2001) found better internal consistency in the sample of clinical adolescents ($\alpha = .86$) than in the nonclinical adolescents' sample ($\alpha = .82$).

In the sample of families with adolescents with T1D, convergent and divergent validity were analyzed using family support (DFBS)

and parental coping (CHIP). Shek (2001) found that the FAD-GF was associated with measures of family functioning or a similar construct than measures that assessed psychological well-being. However, some studies found that family functioning was related to coping strategies and social support (Staccini et al., 2015).

Both samples of Portuguese parents with healthy adolescents and adolescents with T1D were in the healthy functioning range, below the cutoff score (Ryan et al., 2005). There were also significant differences in FAD-GF scores between both samples, with parents of healthy adolescents showing better family functioning than parents of adolescents with T1D. These results were identical to Staccini et al. (2015) and Shek's (2001) studies. In the present study, differences based on parental educational attainment were found, where parents with higher educational attainment (above high school) reported better family functioning than parents with lower educational attainment. This particular result was inconsistent with prior work (Shek, 2001), highlighting the importance of improving parenting practices related to daily diabetes management to enhance family functioning in Portuguese families.

This study has some limitations that need to be acknowledged. As in the majority of the studies that used the FAD-GF, this study also assessed only one family's member perception of the family functioning (Staccini et al., 2015) and may, therefore, not be representative of the global family functioning of the remaining family members.

Further studies should use a design that involves the assessment of family functioning's perceptions of other family members, in order to assess differences between adolescents and parents and analyze how these differences may influence illness adaptation. Finally, since chronic illness routine demands may change according to the specific illness characteristics, it is important to assess family functioning in adolescents with other chronic illnesses.

Conclusion

This study assessed the reliability and validity of the FAD-GF in Portuguese families of healthy adolescents and in families of adoles-

cents with T1D. Both versions showed good psychometric properties. Families of healthy adolescents showed better family functioning than families of adolescents with T1D. In turn, parents of adolescents with T1D with higher education showed better family functioning.

Within the Portuguese cultural context, the Portuguese adapted versions of FAD-GF were able to identify families of healthy adolescents from families with adolescents with T1D. According to results, families with T1D adolescents may need some guidance and support in order to promote a better family functioning. The results need to be interpreted cautiously since for the most part, they were based on intact families from an urban culture, with parents presenting a high school level of education. The use of FAD-GF in other cultures, particularly outside of a European context should be carefully assessed.

References

- Almeida, A. C., Leandro, E., & Pereira, M. G. (2015). The role of family functioning on metabolic control and quality of life of adolescents with Type 1 Diabetes. In K. Nunes (Ed.), *Major topics in Type 1 diabetes* (pp. 137–148). Rijeka, Croatia: InTech. <http://dx.doi.org/10.5772/60732>
- Almeida, P., & Pereira, M. G. (2011). Escala Comportamental de Suporte Social e Familiar para Adolescentes com Diabetes (DFBS). *Psicologia, Saúde & Doenças, 12*, 55–75.
- Almeida, A. C., & Pereira, M. G. (2016). Psychometric properties of the Portuguese Version of the Coping Health Inventory for Parents (CHIP) of adolescents with chronic illness. *Journal of Pediatric Nursing, 31*, 528–536. <http://dx.doi.org/10.1016/j.pedn.2016.04.009>
- Baronet, A.-M. (2003). The impact of family relations on caregivers' positive and negative appraisal of their caretaking activities. *Family Relations, 52*, 137–142. <http://dx.doi.org/10.1111/j.1741-3729.2003.00137.x>
- Beevers, C. G., Wells, T. T., & Miller, I. W. (2007). Predicting response to depression treatment: The role of negative cognition. *Journal of Consulting and Clinical Psychology, 75*, 422–431. <http://dx.doi.org/10.1037/0022-006X.75.3.422>
- Boterhoven de Haan, K. L., Hafekost, J., Lawrence, D., Sawyer, M. G., & Zubrick, S. R. (2015). Reliability and validity of a short version of the general functioning subscale of the McMaster Family Assessment Device. *Family Process, 54*, 116–123. <http://dx.doi.org/10.1111/famp.12113>

