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## Testing the effect of parenting support for people with intellectual disabilities and borderline intellectual functioning

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# Chapter 5

**The quality of interaction between parents  
with mild intellectual disabilities and their  
young children: In search of associated  
factors**

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*Under review*



# The quality of interaction between parents with mild intellectual disabilities and their young children: In search of associated factors

## Abstract

*Background* This study tested whether information obtained in providing support to families with a parent with mild intellectual disabilities (MID) may be indicators for parent-child interaction and parenting behaviours that are in need for assessment and intervention.

*Method* Data were taken from pre-test assessment for an intervention study with parents with MID (N = 85; 98% female) and their children (age M = 3.1, SD = 1.4; 52% female). Harmonious parent-child interaction was rated on the basis of the Three-bags procedure conducted in the home. Sensitive discipline was rated during a Do- and a Don't-task. Parents were interviewed on parenting stress and social support. Direct care staff assessed parental adaptive functioning, quality of the home environment, and externalizing child behaviour problems.

*Results* Only for harmonious interaction, and sensitive discipline in the Don't task, indicators contributed significantly to the explanation of variance. The only significant unique factor was parental adaptive functioning ( $\beta = .24$  for harmonious interaction and  $\beta = .27$  for sensitive discipline).

*Conclusion* Assessment of potential support needs for families of parents with MID may take adaptive functioning as a starting point, but may require a more direct focus on parenting.

**Keywords:** mild and borderline intellectual disability, parent-child interaction, parenting stress, parental adaptive functioning, harmonious parent-child interaction, sensitive discipline

## Introduction

Despite early reports that parents with intellectual disabilities were more likely than others to receive mandatory supervision or to have their children put in custodial care (Booth, Booth & McConnell, 2005; McConnell, Feldman, Aunos, & Prasad, 2011; McConnell & Llewellyn, 2000; Willems, De Vries, Isarin, & Reinders, 2007), recent studies paint a more diverse picture of the outcomes for children in families headed by people with intellectual disabilities (e.g., Collings & Llewellyn, 2012; Granqvist, Forslund, Fransson, Springer, & Lindberg, 2014). Although these families face elevated rates of problems and risk factors (Feldman & Aunos, 2010), these problems and risk factors may improve through support, for example from professional services. Parenting behaviour has been an important focal point of support as well as of clinical assessment, given its relevance to children's wellbeing and development, and to decision making in cases where there are concerns regarding children's safety and developmental outcomes (Budd, 2005). Furthermore, there is limited, yet promising evidence for the effectiveness of interventions to improve parenting behaviour of people with mild or borderline intellectual disabilities (MID) (Coren, Hutchfield, Thomae, & Gustafsson, 2010; Wade, Llewellyn, & Matthews, 2008). However, assessment of parenting behaviour is time-consuming and needs to be done by expert professionals. To more effectively support people with MID within the important life domain of parenthood and their families, parenting research may help to inform support workers to use information available to them or information that parents may readily share to determine together with families to what extent more specialized assessment and support may be important. This study therefore examined factors that research has suggested as potential indicators of current functioning of parent-child dyads along the continuum from harmonious parent-child interaction and sensitive discipline to disharmonious interaction and insensitive discipline.

One indicator of the need for parenting support is when parents themselves report elevated levels of stress in their parenting role. While parenting stress is associated with the tendency of parents with MID to seek professional support (Meppelder, Hodes, Kef, & Schuengel, 2014), it is unknown how indicative high levels of experienced parenting stress are of low levels of actual parent-child interactions that parenting interventions seek to elevate. Parenting stress arises when the demands of parenting exceed the resources parents perceive to be at their disposal (Deater-Deckard, 1998). While most parents may experience at least some bouts of parenting stress, Abidin (1995) called attention to parents whose general outlook on their child, on their relationship with their child, and on themselves as parents is negative. As expected, reports of high parenting stress have been found to be associated with self-reports of inadequate parenting as well as with externalizing behaviour problems of their children (e.g., Anthony, Anthony, Glanville, Naiman, Waanders, & Shaffer, 2005; Deater-Deckard & Scarr 1996; Mackler, Kelleher, Shanahan, Calkins, Keane, &

O'Brein, 2015). However, the extent to which high parenting stress is reflected in lower quality of parenting behaviour and parent-child interaction as reported by outside observers has received surprisingly little attention. McMahon and Meins (2012) found for 86 dyads of mothers and their preschool age children that higher parenting stress was associated with lower observed sensitivity, higher intrusiveness, and higher hostility. In contrast, Espinet and her colleagues (2013) found no associations between parenting stress and observed parenting behaviour using a sample of 34 mothers in a substance-use program. Addressing the association between parenting stress and parent-child interaction therefore contributes to this gap in the literature.

