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VALIDATION OF A BRAZILIAN PORTUGUESE MEASURE OF FAMILY RESOURCES
IN A SAMPLE OF PARENTS TO CHILDREN WITH CONGENITAL ZIKA VIRUS
SYNDROME

by

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VALIDATION OF A BRAZILIAN PORTUGUESE MEASURE OF FAMILY RESOURCES
IN A SAMPLE OF PARENTS TO CHILDREN WITH CONGENITAL ZIKA VIRUS
SYNDROME

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University of Nebraska, 2021

Advisor: Natalie Williams

In the aftermath of the 2015 Zika virus outbreak in Brazil, thousands of children and their families continue to face challenges associated with Congenital Zika Syndrome, a developmental condition associated with microcephaly and other serious birth defects affecting the central nervous system. Family-centered rehabilitative care is critical to optimize the trajectories of children who have significant developmental disabilities like CZS. These services involve assessing for the presence of family resources that may help to promote positive outcomes for children. Little is known regarding family resources in the context of caring for a child with CZS in Brazil due to the absence of validated measures for this population.

This study is part of a larger research endeavor examining the psychological adaptation and needs of caregivers to children with CZS. This thesis project had two aims. The first aim was to describe the translation and cultural adaptation of the Family Resource Scale, a widely used measure of family resources, for use in a Brazilian Portuguese sample. The second aim was to explore the measurement quality of the resulting adapted measure (referred to as the Brazilian-Family Resource Scale, or B-FRS). A rigorous translation process that emphasized linguistics as well as cultural appropriateness was utilized following published guidelines for the cross-cultural translation of questionnaires. The resulting 27-item B-FRS was determined to be both theoretically related and reflecting the contextual intent of the original measure. A four-factor

scoring approach yielded acceptable internal consistency estimates for the subscales and total scale score. Overall, low levels family resources were reported by caregivers of children with CZS in this sample. Low family resources were associated with poorer parental psychosocial wellbeing. Confirmatory factor analysis of the B-FRS in a larger sample is recommended.

Practitioners in Brazil should consider family and caregiver needs and resources to provide family-centered care that is effective for the child and engage the family in a way that promotes a positive developmental trajectory.

Validation of a Brazilian Portuguese Measure of Family Resources in a Sample of Parents to
Children with Congenital Zika Virus Syndrome

Background

Zika virus infection was a major global public health concern that emerged in 2015 and continues to have a lasting impact on those who were affected by the epidemic. Although human infection was typically associated with mild illness, the 2015-2016 Zika outbreak in Brazil occurred concurrently with an unusual increase in the number of infants born with microcephaly. Exposure to Zika infection during pregnancy has been associated with congenital microcephaly and a constellation of other serious birth defects affecting the central nervous system, called Congenital Zika Syndrome (CZS) (Costello et al., 2016; Melo et al., 2016). From 2015-2019, a total of 3,332 confirmed cases of CZS were reported in Brazil with nearly 70% of the total cases reported occurring in the northeast region of this country (Secretaria de Vigilância em Saúde, 2019).

Most children with CZS have significant functional impairments and neurodevelopmental skill deficits, although variability within developmental profiles regarding the specific areas of functioning impacted as well as the severity of impact is observed (Moore et al., 2017). In a prospective longitudinal study of 121 children with Zika virus infection in utero *and* obvious clinical features of CZS at birth, the majority of children exhibited profound developmental delays across all developmental domains (Wheeler et al., 2020). Illustratively, when assessed at age 2.5 years, children in this study had a mean developmental age on the Bayley Scales of Infant Development – Third Edition equivalent to two to four months. Findings from this study and other cross-sectional studies indicate that children with microcephaly are most at risk for severe developmental impairments (França et al., 2018; Lopes Moreira et al., 2018; Satterfield-

Nash et al., 2017; Wheeler et al., 2018); however, developmental outcomes have also been found to be adversely impacted in children who did not exhibit microcephaly or obvious physical manifestations of the syndrome at birth (Faiçal et al., 2019) (for an exception, see Gerzson et al., 2020).

Zika virus has not only impacted children's development, but also their caregivers' mental health and the wellbeing of the entire family (Alvarez et al., 2015). Accumulating evidence suggests that parents of children with CZS experience reduced quality of life, fatigue, increased stress, lower life satisfaction, and psychological difficulties (de Souza et al., 2018; Kotzky et al., 2019; Williams et al., 2019). For example, in a study based in Rio de Janeiro and Recife, mothers of children with CZS reported more stress, depressive symptoms and anxiety compared to caregivers of children without microcephaly and developmental delays (Kuper et al., 2019). In another recent study, de Souza and colleagues assessed general mental health, positive and negative affect, fatigue, and life satisfaction in 86 parents of children ages 1-20 months with CZS (M age = 9.67 months) (de Souza et al., 2018). Findings revealed that almost a fifth (18.6%) of parents indicated a negative evaluation of their mental health, and nearly 7% had a score indicating poor mental health and probable emotional disorders. In multivariate models, mental health was predicted by less positive and more negative affect, lower life satisfaction, and more fatigue.

Recognizing the complex needs of both children and their families, published treatment guidelines specify a *family-centered, individualized approach* to providing services for children with CZS and highlight the necessity of identifying supports for caregivers (Bailey & Ventura, 2018; Wheeler, 2018). A family-centered approach to providing services for children with CZS is well-aligned with the aspirations of Brazil's Ministry of Health to ensure that families receive

appropriate training related to the care of children with special needs and are supported to implement interventions across and within the various contexts in which children's development occurs (Garibaldi et al., 2017). These aspirations are reflected within several federal policies in Brazil, including: the National Policy for Comprehensive Child Health Care, the National Health Policy for Persons with Disabilities and the Disability Health Care Network, the National Primary Care Policy, and the National Plan to Combat Microcephaly (Baptista & Baptista, 2019; Damasceno et al., 2016; Macinko et al., 2017; Ministério da Saúde. Secretaria de Atenção à Saúde., 2016).

Hallmarks of family-centered care in services for children with disabilities include presenting families with developmental information, helping to facilitate adaptations in daily care and family routines, and engaging families in long-term planning to help establish and maintain positive developmental trajectories for children (Dunst & Espe-Sherwindt, 2016; Perrin et al., 2007). Despite attention to the needs of vulnerable children and families in both Brazil's guiding principles for health care and established federal policies, two recent systematic reviews suggest that these family-centered practices are not routinely implemented in early intervention services (Duttine et al., 2020; Marini et al., 2017). One reason for this disconnect is that in Brazil, services for children with disabilities are primarily provided through the health sector. Service provision occurs in clinical settings and is guided by a rehabilitative care treatment model, wherein child-focused interventions are administered to stimulate children's skill development in specific areas where deficits have been identified (Marini et al., 2017). Ecological approaches that extend assessment and intervention into family and community contexts are not presently standard care.