- Brown, T. (2006). *Confirmatory Factor Analysis for Applied Research*. New York, NY: Guilford Press.
- Byles, J., Byrne, C., Boyle, M. H., & Offord, D. R. (1988). Ontario Child Health Study: Reliability and validity of the general functioning subscale of the McMaster Family Assessment Device. *Family Process, 27*, 97–104. <http://dx.doi.org/10.1111/j.1545-5300.1988.00097.x>
- Bylund, A., Årestedt, K., Benzein, E., Thorell, A., & Persson, C. (2016). Assessment of family functioning: Evaluation of the General Functioning Scale in a Swedish bariatric sample. *Scandinavian Journal of Caring Sciences, 30*, 614–622. <http://dx.doi.org/10.1111/scs.12269>
- Chen, Q., Du, W., Gao, Y., Ma, C., Ban, C., & Meng, F. (2017). Analysis of family functioning and parent-child relationship between adolescents with depression and their parents. *Shanghai Jingshen Yixue, 29*, 365–372.
- Cooke, D., Marais, I., Cavanagh, R., Kendall, G., & Priddis, L. (2015). Differences between mothers' and fathers' ratings of family functioning with the Family Assessment Device: The validity of combined parent scores. *Measurement and Evaluation in Counseling & Development, 48*, 226–237. <http://dx.doi.org/10.1177/0748175615578756>
- Hausken, S. E. S., Lie, H. C., Lien, N., Sleddens, E. F. C., Melbye, E. L., & Bjelland, M. (2019). The reliability of the general functioning scale in Norwegian 13–15-year-old adolescents and association with family dinner frequency. *Nutrition Journal, 18*, 20. <http://dx.doi.org/10.1186/s12937-019-0447-1>
- Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55. <http://dx.doi.org/10.1080/10705519909540118>
- Jaser, S. S., & Grey, M. (2010). A pilot study of observed parenting and adjustment in adolescents with type 1 diabetes and their mothers. *Journal of Pediatric Psychology, 35*, 738–747. <http://dx.doi.org/10.1093/jpepsy/jsp098>
- Leandro, M. E. (2001). *Sociologia da Família nas Sociedades Contemporâneas*. Lisbon, Portugal: Universidade Aberta.
- McCubbin, H., McCubbin, M. A., Patterson, J. M., Cauble, A. E., Wilson, L. R., & Warwick, W. (1983). CHIP—Coping Health Inventory for Parents: An assessment of parental coping patterns in the care of the chronically ill child. *Journal of Marriage and the Family, 45*, 359–370. <http://dx.doi.org/10.2307/351514>
- McKelvey, J., Waller, D. A., North, A. J., Marks, J. F., Schreiner, B., Travis, L. B., & Murphy, J. N., III. (1993). Reliability and validity of the Diabetes Family Behavior Scale (DFBS). *The Diabetes Educator, 19*, 125–132. <http://dx.doi.org/10.1177/014572179301900206>
- Miller, I. W., Ryan, C. E., Keitner, G. I., Bishop, D. S., & Epstein, B. (2000). The McMaster Approach to Families: Theory, assessment, treatment and research. *Journal of Family Therapy, 22*, 168–189. <http://dx.doi.org/10.1111/1467-6427.00145>
- Öngel Atar, A., Yalçın, Ö., Uygun, E., Çiftçi Demirci, A., & Erdoğan, A. (2016). The assessment of family functions, dyadic adjustment, and parental attitude in adolescents with substance use disorder. *Archives of Neuropsychiatry, 53*, 38–44. <http://dx.doi.org/10.5152/npa.2015.8750>
- Pires, T., Assis, S. G., Avanci, J. Q., & Pesce, R. P. (2016). Cross-cultural adaptation of the General Functioning Scale of the Family. *Revista de Saude Publica, 50*, 1–10. <http://dx.doi.org/10.1590/S1518-8787.2016050005832>
- Portuguese Society of Diabetology. (2016). *Annual Report of the National Diabetes Observatory*. Diabetes: Factos e Números—O Ano de 2015. Lisboa (Portugal).
- Ryan, C. E., Epstein, N. B., Keitner, G. I., Miller, I. W., & Bishop, D. S. (2005). *Evaluating and treating families: The McMaster approach*. New York, NY: Taylor & Francis Group.
- Shek, D. T. L. (2001). The General Functioning Scale of the Family Assessment Device: Does it work with Chinese adolescents? *Journal of Clinical Psychology, 57*, 1503–1516. <http://dx.doi.org/10.1002/jclp.1113>
- Smith, J. D., Montaña, Z., Maynard, A., & Miloh, T. (2017). Family functioning predicts body mass index and biochemical levels of youths with non-alcoholic fatty liver disease. *Journal of Developmental and Behavioral Pediatrics, 38*, 155–160. <http://dx.doi.org/10.1097/DBP.0000000000000379>
- Staccini, L., Tomba, E., Grandi, S., & Keitner, G. I. (2015). The evaluation of family functioning by the family assessment device: A systematic review of studies in adult clinical populations. *Family Process, 54*, 94–115. <http://dx.doi.org/10.1111/famp.12098>
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53–55. <http://dx.doi.org/10.5116/ijme.4dfb.8df>
- Thastum, M., Watson, M., Kienbacher, C., Piha, J., Steck, B., Zachariae, R., . . . Romer, G. (2009). Prevalence and predictors of emotional and behavioural functioning of children where a parent has cancer. *Cancer, 115*, 4030–4039. <http://dx.doi.org/10.1002/cncr.24449>
- Turluc, M. N., Ciudin, M., & Robu, V. (2016). Psychometric properties of a short version of the Family Assessment Device. *Romanian Journal of*

- Experimental Applied Psychology*, 7, 10–25. <http://dx.doi.org/10.15303/rjeap.2016.v7i3.a2>
- Weinstock, L. M., & Miller, I. W. (2010). Psychosocial predictors of mood symptoms 1 year after acute phase treatment of bipolar I disorder. *Comprehensive Psychiatry*, 51, 497–503. <http://dx.doi.org/10.1016/j.comppsy.2010.02.001>
- Whittemore, R., Jaser, S., Guo, J., & Grey, M. (2010). A conceptual model of childhood adaptation to type 1 diabetes. *Nursing Outlook*, 58, 242–251. <http://dx.doi.org/10.1016/j.outlook.2010.05.001>
- Whittemore, R., Liberti, L., Jeon, S., Chao, A., Jaser, S. S., & Grey, M. (2014). Self-management as a mediator of family functioning and depressive symptoms with health outcomes in youth with type 1 diabetes. *Western Journal of Nursing Research*, 36, 1254–1271. <http://dx.doi.org/10.1177/0193945913516546>
- Yu, C. (2002). *Evaluating Cutoff Criteria of Model Fit Indices for Latent Variable Models with Binary and Continuous Outcomes* (Doctoral dissertation). University of California, Los Angeles.

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