Given the equivocal support for parenting stress as an indicator for low quality parent-child interaction, it is important to study other indicators as well. Increasingly, care and support for people with intellectual disabilities are linked to adaptive functioning. The American Association on Intellectual and Developmental Disabilities, defines intellectual disability as "characterized by significant limitations both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social and practical adaptive behaviour" (Schalock et al., 2010, p. 5). An important assumption is that intellectual functioning, often assessed with an IQ test, and adaptive functioning are imperfectly correlated, leaving room for considerable variation across functional domains within populations defined by low IQ. The AAIDD stresses that the intensity of support that is needed (Schalock et al., 2010) should be determined so as to enable people with ID to take part in activities that are normative for a specific age group. While standard assessments of adaptive functioning do not include the domain of parenting, general communicative, social, and daily living skills may still covary with parenting, and thus function as an indicator for parenting assessment and support. To the best of our knowledge, this potential association has not been studied. Parental adaptive functioning will therefore be investigated as an indicator for quality of parent-child interaction as well.

Based on the recognition that the quality of parent-child relationships is closely tied to numerous ecological factors (Bronfenbrenner & Ceci, 1994), tools have been developed to support professionals working with families in forming an overall assessment of the home environment as an environment in which children and parent-child relationships may thrive. The HOME inventory (Bradley, Caldwell, & Corwijn, 2003; Caldwell & Bradley, 1984) is such a well-known tool. The large NICHD study confirmed a predictive association between the sensitivity scale of the HOME and quality of the parent-child relationships (NICHD, 2001). Aunos, Feldman, and Goupil (2008) in a study of 32 mothers with intellectual disabilities showed that the quality of the home environment assessed with the HOME Inventory was poorer for children under the age of 3 and above the age of 6, but did not find significant associations between home environment quality and self-reported parenting style nor child behaviour problems.

Social support might play an important role in parenting behaviour. Parents with MID often have small support networks and parents are not always satisfied with the support provided (Llewellyn & McConnell, 2002). Feldman, Varghese, Ramsay, & Rajska (2002) found in a sample with parents with intellectual disabilities a correlation between perceived social support, maternal stress, and maternal-child interactions. Aunos et al.'s (2008) findings suggested also an association between social network size and quality of the home environment. The study of Meppelder and her colleagues (2014) demonstrated that larger (informal) support networks were associated with weaker associations between parenting stress and child behaviour problems. Small social network size may therefore be an indicator for parenting support needs as well.

One other factor which may lead to scrutinizing parenting skills are externalizing child behaviours, for example at school (Aunos et al., 2008). Problem behaviour may be the result of many different factors in the child as well as in the developmental context, and given the stigma surrounding parenting with MID (Aunos & Feldman, 2002), careful steps need to be taken before children's problems are attributed to the parents' intellectual disabilities. However, the transactional, reciprocal associations between children's problem behaviour and negative parenting behaviours as well as the effects of parenting interventions on reducing children's disruptive behaviours (e.g., Brock & Kochanska, 2016) suggest that child problem behaviour may help to identify parents who would benefit from parenting support.

In sum, while existing research provides evidence to suggest parenting stress, parents' adaptive functioning, quality of the home environment, informal social support network, and children's externalizing behaviour problems as indicators that may be incorporated in professional support to parents with MID to determine when they and their families might benefit from more intensive parenting assessment and support, the strength and precision of these indicators are still largely unknown. This lack of knowledge impedes the adaptation of services to the support needs in this important domain of people with MID and their families. Therefore, the current study studied indicators for individual differences along broad qualitative dimensions of parent-child interaction, including harmonious interaction in terms of support, respect for autonomy, and affective mutuality, as well as sensitive discipline practices. The hypothesis was that parenting stress would be a major associated factor with parenting, with additional variation in parenting explained by parents' adaptive functioning, quality of the home environment, informal social support networks, and children's externalizing behaviour problems as reported by professionals.