In their systematic review, Marini and colleagues (Marini et al., 2017) suggest that

another barrier to the provision of family-centered early childhood intervention in Brazil is the paucity of scientific literature to help guide practice. Specifically, they argue that there are large conceptual and empirical gaps related to the provision of family-centered practices in Brazil that must be addressed to align service provision for children with disabilities with recommended approaches to early intervention. An ongoing challenge for researchers seeking to address these gaps is a dearth of validated measurement tools that provide insight into the needs and experiences of families caring for children with disabilities. For example, a critical first step in supporting children and families in the early intervention context is identifying the presence (or absence) of *family resources* in intrapersonal, interpersonal, and environmental domains that could help families to reduce stress and experience an increased capacity to support their children's learning and developmental outcomes (Dunst, et al., 1994b). Although measures of family resources exist in the extant literature, none have been translated and validated in Brazilian Portuguese. Consequently, early intervention practitioners in Brazil do not have a comprehensive, standardized way of assessing family resources, including both family needs and strengths.

Overview

This study seeks to address a specific knowledge gap by describing the translation and preliminary validation of a prominent existing measure of family resources, the Family Resources Scale (Dunst & Leet, 1988), in a sample of caregivers to children with CZS in Brazil. To orient readers to the topic, the conceptual foundations of family resources are summarized first, with particular attention to how concepts from ecological theory, family systems theory, help seeking and intervention, and social support are integrated. Second, specific types of family resources are reviewed. The literature review concludes with discussion of resource-related

challenges that may be particularly evident among families of children with CZS in Brazil and introduces the Family Resource Scale, followed by a presentation of the specific aim of this study.

Conceptual Foundations of Family Resources

Conceptualization and assessment of family resources within the early intervention literature reflects an integration of theory and empirical evidence from several lines of research that seek to understand human behavior and functioning across various settings and under different conditions. *Ecological perspectives* on family resources highlight the temporal interrelationships among individuals and the contexts in which they are embedded, including aspects of their natural, social, and built environments (Bronfenbrenner, 1977). Within this conceptual framework, resources in one domain (e.g., community access to nutritious foods) are recognized as influencing human functioning in other domains (e.g., child health and developmental outcomes over time). *Family systems theories* also highlight the interconnectedness and emphasize processes through which the availability and accessibility of resources (ranging from basic needs such as food and shelter to interpersonal and growth-oriented needs such as sufficient time to be with family and friends) can influence the well-being of families and their members (Trivette et al., 2010). A central tenant of family systems theory is that individuals cannot be understood in isolation from one another (Schermerhorn & Mark Cummings, 2008). Thus, challenges experienced by one family member has consequences for other family members' outcomes, as well as for overall family functioning and adaptation.

The *help-seeking and intervention* literature introduces the idea that convergence between patient/family and professional perspectives on the needs of the child, parent, and/or family is a critical determinant of treatment or intervention adherence and subsequently, achievement of

desired outcomes (Gourash, 1978). In contrast, disagreement in the identification of needs may result in a reduced probability of successful treatment because a) the treatment was not appropriate, or b) there is low treatment adherence because the patient and their family do not believe it is valuable or likely to have the desired impact on the presenting concern (Marshall et al., 2020). Finally, the *social support* literature emphasizes the interpersonal aspects of individuals' needs (Barrera, 1986). Specifically, support from others is viewed as a critical influence on an individual's health and psychosocial well-being. Types of social support provided vary and may serve different functions for individuals. For example, social support provided by others can be an emotional resource, instrumental resource, or informational resource (Feeney & Collins, 2015).

Types of Family Resources

Informed by these diverse theoretical perspectives, the construct of family resources encompasses a wide range of variables, including both physical/material resources and instrumental/relational resources. Regarding the former, much of the literature investigating the impact of resources on individual and family outcomes focuses on variables that are constituent indicators of socioeconomic status, such as family income, parental educational attainment, and occupational status. Family finances impact the availability of physical resources such as food and shelter which are paramount for maintaining good health as well as psychosocial well-being. In their investigation of the relationship between family income and parental perception of quality of life in families with children that have disabilities, Wang and colleagues found that families with higher incomes reported having more resources available to them and greater life satisfaction than families with lower incomes (Wang et al., 2004). Additionally, middle-income or high-income families can make more adaptations in their routines and lifestyles to integrate a

child with a developmental delay and their special needs compared to low-income families (Skinner & Weisner, 2007).

Instrumental/relational resources have also been shown to impact individual and family functioning, including health care and transportation and human resources, such as time spent with family and time to travel or vacation. Moreover, there is evidence that these resources serve as protective factors for individuals and families in the context of low material resources. In a sample of Australian families of young children with disabilities, it was concluded that when families reported support from extended family, income was not related to positive family outcomes (Davis & Gavidia-Payne, 2009). This finding illustrates that social support can buffer the negative stressors that may be associated with raising a child in a challenging environment, including in the context of poverty.

Involving Families in Early Intervention

Family-centered practice is the gold standard approach in the field of early intervention. Researchers and service providers generally accept that young children with disabilities should not be served independent from their families because services are more effectively provided when considering the context in which the child is embedded (Bailey et al., 2012). This is highlighted in Epley and colleagues' (2010) review of conceptualizations of family-centered practice, which concluded that the family should be treated as the "unit of attention" (p. 270), meaning that the family's needs, well-being, and outcomes must be examined holistically for interventions to be most beneficial.

Understanding the Family Context

Considering the environments in which a family is embedded facilitates the development and effective implementation of early intervention services (Dunst et al., 1988; Mahoney et al.,

1998). Thus, although family-centered intervention is strengths-focused, it is also cognizant that families of children with disabilities face many demands and stressors that can affect their participation in child interventions. Illustratively, for families living in poverty, professionals should consider interventions tailored not only to the child's developmental needs, but also to potential challenges experienced in the home environment that might affect the success of an intervention (Corr et al., 2016). For example, for families that struggle with basic needs (e.g., food, adequate housing, and transportation), dedicating time or money to participate in an early intervention program may be a significant barrier to their child receiving timely and regular services (Dunst & Leet, 1987; Mahoney et al., 1998).

Often with limited resources, caregivers must manage special health care needs of a child with a disability, the rest of their family's school and home routines, and working to make ends meet. This results in a complicated balancing act, especially if parents are dealing with their own poor health or disabilities (Skinner & Weisner, 2007). The presence of strong social support networks can help some families to meet their child's needs despite living in impoverished environments. For example, extended family or friends may provide help with bills, transportation, or childcare. Social support networks also serve as an emotional resource, providing an outlet to express stress or anxieties related to caring for a child with a disability. These networks can help with problem-solving and de-escalate stressors from reaching levels that may disrupt family interactions (Guralnick, 2011). Likewise, social support may be especially important because many families have described a sense of isolation and exclusion from the community and school activities because of their child's disability (Bailey et al., 2006).

To best provide individualized, family-centered services, providers should be aware of and respectful to diversity in families (Bailey et al., 2012). This increased diversity in families

can be attributed to changing family structures, moving away from the model of the nuclear family and more commonly toward single parent or extended family households (Hanson & Lynch, 1992). By accounting for unique family needs, priorities, and strengths, early intervention practitioners are better equipped to create unique and individualized services and support plans (Epley et al., 2010; Hiebert-Murphy et al., 2011). Overall, the potential for diversity in available family resources highlights the need for professionals to be accessible, approachable, and flexible in their approaches to intervention.

Evidence Supporting Family-Centered Practice

The use of family-centered practices that reflect awareness of family resources are consistently linked to improved child health outcomes as well as better emotional and social well-being in early intervention (Dunst et al., 1994a). In a sample of Australian families with young children with disabilities participating in family-centered early childhood interventions, children exhibited the largest improvements in taking care of their own basic needs following the intervention (Davis & Gavidia-Payne, 2009). The same study also found that the children's health, as reported by parents, was positively associated with developmental outcomes, as reported by intervention specialists. This is an important finding because it indicates that health concerns of children with disabilities influence their developmental functioning. Another investigation of Australian early childhood intervention outcomes found that professionals' ratings of children's ability to retain the knowledge and skills that were taught to them improved following the intervention (Hughes-Scholes & Gavidia-Payne, 2019). Specifically, they found that children's understanding and use of appropriate behaviors to meet their needs increased over the course of the intervention. Surprisingly, there is minimal evidence that supports the improvement of social-emotional and behavioral improvement following early intervention, with

many researchers attributing this to the lack of investment into socio-emotional development by the services.

Additionally, there is evidence that family-centered practices in early intervention lead to improvements in family functioning, parent well-being, and skills and confidence in the parenting role. Findings from a large, nationally representative longitudinal study of participants in government-funded early intervention programs indicated that program participation resulted in parents believing that they could meet their children's most basic needs and help their child learn and develop (Bailey et al., 2012; Hughes-Scholes & Gavidia-Payne, 2019). Parents have also reported feeling that they were better able to work with service providers following family-centered care and interventions. In their review of the literature, Kuhlthau and colleagues (2011) concluded that in both randomized control trials and cross-sectional studies parents reported improvements in communication with providers listening to their concerns. Further, parents have reported perceiving their ability to advocate for services and access to high-quality medical care to have improved at the end of interventions (Bailey et al., 2012; Hughes-Scholes & Gavidia-Payne, 2019; Kuhlthau et al., 2011; Raspa et al., 2010). Most importantly, a number of studies have concluded that at the end of interventions, parents were more optimistic about their child and family's futures and reported higher levels of individual and family functioning than at the beginning (Bailey et al., 2012; Van Riper, 1999).

Family Resources in the Context of Caring for a Child with CZS in Brazil

Despite recognition of the importance of family-centered early intervention for children with CZS and evidence supporting the benefits of family-centered intervention for children with disabilities, little is known regarding the family resources and needs of Brazilian parents whose children are diagnosed with CZS. Many of the families affected by CZS are from low-income

communities and/or rural areas and faced significant geographic and social-economic challenges that influenced family access and use of intervention services. For example, the New York Times reported the transportation challenges of Brazilian families with children diagnosed with CZS. These families rode public transportation one or more times a week, for two or more hours each way, from their homes to clinics and hospitals in Recife to receive services for their children (Belluck, 2017; Belluck & Franco, 2017). For some, the trips were so economically, physically, and emotionally demanding that only occasional appointments were possible. This left parents and extended family members to carry the responsibility for identifying how best to make accommodations and meet the developmental needs of their child. A recent qualitative study that sought to examine caregiver perspectives of children with CZS and their needs related to their functioning and development found that many of the mothers cited environmental contexts and resources influencing their child's development – including barriers related to access to services, transportation, and lack of information regarding their child's condition (Campos et al., 2020). While this is anecdotal evidence, it provides context for researchers considering the role of the family and their available resources (e.g., food, shelter, financial support, transportation, health care, and childcare) in relation to the early intervention experiences of children with CZS and their families.

Research Gap

Research suggests that that the most successful outcomes in early intervention are demonstrated by young children who receive services early in development and for a longer period, compared to older children receiving shorter amounts of services (Raspa et al., 2010). Thus, it is critical that early intervention services are engaging and impactful for families of young children with CZS. Incorporating a focus on family resources is one way to promote

family engagement and in turn, the achievement of treatment goals. Resource-based interventions involve identifying a family's unique needs, and using this information to help them acquire useful resources that promote both child and family wellbeing (Dunst et al., 1994a). A first step in implementing tailored resource-based interventions for children with CZS involves gathering accurate knowledge regarding availability and adequacy of family resources. Although anecdotal evidence from Brazilian health care professionals suggests that inadequate family resources are a barrier to effective treatment, the availability of resources for families of children with CZS in Brazil has not been described adequately in part due to the lack of validated measures that are translated into Brazilian Portuguese and culturally adapted for this population (Brunoni et al., 2016).

Many researchers have concluded that simply translating an instrument and assuming it will be representative in a different cultural context is inappropriate (Garcia-Castillo & Fetters, 2007; Sousa & Rojjanasrirat, 2010; Sperber, 2004). This is because a measure that has been validated in a certain context is bound to the cultural nuances of the sample, as well as time. For example, since the FRS was originally validated in a sample of caregivers in the United States in the late 1980s, it would be fallacious for researchers to assume that today's caregivers in a Brazilian sample would prioritize or resonate with the needs identified by the US caregivers decades ago. Additionally, there could be varying dialects of the translated language that could lead to errors in the transformations of the words that alter the semantics (Toma et al., 2017). Therefore, it is imperative that researchers show they are going beyond translation and assessing the same qualities as the original measure accurately in a new sample, while also capturing differences in the cultural contexts (Geisinger, 1994).