## Method

### Participants

A group of 85 parents recruited through care organizations providing for people with intellectual disabilities gave informed consent to participate in this study. Most of the parents were mothers (98%). The mean age of the parents was 30.3 year ( $SD = 6.7$ ; range = 20.6 – 46.5). Seventy-six percent were born in the Netherlands, 40 % were single parents, and 64% did not hold a paid job. Parents' IQ levels were derived from records with a mean of 71 ( $SD = 9.0$ ) and a range of 49 to 88. The participating children had a mean age of 3.1 years ( $SD = 1.4$ ; range = 1.1 – 6.5), 52% were girls, and 56% had siblings.

### Procedure

This study was part of a larger study on support for parents with MID involving parents from 10 Dutch care organisations, which provided services for persons with intellectual disabilities. Direct care staff were asked to hand over a letter to the parents with the request to receive a researcher who would come and explain a study on parenting support. Parents could participate if they had at least one child aged from 1 until 7 years and were the primary caregiver of their child. A total of 200 parents gave consented to a visit, of whom 156 parents provided informed consent after the visit (78%). Another 10 parents dropped out after informed consent. This resulted in a sample of 146 parents. All parents were visited at home and during a two-hour interview, data were collected concerning demographic background, hardship, social support, and parenting stress. Instrument selection was suited to the needs of parents with MID and adapted if necessary, supplemented with simplified text, standardized extra explanations, and visualizations.

Parents with a subclinical level of parenting stress (at or above 62th percentile) on the Dutch shortened version of the Parenting Stress Index (De Brock, Vermulst, Gerris, & Abidin, 1992) and parents whose children were under custody and/or receiving residential family support were offered the video-feedback intervention VIPP-LD (Hodes, Meppelder, Schuengel, Kef, 2014) in a randomised controlled trial ( $N = 85$ ). Parenting stress, harmonious parent-child interaction and sensitive discipline were measured at pre-test, post-test, and follow-up. Filed parental IQ and demographic data were provided by the care organisation's educational psychologist, who also filled out the VABS (Sparrow, Balla, & Cichetti, 1984; Van Berkelaer-Onnes, Buysse, Dijkxhoorn, Gooyen, & Van der Ploeg, 1995) for adaptive functioning of the parent. Quality of the home environment and child behaviour problems were rated by direct care staff. For this study, the pre-test data were used. Participating parents received gift vouchers at pre-test, post-test and follow-up and an extra bonus once they had completed the whole trajectory (total € 125). Ethical approval was obtained from the Medical Ethical Committee of VU University Medical Center, Amsterdam (ref. no. NL 31934.029.10).

## Dependent Variables

### *Harmonious parent-child interaction*

The Three Bags-procedure (NICHD ECCRN 2003) was used to observe harmonious parent-child interaction. Parents were invited to play with their child for a period of 15 minutes with three sets of toys appropriate for their child's age. Harmonious parent-child interaction was rated on ten 7-point Likert rating scales: 'parents' supportive presence', 'respect for autonomy', 'stimulation of cognitive development', 'hostility', 'confidence', as well as 'children's enthusiasm', 'persistence', 'negativity', 'affection towards the parent' and the dyadic scale 'affective mutuality'. Scores ranged from 'very low' (1) to 'very high' (7). All playing sessions were double coded by four trained coders, operating in a pool and blind to condition, time of measurement and to personal details of the participants. The average pair-wise intraclass reliability coefficient (two raters, absolute agreement) was .79 (range: .71 - .83).

The subscales were aggregated into an overall scale indexing harmonious parent-child interaction based on high intercorrelations and supporting factor analyses. The Cronbach's alpha for the overall scale indexing harmonious parent-child interaction was .91.