Current Study

The purpose of this study was to advance the provision of family-centered early childhood intervention in Brazil by translating and providing preliminary validation of a questionnaire that can help guide professionals in developing effective family resource-based interventions. As noted previously, simply translating an existing measure into a different language does not ensure cultural appropriateness or that the translated measure retains the same psychometric characteristics as the original version (Gjersing et al., 2010; Gudmundsson, 2009). Borsa and colleagues (2012) argue that simple transition into Brazilian Portuguese may result in an overly complex translation in which the target population does not understand the instrument, or an overly simplistic translation in which the content in the instrument is too condensed. Thus, engaging in a cultural adaptation process was critical to ensure the validity of a translated measure. This highlights the need to include outside reviewers and use an iterative process with members of the target population to ensure cultural accuracy, as well as for psychometric evaluation to be conducted in addition to the translation. This process will ensure the measure is culturally sensitive and accurate when employed in a new sample.

Methods and Results

Questionnaire Identification

The Family Resource Scale (FRS) is an established English language self-report rating scale that measures resources available to families with young children (Dunst & Leet, 1987). This measure was introduced in the late 1980s as the field of early intervention was shifting from an emphasis on child-focused intervention to family-focused approaches. Accordingly, the FRS reflects a social systems perspective with items measuring both individual and contextual aspects of family functioning. The original 30-item FRS was validated in a US sample of 45 mothers of

preschool-aged children with developmental or cognitive delays ranging from low to middle socioeconomic status and was found to have six factors: growth and support, necessities and health, physical necessities and shelter, intrafamily support, childcare, and personal resources (Dunst & Leet, 1987). The authors reported internal consistency for the total score of .92, but internal consistency estimates were not reported for the subscales.

Subsequent efforts to establish the measurement quality of the FRS have produced varying results in different samples. There is particular debate surrounding factor structure and the appropriate number of subscales. Two studies examined the psychometric properties of this scale among families of children with behavioral problems. In a sample of 162 Australian families of children with behavioral or developmental concerns, factor analysis of the FRS suggested a three-factor model (basic needs, additional financial needs, and time for self or family) (Rhodes et al., 2012). More recently, in a sample of 300 families with concerns about their child's behavioral problems, a four-factor structure (basic needs, essential care, time for family, and extra money and time for yourself) was found to provide the best fit (Patwardhan et al., 2019). Samples of primarily low income families have shown support for both a shortened 20 item four-factor structure (basic needs, money, time for self, and time for family) (Van Horn et al., 2001) and a 30 item six-factor structure (basic needs, housing and utilities, benefits, social needs/self-care, child care, and extra resources) (Brannan et al., 2006).

To our knowledge, only one study has translated and culturally adapted the FRS for a non-English speaking population. The Arabic-Family Resource Scale (A-FRS; Almasri et al., 2014) underwent forward translation, expert panel back-translation, pre-testing, and cognitive interviewing before being administered to 115 rural and urban Jordanian families with children or adolescents diagnosed or at risk for cerebral palsy and receiving rehabilitation services at a

hospital (Almasri et al., 2014). Nearly half of this sample was low-income, and the mean age of the children was 4.6 years old. All 30 items were retained in the six-factor model found to provide the best fit for the data (physical and health necessities, intra-family support, family entertainment, personal support, basic necessities, and childcare). Given the mixed findings in studies exploring the psychometric qualities of the FRS, researchers are cautioned that the scale should be tested for validity and reliability when used in other settings and with other populations (Patwardhan et al., 2019).

Forward Translation

Four primary translators worked on developing the initial Brazilian Portuguese translation of Family Resource Scale, hereafter called the B-FRS, using a collective translation process. All individuals working on the translation were native Portuguese speakers, fluent in both English and Portuguese, and had spent time in both the United States and Brazil. Three translators held doctoral degrees in mental health and/or education-related professional fields and the third was a master's-level mental health professional and current doctoral student. Each translator worked independently to create what they believed to be the most accurate version of the questionnaire, considering both language and Brazilian culture. After developing their own translations, they met as a group to compare and collectively develop what they agreed was the most accurate and culturally appropriate version of the instrument. Identified discrepancies in translation reflected minor variations in wording and were resolved through discussion until group consensus was reached regarding item translation. All 30 items from the original FRS were retained and deemed suitable for Brazilian families. Subsequently, two other native Portuguese speakers independently reviewed the translated measure for overall clarity and cultural appropriateness. First, a faculty colleague of one of the Brazilian research team members

reviewed the translated measure with respect to face validity. Familiar with the content, this colleague advised minor changes to the questionnaire which the research team reviewed and agreed upon. Later, a second native Portuguese speaker was asked to inspect the revised measure for grammatical and language purposes. Again, minor changes were suggested which the research team then reviewed together and adopted, establishing the first draft of the B-FRS.

Back Translation

Three bilingual doctoral students that were enrolled at the P.I.'s home university in the United States who were not studying in the social sciences or involved in the study translated the B-FRS first draft back to English. One of these students was a native English speaker and two were native Portuguese speakers. Comparison of the original FRS and the backtranslated versions produced by the three students showed consistency in item meaning and only minor differences in wording. Therefore, no additional changes to the translated questionnaire were deemed necessary. This version was used for field testing (described below).

Field Testing

The purpose of field testing was to administer the instrument to the target population and collect data to allow for evaluation of the psychometric qualities of the B-FRS. The sample for field testing of the B-FRS included 50 caregivers of young children with CZS who were receiving medical care at the Instituto de Medicina Integral Professor Fernando Figueira (IMIP) and participating in a larger study exploring the impact of CZS on families. IMIP is an institution accredited by the Ministry of Health of Brazil. IMIP is located in Recife, the capital of Pernambuco state, a city that experienced a large volume of cases associated with the Zika outbreak. IMIP is part of the Sistema Única de Saúde (the public system of health care) and serves low-income individuals and families.

Eligibility criteria for the larger study specified that participants had to be the primary caregiver of a child between the ages of birth to three years that had been diagnosed with CZS and had been attending weekly rehabilitation services at the hospital. The study was open to all caregivers regardless of race/ethnicity, gender, and age. Among the 50 caregivers who participated, the majority (92%) were mothers and the mean age of participants was 31.1 years ($SD = 9.0$). The sample included one father and three grandparents. The children were between 7 and 37 months of age ($M = 25.9$, $SD = 6.2$) and 66% were female. Participants reported their race/ethnicity as follows: White (28%), Black (14%), Indigenous (4%), and Mixed race/ethnicity (54%). All participants reported a total family income between 1 to 3 minimum Brazilian salaries (each minimum salary is equivalent to approximately \$300 US per month). The majority (70%) had at least one other child within 4 years of age of the child with CZS.

Graduate research assistants approached and recruited caregivers for the study during their child's weekly therapy appointments. If a participant was eligible and expressed interest in participating, the research assistant obtained written informed consent. Enrolled participants then had the option to complete the study during the current visit or the following week during their child's appointment. Research assistants administered a battery of questionnaires that included the Brazilian FRS. Questionnaires took approximately 60-90 minutes to complete. Responses were recorded on iPads with Qualtrics for data management and confidentiality reasons. Data were collected between January 2018 and April 2018.

Psychometric Testing

Item Analysis

Evaluation of the psychometric qualities of the B-FRS utilized data collected during field testing. The performance of each item was examined to determine the need to eliminate any

items from the 30-item translated version. First, examination of the frequencies of each individual item revealed that there was adequate distribution of responses across the scale choices, indicating variability in the sample. However, on three items (c) most respondents selected the response option “Not Applicable” suggesting that these items lack content validity in the target population. These three items were dropped in all subsequent analyses of the B-FRS.

Means, standard deviations, and ranges were calculated for each of the remaining 27 items (Table 1). The range of scores for 25 items varied from 1 to 5. Responses for Question 19 ranged from 2 to 5 and responses for Question 15 ranged from 1 to 4. Responses on most of the items (48.1%) indicated that respondents’ access to resources were inadequate as indicated by their ratings of “seldom adequate” to “not at all adequate” on the items. The lowest average rating was for “family to be together” (Q15), and the highest average rating was for “food for two meals a day” (Q1). Only 14.8% of the item means had optimal ratings in terms of adequacy of resources.

Internal Consistency Reliability

The original FRS was designed to yield a total scale score as well as six subscales. For the current study, a total score for the B-FRS was calculated by taking the mean of all items except the three items that were dropped because they were not applicable in this sample (Q5, Q20, Q21). A total scale score was calculated for all participants who were missing less than 20% of the remaining items. In the current sample, the B-FRS mean total score was 3.18 (SD = .81).¹ The Cronbach Alpha coefficient, which is a proxy for the degree to which a set of items measures a single unidimensional latent construct (Ursachi et al., 2015), was used to calculate an

¹ Direct comparisons with the original 30-item FRS are not made because the measure development paper provides only a total sum score for the scale rather than reporting the mean of all items and also did not account for missing item responses.

internal reliability estimate for the total scale. Results revealed excellent internal consistency for the 27-item B-FRS total scale score ($\alpha=.93$).

Subscale scores for the B-FRS were then calculated following the published scoring conventions for the original FRS and two other studies that described their scoring protocols and reliability estimates at the subscale level (Van Horn et al., 2001; Patwardhan et al., 2019). Cronbach Alpha was calculated for each subscale and the obtained internal consistency estimates were compared with those reported in prior studies. Results are summarized in Table 2. The original FRS scoring protocol, which included six subscales, had acceptable alphas for the subscales of Growth and Support and Necessities and Health ($\alpha=.85$ and $.88$); however, the Physical Necessities and Shelter, Intrafamily Support, and Personal Resources subscales had low internal consistency estimates ($\alpha=.08$ to $.67$). Additionally, a score could not be calculated for the Childcare subscale because the items loading on the scale in the original FRS were not included in the 27-item B-FRS. Van Horn and colleagues (2001) scoring protocol for the FRS-revised also did not appear to provide an ideal scoring approach from the B-FRS. In this case, only two of the four subscales (Basic Needs and Money) had acceptable internal consistency estimates.

Patwardhan et al.'s (2019) four factor structure appeared to provide a reasonable approach for scoring B-FRS. In this scoring approach, subscale scores are created by taking the mean of the items with the caveat that no more than 20% to 25% of the items should be missing for that subscale for scales with three or more items. Among the four subscales yielded with this scoring approach, the Time for Family subscale had the only unacceptable reliability estimate ($\alpha=.45$). However, examination of the correlations between the two items comprising this subscale, "Time for family to be together" (Q15) and "Time to be with child" (Q16) indicated

that these items were significantly related $r = .33$ ($p < .05$). As such, the overall low reliability for the scale is likely due to having only two items rather than a true lack of association between the constituent items that comprise the subscale. Therefore, this scoring approach was adopted for all subsequent analyses. Means and standard deviations for the B-FRS subscales using this scoring paradigm are presented in Table 2.

Concurrent and Discriminant Validity

Concurrent and discriminant validity for the B-FRS was assessed by examining the Pearson correlations between the B-FRS subscale scores and the total score, as well as whether the B-FRS total and four scale scores were associated with other relevant variables in the assessment battery in the expected directions, including, parental symptoms of depression and anxiety, parenting stress, and parental coping strategy use. Measurement of these variables was obtained as follows:

- Parental depressive symptoms were assessed using the Brazilian Portuguese version of Beck Depression Inventory-II (BDI-II; (Gomes-Oliveira et al., 2012). The BDI-II is a 21-item inventory that measures characteristic attitudes and symptoms of depression. Respondents rate how they are bothered by each symptom using a 0-3 rating scale, yielding total scores ranging from 0 to 63. Suggested threshold for levels of severity are as follows: 0-13 = minimal/no depression, 14-19 = mild depression, 20-28 = moderate depression, and 29-63 = severe depression. This version of the BDI-II has high internal consistency and factorial validity. Cronbach's alpha was .89.
- Symptoms of parental anxiety were measured using the Brazilian Portuguese version of the Beck Anxiety Inventory (Cunha, 2001; de Lima Osorio et al., 2011). Caregivers rated how much they have been bothered by 21 symptoms over the past week using a 4-point

scale ranging from 0 to 3. Items were summed to obtain a total score ranging from 0 to 63. Sum scores were interpreted as follows: 0-7 = minimal anxiety, 8-15 = mild anxiety, 16-25 = moderate anxiety, 26-63 = severe anxiety. This version of the Beck Anxiety Inventory has high internal consistency and item-total correlations from .30 to .71 (median = .60) and has demonstrated high test-retest reliability and convergent validity with other scales. Cronbach's alpha in the current sample was .90.