### *Sensitive discipline*

For sensitive discipline the "Do and Don't" paradigm (Kochanska, Aksan, & Nichols, 2001, 2003) was applied in two different tasks. The Don't-task started with supplying the child with attractive toys placed in front of the child by the parent. Beforehand the parent was instructed not to allow the child to touch the toys during two minutes. These two minutes were video recorded. Following that the Three Bags-procedure started and the child played together with the parent in a 15 minute playing session. The Do-task started 1 minute before the playing session was finished. The parent received a nonverbal signal, not seen by the child, that the toys needed to be tidied up. The parent was instructed in advance to let the child do the tidying as much as possible. This tidy-up Do-task was recorded for 5 minutes.

For coding of the interactions, the manual of Verschueren and her colleagues (2006) was used, which is based on Kochanska et al.'s (2001, 2003) guidelines (see also Joossen, Bakermans-Kranenburg, & Van IJzendoorn, 2012). The interaction was coded using four 5-point Likert subscales for measuring 'physical discipline', 'harsh discipline', 'verbally harsh discipline', and 'laxness', with score 1 ("never") to score 5 ("most of the time"), as well as with a 'supportive presence' 7-point Likert scale, ranging from 1 (complete lack of support) to 7 (skilful support throughout the session). Recordings were invariably rated by two out of three trained coders, blind to condition (intervention or control group), time point (pre-test, post-test or follow-up), or any other participant data. The average intraclass correlation (two raters, absolute agreement) for intercoder reliability was .87 (range = .82 - .91).

Results from factor analyses and high internal consistency justified composing an aggregated scale to get one measurement for sensitive discipline on the Do-task (internal consistency .70) and one measurement for sensitive discipline on the Don't-task (internal consistency .65).

## **Independent Variables**

### ***Parenting stress***

Parenting stress was measured by the Dutch shortened version of the Parenting Stress Index (NOSIK; Abidin, 1983,1995; De Brock et al., 1992). This questionnaire measured the perceived stress by parents on 25-items on a 6-point scale (1 = 'strongly disagree' to 6 = 'strongly agree'). The NOSIK consists of a parent domain (11 items) measuring stress related to the parents's own functioning and a child domain (14 items) measuring stress related to the child. The original version of the PSI has been used successfully in different studies involving parents with MID (Aunos et al., 2008; Feldman 2002; Feldman, Legér, & Walton-Allen, 1997, 2002). For this study the mean score for total parenting stress was used (Cronbach's alpha .90).

### ***Parental adaptive functioning***

The Dutch version of the Vineland Adaptive Behaviour Scales (VABS; Sparrow et al., 1984; Van Berckelaer-Onnes et al., 1995) was used to assess parental adaptive functioning on three domains: 'Daily Living Skills', 'Socialization', and 'Communication'. Daily living skills refer to the skills needed to take care of oneself and contribute to a household and community (201 items). Socialization refers to skills needed to get along with each other and to regulate emotions and behaviour (134 items). Communication refers to expressive, receptive and written language skills (133 items). Based on raw scale scores for these three domains an Adaptive Behaviour Composite score (ABC-3; Van Duijn, Dijkxhoorn, Noens, Scholte, & Van Berckelaer-Onnes, 2009) was computed. The Cronbach's alpha for ABC-3 was .96.

### ***Quality of the home environment***

The quality of the home environment was measured with subscales of the Dutch version of the HOME (Caldwell & Bradley, 1984; 2003; Vedder & Eldering, 1996). Two versions were used: the HOME Infant-Toddler (0-3 years) and the HOME Early Childhood (3-6 years). Assessments were conducted by direct care staff during their regular visits with the parents. From the HOME Infant-Toddler we employed the following scales: 'Organisation of the environment', 'Appropriate play materials', 'Parental involvement', and 'Variety in daily stimulation'. Items could be rated with a 0 (if the condition or event was not a characteristic of the home environment) or a 1 (the condition or event was a characteristic of the home

environment). The Cronbach's alpha score was .74 for the combination of these scales. From the HOME Early Childhood we employed the scales: 'Learning Materials', 'Language Stimulation', 'Physical Environment', and 'Variety in Experience'. The Cronbach's alpha score was .81 for the combination of these scales. A HOME-Z- total score was computed for each of the different versions of the HOME to enable comparing the scores from the Infant-Toddler version with those of the Early Childhood version.