- Parenting stress was assessed using The Parenting Stress Index, Fourth Edition-Short Form (PSI-4-SF; Abidin, 2012). Parents responded to 36 statements using a 5-point scale (1 = "I strongly agree" to 5 = "I strongly disagree"). Items are combined to yield a Total Stress score. The PSI-4-SF provides *t* scores and percentile scores as normative metrics. The normal range for scores is within the 16th and 84th percentiles. Scores in the 85th and 89th percentile are considered high, and scores about the 90th percentile are considered clinically significant. The present study utilized the European Portuguese version of the PSI available from the publisher. As was done previously some expressions were culturally adapted for use with a Brazilian Portuguese sample (Aiello et al., 2014). Cronbach's alpha in the for the Total Stress score was .89.
- The Family Crisis Oriented Personal Scales (FCOPES; McCubbin et al., 2000) assesses problem solving, coping attitudes, and behavioral strategies used by families of children with disabilities in difficult situations. Thirty items assess the following coping strategies: acquiring social support from relatives, friends, neighbors, and extended family, seeking spiritual support, mobilizing the family to acquire and accept help from community resources and services, reframing and redefining stressful situations to make them more manageable, and passive appraisal, reflecting the family's ability to accept problematic

issues while minimizing reactivity. Items are measured on a 5-point scale ranging from (1) strongly disagree to (5) strongly agree. A total Coping score is obtained by summing responses for each item, after reverse-scoring four items. A higher Coping score indicates more use of coping strategies. The FCOPES has good internal reliability ($\alpha = .87$). Cronbach's alpha for the total Coping score was .84.

After screening for outliers on all variables (Tabachnick & Fidell, 2013), values for skewness and kurtosis as well as tests for normality were examined to ensure that items adhered to a normal distribution. Once it was determined that all variables were normally distributed, Pearson correlations between the B-FRS total score and subscale scores and the continuous variables were calculated. The correlations between each of the four subscales and the total score of the B-FRS items were as follows: Basic Needs ($r = 0.95, p < .001$), Extra Money and Time ($r = 0.95, p < .001$), Time for Family ($r = 0.57, p < .001$), and Essential Care ($r = 0.76, p < .001$). Table 4 shows the correlations between parent psychosocial variables and the B-FRS subscales and total score. The B-FRS total score was significantly related ($p < .001$) to all variables in expected ways: higher resources were associated with lower depression ($r = -.60$) and anxiety scores ($r = -.45$), lower parenting stress ($r = -.49$), and higher coping strategy use ($r = .54$).

Discussion

The absence of a translated and validated instrument for measuring family resources in the context of early childhood intervention in Brazil is a significant barrier for research and effective service provision. The purpose of this study was to translate and validate the Family Resource Scale, an established measure of family resources, into Brazilian Portuguese to create a measure that has both empirical integrity and cultural relevance for Brazilian families caring for

children with special health care and developmental needs. A rigorous translation process that emphasized linguistics as well as cultural appropriateness was utilized following published guidelines for the cross-cultural translation of questionnaires (DuBay & Watson, 2019; Toma et al., 2017). Face validity, content validity, internal consistency reliability, and construct validity were considered throughout translation and evaluation of the questionnaire.

This process resulted in the B-FRS, which was determined to be both theoretically related and reflective of the contextual intent of the developers of the FRS (Dunst & Leet, 1987) and is deemed appropriate for use with a Brazilian Portuguese speaking population. The B-FRS includes 27 of the 30 items that comprise the original FRS. Dropped items ask respondents to rate the adequacy of the following resources: 1) Heat for your house/apartment, 2) Childcare/day care for your child(ren), and 3) Money to buy special equipment/supplies for your child. The majority of participants selected the “not applicable” response option for these resources, suggesting that the items were confusing or had low content validity for the target population. Question 1 (heat) may have been deemed not applicable by the participants due to the tropical climate in which they live. Heat is likely rarely needed or simply not viewed as a resource by Brazilians living in Recife because it is a tropical, coastal city (Weather Atlas, n.d.).

The perceived non-applicability of childcare availability for caregivers in this sample may reflect that care for very young children with disabilities is often mother-centered (Souza & Boemer, 2003). In fact, previous research on families and mothers of children with disabilities have found that many mothers in varying cultural contexts end or interrupt their career to take care of their children (Saunders et al., 2015; Shearn, 1998). This may be especially true in the Brazilian context, as evidenced in phenomenological research with Brazilian mothers of children with disabilities (Barbosa et al., 2008). Rodrigues et al.’s (2019) qualitative investigation of

Brazilian caregivers of children with intellectual disabilities found a common theme among the mothers interviewed in that they recognized the child's care as "complex and difficult to share with other people" (p. 418). Brazilian caregivers may feel other people, including childcare providers, are not as equipped to meet their child's needs, especially considering the young age of the children. Rodrigues et al. (2019) also found that mothers in their sample relied on sisters, parents, or cousins to help with their child's care sporadically, so that formal, consistent childcare or day care was not seen as necessary. Since the caregivers in this sample reported having optimal adequacy in regards to access to babysitting, this reinforces the idea that caregivers do not need to rely on formalized, paid childcare and instead are able to lean on family members and friends for more informal sources of help with their child as needed. Lastly, money to buy special equipment or supplies for the child may not have been relevant in this context because the children were too young to need any specialized equipment. It is possible that caregivers could find specialized equipment like wheelchairs or glasses more important in the future as their child ages. It is also plausible that caregivers may not be aware of any additional supplies or equipment their child might need at present or in the future. Other published studies reveal that parents of young children with CZS receive little guidance, support, and education related to caring for their child, so it is possible they did not find this item relevant to their experiences (Campos et al., 2020; Kuper et al., 2018). Some caregivers have reported health care workers and providers sometimes being reluctant to help them with their child – so it is also possible that the caregivers were not made aware of any additional services their child could benefit from (Ribeiro et al., 2017; Rodrigues et al., 2019). Additionally, the hospitals where the children were receiving services may not have been equipped with specialized materials themselves, so they may not have any to give. Overall, however, examination of the

remaining 27-items suggest that the B-FRS is sensitive to detecting differences among families in the adequacy of various resources, evidenced by rating for most individual items spanning the possible range of response options.

Questionnaires that are adapted for use with samples that are culturally, linguistically, or otherwise different from the sample used in instrument development often do not retain the same psychometric characteristics as the original versions (Gudmundsson, 2009). With respect to the FRS, mixed findings have been reported in every study exploring the psychometric qualities of the questionnaire, leading researchers to caution that the scale should be tested for validity and reliability when used in other settings and with other populations (Patwardhan et al., 2019). The small sample size from field testing prohibited factor analysis of the B-FRS. To identify an appropriate strategy for scoring the B-FRS, we scored the completed instrument following each of the other published scoring conventions (Almasri et al., 2014; Brannan et al., 2006; Dunst & Leet, 1987; Patwardhan et al., 2019; Rhodes et al., 2012; Van Horn et al., 2001), and compared the obtained internal consistency estimates for the total scale and subscales with those reported in prior studies.

Our results revealed that the scoring approach identified by Patwardhan and colleagues (Patwardhan et al., 2019) provided the best fit for the B-FRS. The aforementioned study was conducted in a sample of American families seeking assistance for their children with behavioral difficulties. Using exploratory factor analysis, the authors determined that a four factor solution provided the best fit for their data, although this solution did not replicate any of the existing factor solutions found in prior psychometric investigations of the FRS. We adopted the same four factor scoring approach in our sample because it yielded internal consistency estimates for the four subscales that were the most acceptable, compared with other published scoring

approaches. Moreover, the scoring rubric utilized by Patwardhan and colleagues (Patwardhan et al., 2019) was the most robust in terms of dealing with missing data and using a mean scoring approach versus a sum score approach.

Comparison of the means and standard deviations for the four subscales in our sample and the Patwardhan sample revealed that our sample reported lower average rating of resource availability for three of the four subscales, as follows: Basic Needs, 3.42 versus 4.45, Time for Family, 2.72 versus 3.93, Essential Care, 2.85 versus 4.01. These results indicate that family resources are much lower for Brazilian families compared with Patwardhan and colleagues American sample and are inadequate in this sample of families of children with CZS. This may have important implications for the effectiveness of interventions and long-term developmental outcomes for children with CZS in Brazil. Consistent with a hierarchy needs perspective, unmet basic needs take precedent in terms of influencing and directing human behavior (Maslow, 1970; Harper et al., 2003). Consequently, families of children who report low basic needs may be more likely to devote their time and energy into trying to get these critical family needs met, versus spending time to address children's therapeutic needs, which may be perceived as an important but less immediate need for the family (Dunst et al., 1987). Further, to the extent that a family is expending time and energy into getting basic needs met, adding additional demands such as professional prescribed treatments may have the unintended consequence of increasing family stress, which in turn may worsen both child and parent health and wellbeing.

Our findings revealed significant associations between low family resources and indices of parental psychosocial wellbeing. Specifically, we observed the strongest relation between basic needs and depressive symptoms. Considering parents and caregivers of children with developmental delays and disabilities have been shown to be at an elevated risk for symptoms of

stress and depression, (Crnic et al., 2017; Singer & Floyd, 2006) it is not surprising to see evidence of this in our sample. Having lower resources to meet their family's basic needs was associated with higher depressive symptoms. Lower basic needs were also associated with lower levels of coping strategy usage. Since healthy coping strategy use in caregivers of children with disabilities has been shown to mitigate stress, families that have sufficient resources to meet their most basic needs may be buffered from experiencing negative mental health outcomes (Hsiao, 2018). These findings suggest service providers should consider whether a family is able to meet its most basic needs and if not, address this in the child's intervention or therapy, as it will likely not be as effective if the caregiver is dealing with their own mental health problems. Another strong, negative relationship was observed between extra time for family and depression and stress. This finding is consistent with a cross-sectional survey of mothers of children with disabilities in the US. In this sample, perceived social support was found to be a protective factor between child behavior and maternal depression (Halstead et al., 2018). This is evidence to support the need for family-centered interventions or therapies that can build their services into the family's everyday lives – giving the caregivers more time to spend with their family and less time isolated or traveling with their child.

Addressing family resources in the context of early intervention may require changes to the ways that early intervention services in Brazil are conceptualized and delivered, as well as increased federal funding that can help to support programs seeking to align their service approach with best practices in family-centered early intervention. Two recent systematic reviews suggest that family-centered care principles, which acknowledge the key role of family resources, are not routinely implemented in the early intervention approaches and specific practices used with the young children who receive services (Duttine et al., 2020; Marini et al.,

2017). At present, such services are primarily provided through the health sector and are guided by a medically-oriented rehabilitative care model. Intervention practices are aimed at stimulating skill development in specific areas of identified developmental deviation (i.e., motor, sensory, proprioceptive, speech-language, and social-emotional skills), with service providers including physical therapists, speech therapists, and psychologists. Ecological approaches that extend assessment and intervention into family and community contexts and consider influences such as the adequacy of family resources are not currently standard care in early intervention in Brazil. Rather, family support for children with CZS has been provided primarily via community-based programs that are not integrated into more formal government-funded early intervention services, or through grassroots informal support networks that vary in structure and aims (Duttine et al., 2019, 2020; Kuper et al., 2018; Smythe et al., 2020).

Limitations & Future Directions

The findings of this study should be considered in light of several methodological limitations, particularly in terms of generalizing the findings and applying the results to clinical practice with families caring for children with special needs. First, the sample may not be representative of all of Brazil. Our study participants were receiving care at a hospital in Recife, an urban city located in the Northeastern region of Brazil. Families who reside in rural regions or the southern part of the country may have different resources and needs. Testing the B-FRS in other parts of the country is needed to further verify the cultural appropriateness of the translated measure. Additionally, this study was conducted with very young children with CZS. These results may not generalize to older children in this context as caregivers may also prioritize different resources and needs as their child continues to develop. Second, our participants were caring for babies and toddlers with CZS, and thus reported on resources that were available for

this age group with a particular condition. Families caring for older children, or children with other types of special needs, may require different resources or have access to a range of other services that support their wellbeing. Additional research with the B-FRS is needed to delineate family resources in more diverse samples, including older children, families of children with other health or developmental problems, and those residing in different regions of Brazil.