### ***Informal support network size***

The Support Interview Guide (SIG; Llewellyn & McConnell, 1999; Llewellyn & McConnell, 2002) was used to measure access to support figures. Parents were asked to list people "who help or support you, and people who you can turn to for help when you need it." All the names of the persons mentioned were written down. For this study the informal support network size was used and computed by summing up the number of people identified as members of the parent's social network: household, family, neighbours, and friends.

### ***Externalizing child behaviour problems***

To measure externalizing child behaviour problems, the Dutch version (Verhulst & Van der Ende, 1997) of the Caregiver-Teacher Report Form 1½ - 5 (C-TRF) and Teacher Report Form 6 - 8 (TRF) were used. Direct care staff or teachers of the target child were asked to fill in the forms. Items were rated on a 3-point rating scale (0 = not true to 2 = very true or often true). The mean item score summed over all externalizing items was used as an indicator of child externalizing behaviour problems. The externalizing scale of the C-TRF consisted of 34 items and had a Cronbach's Alpha of .94 in this study. The externalizing scale of the TRF consisted of 32 items with a Cronbach's Alpha of .94 in this study. T-scores were used to compare the results to Dutch norm data (Verhulst & Van de Ende, 1997).

### ***Data analysis***

The data were analysed using IBM SPSS statistics version 23. No outliers were identified ( $z \geq 3.29$  or  $z \leq -3.29$ ; Tabachnick & Fidell, 2007). Missing data were missing completely at random using Little's MCAR test ( $\chi^2 = 8.37$ ,  $df = 7$ ,  $p = .30$ ) (Little & Rubin, 1987) and were imputed. Assumptions of stepwise hierarchical multiple regression analyses were not violated.

We first computed correlations between all relevant variables, after which we used hierarchical multiple regression. This was built up as follows: in step 1 parenting stress was included as independent variable, in step 2 parental adaptive functioning, in step 3 the quality of the home environment as well as social support and in step 4 externalizing behaviour problems.

## Results

In Table 1 we present descriptive statistics and zero order correlation coefficients for all study variables. Correlations among independent variables were modest enough to not cause issues with multicollinearity. The correlation between parenting stress and harmonious parent-child interactions was not significant. There were no significant correlations between parenting stress and sensitive discipline on either the Don't- or Do-task. However, the correlation between parental adaptive functioning on the one hand and harmonious parent-child interaction on the other hand was significant. We also found a significant correlation between parental adaptive functioning, and sensitive discipline observed during the Don't-task.

Table 2 shows the results of the hierarchical regression analyses for harmonious parent child-interaction and sensitive discipline. Concerning harmonious parent-child interaction, the introduction of parenting stress in step 1 did not significantly increase explained variance ( $p = .05$ ). Adding parenting stress and parental adaptive functioning in step 2 led to a significant increase of the variance explained from 5 to 10%. Step 3 with quality of the home environment and social support, and externalizing behaviour problems (step 4) did not increase explained variance. Only the step 2 model provided a significant explanation of the variance in harmonious interaction ( $F(2, 82) = 4.59$ ;  $p = .01$ ), with parental adaptive functioning showing a significant unique effect ( $\beta = .24$ ;  $t = 2.24$ ;  $p = .03$ ).

**Table 1.** Descriptives and Pearson's correlation coefficients for harmonious parent-child interaction, sensitive discipline, parenting stress, parental adaptive functioning, quality of the home environment, support network size and externalized child behaviour problems

Measures	<i>M</i> ( <i>SD</i> )	Range	1	2	3	4	5	6	7	8
1. Harmonious Parent-child interaction	4.82 (0.73)	2.53-6.13	-							
2. Sensitive discipline (Do-task)	4.44 (0.63)	2.44-5.38	.26*	-						
3. Sensitive discipline (Don't-task)	4.18 (0.66)	2.44-5.31	.44**	.40**	-					
4. Parenting stress	80.07 (22.27)	34-132	-.21	-.14	.00	-				
5. Parental adaptive functioning	812.4 (42.51)	711-907	.24*	.10	.27*	-.04	-			
6. Quality of the home environment	-.04 (1.0)	-3.29-3.29	.02	-.11	.15	-.13	.37**	-		
7. Informal network size	7.06 (4.44)	0-26	.02	.06	.11	-.12	.05	.16	-	
8. Externalized child behaviour problems	58.22 (9.29)	36-90	-.09	-.06	-.07	.12	-.05	-.12	-.16	-

\* $p < .05$  \*\* $p < .01$

Concerning sensitive discipline in the Don't-task, the introduction of parenting stress in step 1 did not significantly increase explained variance. Adding parenting stress and parental adaptive functioning in step 2 led to a significant increase of the variance explained from 0 to 7%. Step 3 with quality of the home environment and social support, and externalizing behaviour problems (step 4) did not significantly increase explained variance. Only the step 2 model provided a significant explanation of the variance in sensitive discipline ( $F(2, 82) = 3.15$ ;  $p = .048$ ), with parental adaptive functioning showing a significant unique effect ( $\beta = .27$ ;  $t = 2.51$ ;  $p = .01$ ).

For sensitive discipline during the Do-task the total explained variance for four predictors was 6%. None of the predictors made a significant contribution to the variance in the dependent variable.

**Table 2.** Hierarchical stepwise regression analyses: effects of four steps of predictors on harmonious parent-child interaction, and sensitive discipline in the Don't- and Do-task

Dependent variable	$R^2$	$F(df)$ change	$p$
Harmonious interaction			
1 <sup>a</sup>	.05	$F(1,83) = 3.95$	.05
2 <sup>b</sup>	.10	$F(1,82) = 5.07$	.03
3 <sup>c</sup>	.11	$F(2,80) = .44$	.65
4 <sup>d</sup>	.12	$F(1,79) = .72$	.51
Do Task			
1 <sup>a</sup>	.00	$F(1,83) = .00$	.98
2 <sup>b</sup>	.07	$F(1,82) = 6.28$	.02
3 <sup>c</sup>	.08	$F(2,80) = .56$	.57
4 <sup>d</sup>	.09	$F(1,79) = .00$	.71
Don't Task			
1 <sup>a</sup>	.02	$F(1,83) = 1.73$	.19
2 <sup>b</sup>	.03	$F(1,82) = .71$	.40
3 <sup>c</sup>	.06	$F(2,80) = 1.40$	.25
4 <sup>d</sup>	.06	$F(1,79) = .00$	.67

a. Predictor : parenting stress

b. Predictors: parenting stress, parental adaptive behaviour

c. Predictors: parenting stress, parental adaptive behaviour, quality of the home environment + informal network size

d. Predictors: parenting stress, parental adaptive behaviour, quality of the home environment + informal network size, externalized child behaviour problems

## Discussion

Contrary to hypothesis, parenting stress was not associated with quality of parent-child interaction and sensitive discipline. Rather, from the potential indicators (home environment, social network size, child externalizing problems), only parental adaptive functioning emerged as an indicator of harmonious parent-child interaction (in a model with 5% of the variance explained) and sensitive discipline in the Don't task (7% of the variance explained). While the weak associations suggest that parental adaptive functioning on its own might point towards a need for parenting support, additional indicators are needed to more reliably identify families eligible for assessment and support. The current findings do not support parenting stress, home environment quality, social support, and child externalizing problems as such additional indicators.

Parenting stress is often regarded as an important indicator of the need for parenting support and targeted as an outcome of parenting interventions as an indirect way to reduce child maltreatment (see e.g., a meta-analysis by Chen & Chan, 2016). However, mixed results have been reported with some studies finding support for the negative role of parenting stress (Anthony et al., 2005; Deater-Deckard & Scarr, 1996; Mackler et al., 2015; McMahon & Meins, 2012), while other studies did not (Espinete, Jeong, Motz, Racine, Major, & Pepler, 2013). The current findings do not support the use of parenting stress as a proxy indicator that parenting assessment and intervention may be required, at least for Dutch mothers with MID who are already receiving various forms of professional support. This finding does not preclude the possibility that parents with MID and high parenting stress may have other support needs, although we did not find associations between parenting stress and quality of the home environment, support network size, and child externalizing behaviour problems. These findings echo the findings of Espinete et al. (2013), who also did not find an association between parenting stress and parenting behaviour in a sample of mothers having access to a substance abuse program. Previous findings in our broader sample ( $N = 146$ ) have shown that parenting stress was positively associated with experienced hardship (Meppelder, Hodes, Kef, & Schuengel, 2015), and was also associated with more rapid accessing of professional support in hypothetical challenging parenting scenarios (Meppelder et al., 2014). Parenting stress may therefore continue to be a relevant indicator, although not *per se* for the need for parenting support.