Another limitation is that this was a cross-sectional study that relied on self-report data, which is subject to self-report bias. A fourth limitation of this study is the small sample size. With only 50 participants, we were unable to conduct a factor analysis to confirm the factor structure of the B-FRS. Moreover, having a small sample size can limit the ability to detect significant associations among study variables. Finally, a general limitation of the B-FRS is that some constructs that may influence family resources and wellbeing among families were not included in the original FRS, such as religious spiritual needs, adult educational needs, and financial planning or legal needs.

Conclusions

Despite these limitations, this study has important implications for both researchers and practitioners focusing on children with special health needs and their families in Brazil. In research, having a reliable and valid measure of family resources can help researchers to more rigorously investigate how family resources influence service utilization patterns in the field of early intervention, modifiable factors related to treatment adherence, and the links between family resources and children's ultimate developmental outcomes (Brannan et al., 2006). For early intervention service providers, the B-FRS appears to be a promising tool for assessing the adequacy of resources in families of children with complex developmental needs in Brazil. Thus, the B-FRS may be used in assessment and intervention. As an assessment measure, the B-FRS

can be used to help service providers to better understand the adequacy of a wide range of resources that are relevant to intervention planning and resources-based practices. For example, interventions may focus on helping families acquire resources to satisfy critical basic needs that when lacking may reduce intervention effectiveness. This is a crucial first step in exploring how family needs and resources can shape early intervention in a Brazilian context, promoting positive developmental trajectories for the child and their families.

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Table 1. Descriptive statistics for Family Resource Scale items

FRS Items	Item Responses (% selecting)						Mean	SD	Skewness	Kurtosis
	1	2	3	4	5	N/A				
1. Food for two meals a day	2	0	10	20	68	0	4.52	0.84	-2.118	5.321
2. House or apartment	26	2	2	12	56	2	3.71	1.74	-0.842	-1.178
3. Money to buy necessities	28	20	10	18	24	0	2.90	1.58	0.106	-1.585
4. Enough clothes for family	26	14	8	20	30	2	3.14	1.63	-0.180	-1.637
5. Heat for house or apartment	6	2	6	2	8	76	3.17	1.64	-0.170	-1.571
6. Indoor plumbing/water	26	16	14	4	38	2	3.12	1.69	-0.038	-1.714
7. Money to pay monthly bills	6	10	10	10	56	8	4.09	1.33	-1.172	-0.020
8. Good job for self or spouse	30	14	12	18	26	0	2.96	1.62	0.007	-1.626
9. Medical care for family	28	8	6	20	8	30	2.60	1.54	0.212	-1.631
10. Public assistance	22	14	14	24	22	4	3.10	1.51	-0.184	-1.431
11. Dependable transportation	14	6	8	18	42	12	3.78	1.51	-0.916	-0.672
12. Time to get enough sleep	26	18	16	10	28	2	2.96	1.60	0.102	-1.558
13. Furniture for home	34	18	22	12	10	4	2.44	1.37	0.502	0.948
14. Time to be by self	20	18	22	10	30	0	3.12	1.52	-0.029	-1.438

15. Time for family to be together	38	28	8	8	0	18	1.83	0.97	1.046	0.186
16. Time to be with child(ren)	18	24	6	18	34	0	3.26	1.58	-0.189	-1.607
17. Time to be with partner/friend	4	8	2	20	66	0	4.36	1.12	-1.855	2.487
18. Telephone or access to phone	16	28	8	24	24	0	3.12	1.47	-0.054	-1.490
19. Babysitting for child(ren)	0	2	18	12	68	0	4.46	0.86	-1.265	0.176
20. Childcare/day care	0	0	0	0	4	96	5.00	0.00	-----	-----
21. Money for special equipment	4	0	4	0	8	84	3.50	1.77	-0.615	-1.481
22. Dental care for family	22	24	14	8	22	10	2.82	1.53	0.314	-1.386
23. Someone to talk to	26	14	18	10	14	18	2.66	1.48	0.334	-1.245
24. Time to socialize	6	10	14	16	50	4	3.98	1.30	-0.999	-0.234
25. Time to keep in shape	18	30	16	16	14	6	2.77	1.35	0.337	-1.106
26. Money to buy things for self	26	24	16	18	10	6	2.69	1.36	0.356	-1.132
27. Toys for child	14	14	12	22	38	0	3.56	1.47	-0.581	-1.111
28. Money for entertainment	28	30	20	2	14	6	2.40	1.35	0.828	-0.334
29. Money to save	22	28	22	6	14	8	2.59	1.34	0.583	-0.704
30. Time/money for vacation	24	12	6	10	10	38	4.52	0.84	0.488	-1.342

Note. 1 = Not at all adequate; 2 = Seldom adequate; 3 = Sometimes adequate; 4 = Usually adequate; 5 = Almost always adequate.

Table 2. Alphas for subscale protocols in a Brazilian Portuguese sample

	Alpha	Mean (SD)	# of items
<i>FRS Subscales from Dunst & Leet (1987)</i>			
Growth & Support	.85	2.78 (0.97)	8
Necessities & Health	.88	3.07 (1.20)	6
Physical Necessities & Shelter	.67	3.72 (0.76)	8
Intrafamily Support	.49	3.81 (1.11)	2
Personal Resources	.08	2.62 (1.09)	2
Childcare	N/A ^a		1
<i>FRS-Revised Subscales from Van Horn et al. (2001)</i>			
Basic Needs	.75	3.52 (1.06)	6
Money	.87	2.85 (1.15)	5
Time for Self	.45	3.41 (0.80)	6
Time for Family	.46	2.49 (1.08)	2
<i>FRS Subscales from Patwardhan et al. (2019)</i>			
Basic Needs	.74	3.42 (0.89)	9
Extra Money & Time	.84	3.20 (0.84)	12
Time for Family	.45	2.72 (1.21)	2
Essential Care	.69	2.85 (1.25)	3

Note. ^aSubscale items were dropped in development of B-FRS.

Table 3. Bivariate associations of B-FRS subscales and total score with parent psychosocial variables

B-FRS score and subscales	Depression Symptoms	Anxiety Symptoms	Coping Strategy Use	Parenting Stress
Total Family Resources	-0.60***	-0.45**	0.54***	-0.49***
Basic Needs	-0.60***	-0.43**	0.49***	-0.48***
Extra Money and Time	-0.53***	-0.33*	0.54***	-0.42**
Time for Family	-0.53***	-0.12	0.38**	-0.46***
Essential Care	-0.26	-0.32*	0.11	-0.16

Note. * $p < .05$, ** $p < .01$, *** $p < .001$