It is also noteworthy that social network size, quality of the home environment, and externalizing behaviour problems did not add significantly to the explanation of variance in quality of parent-child interaction by parental adaptive functioning nor showed significant bivariate associations. Even though little research has been done on parents with MID and observations of their interactions with their children, previous research suggested that these factors would be an important part of the ecological context in which parent-child relationships

may or may not flourish (Feldman et al., 2002). It should be noted that the lack of associations occurred across three independent observational assessments, two relationship dimensions (harmonious interaction and sensitive discipline), and independent sets of coders with a sample size providing sufficient power (.80) to detect correlational effects of  $r = .30$  or larger. With regard to the home environment, current findings indicated that in contrast to findings in Canada (Aunos et al., 2008) on average the home environment was rated as adequate by direct care staff, which may reflect the select nature of our sample as well as the efforts of the support staff themselves.

Only adaptive functioning emerged as a significant indicator, with its (modest) effects unmitigated by taking contextual factors into account<sup>1</sup>. It should be kept in mind that all parents in this sample received some form of professional support for adults with MID, which may attenuate any associations between adaptive functioning and parenting. Within the group of parents already receiving support, the parents experiencing relatively the most severe challenges in the social, communicative, and daily self-care domains of adaptive functioning also tended to display less harmonious interactions with their children and less sensitive tactics for limiting their children's behaviour. Parents with lower adaptive functioning and their children may therefore stand more to benefit from assessment and interventions that are tailored to their needs in the parenting domain than parents with higher adaptive functioning. Given that these parents at the outside of the study did not receive interventions specifically aimed at parenting nor the parent-child relationship, these findings do not necessarily contradict the conclusion reached by Llewellyn (2013) on the basis of research thus far that parents with ID may provide "good enough" parenting, as long as adequate supports are in place. An important question, therefore, regards the nature of the interventions that may be effective in improving harmonious interaction and sensitive discipline (Feldman & Tahir, 2016).

### Strengths and limitations

Given the modest sample size ( $N = 85$ ), the number of potential indicators that could be tested was limited and did not encompass the full range of factors suggested in the model of Feldman and his colleagues (2002). Other indicators, such as parental mental health, quality of the partner relationship, children's psychological or physical problems, housing problems, or having to care for multiple children may additionally play important roles. Furthermore, associations for parenting stress may have been attenuated, given that the current sample selected parents with relatively high levels of parenting stress, somewhat limiting the variance in this important variable. One indication that this may have played a role is the fact that parenting stress was also not associated with externalizing child behaviour

<sup>1</sup> Additional analyses, not reported here, showed that the effect for adaptive functioning remained significant even when controlling for family material hardship.

problems, whereas in the larger, unselected sample this association was found (Meppelder et al., 2015). Finally, this study was conducted with a selected sample of parents known to care organizations. While the findings may inform care practice in order to develop more suitable support programs and focus their resources for assessment and intervention towards the families that need these the most, the findings may not translate directly to other contexts in which families do not yet receive support.

To address support needs of families with a parent with MID, support staff need guidance and evidence based tools to determine whether support needs extend to the domain of parenting. Given the limited evidence for indirect indicators that may be readily obtained in working with families, work may build upon the significant effect for adaptive functioning. Broadening the domains that can be assessed with currently available tools to include the domain of parenting would acknowledge the right of parents with disabilities to receive appropriate assistance in their child-rearing responsibilities (UN Convention on the rights of persons with disabilities, 2006).

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