The effects of familial risk and parental resolution on parenting a child with mild intellectual disability

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ABSTRACT

The current study investigated the manner by which family risk moderates the links between parental state of resolution with a child's diagnosis and both parent–child interaction and parental stress. The sample included 72 families with 4–7-year-old children (M = 5.53, SD = 0.73) diagnosed with mild intellectual disability. Parents reported on their resolution state and parental stress, and parent–child interactions were videotaped and analyzed. Results indicated that in families where mothers or fathers were unresolved rather than resolved, mother–child interactions were less positive only in the context of high family risk. The father–child interaction was not found to be affected by family risk and parental resolution. Interestingly, mothers in low family risk situations who were resolved reported the lowest level of parental stress, suggesting a “double buffer” effect, whereas fathers with high family risk who were unresolved experienced the highest levels of parental stress, suggesting a “double risk” effect.

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1. Introduction

Mild Intellectual Disability (ID) is a childhood disability that affects about 3.5% of children (Boyle et al., 2011). Mild ID (also known as developmental delay) refers to children with IQ scores that are 1.5–2 standard deviations below the mean, and impaired functioning in at least two of the following skills: expressive language, receptive language, cognitive/visual reception, fine or gross motor and adaptive behavior (Boyd et al., 2010).

Belsky’s (1984) determinants of parenting model suggests that parenting is influenced by three levels of risk factors: parent’s personal factors, child characteristics and familial factors surrounding the parent–child relationship. In adherence to this model, our research intended to explore how the intrinsic variable of parental state of resolution with a child’s diagnosis with mild ID (i.e. parental factor) and the extrinsic familial risk (i.e. familial factor) interact in affecting parent–child interaction and parental stress in families of children with mild ID.

Research pertaining to parenting and stress in the last three decades has investigated mainly disabilities such as ID (i.e. Mental Retardation) and Autism Spectrum Disorder, while research concerning mild ID specifically has been scarce, despite the fact that the impairments of children with mild ID affect not only the child’s functioning, but also the family as a whole (Feldman, 2007a). Furthermore, while research in recent years increased emphasis on the father’s role in families with children who are typically developed, only few studies examined this issue in families of children with special needs, such as mild ID.
Two important aspects that have been found to be negatively affected by raising children with disabilities were the parent–child interaction (e.g., Blacher, Baker, & Kaladjian, 2013), and parental stress (e.g., Hauser-Cram et al., 2001; Woolfson & Grant, 2006). Specifically, research revealed that mothers of children with mild ID initiated, directed and dominated the interaction with their children more often compared to mothers of children who are typically developed. They acted more intrusively, gave commands and manipulated the child physically (e.g., Blacher et al., 2013; Okimoto, Bundy, & Hanzlik, 2000). During interactions with the mothers, children with mild ID showed, in general, less eye contact, less vocalization and less independent play than children who are typically developed. They were less attentive and displayed a more limited range of emotions (Okimoto et al., 2000).

As for parental stress, overall, mothers who reported higher levels of stress displayed less positive parenting, and when interacting with their children, tended to be more intrusive and less sensitive (Pianta & Egeland, 1990), more withdrawn (Repetti & Wood, 1997) and more controlling (Moss, Cyr, & Dubois-Comtois, 2004) than mothers with lower levels of stress. The chronic stress involved in parenting a child with mild ID has a prominent negative effect on the physical and mental health of mothers (Feldman, 2007b), and is reflected in the quality of the mother–child relationship (Biringen, Fidler, Barrett, & Kubicek, 2005; Feldman, 2007b).

Contrary to mothers, fathers were less controlling and structuring during interactions with their children (Costigan, Floyd, Harter, & McClintock, 1997; Floyd, Costigan, & Phillippe, 1997). Furthermore, children with mild ID demonstrated more positive behavior in the stimulating and physically challenging interactions with their fathers than in the educationally oriented interactions with their mothers (Costigan et al., 1997; Floyd et al., 1997). Research indicated that, similar to mothers, fathers of children with mild ID displayed higher levels of stress than fathers of children who are typically developed (Goldberg, Marcovitch, MacGregor, & Lojkasek, 1986; Gray, 2003). Yet, when comparing mothers and fathers of children with mild ID, fathers displayed lower levels of parental stress, less symptoms of depression and a higher degree of self-assurance (Goldberg et al., 1986; Gray, 2003). Fathers experienced stress and pressure, but displayed a different coping mechanism (Kersh, Hedvat, Hauser-Cram, & Warfield, 2006; Krauss, 1993).

One of the variables related to parent–child relationship and to parental stress is the parents’ reaction to their child’s diagnosis (e.g., Kearney, Britner, Farrell, & Robinson, 2011; Lord, Ungerer, & Wastell, 2008). Marvin and Pianta (1996) defined the end of active grieving and a refocus on present and future realities as resolution. Parents who are unresolved display an absence of these processes and a coping style that reflects ongoing consequences of trauma. Examination of links between parent–child interaction and parents’ reaction to their child’s diagnosis is limited. Some research suggests that mothers who are resolved have better interaction with their children than mothers who are unresolved (e.g., Feniger-Schaal & Oppenheim, 2013; Marvin & Pianta, 1996). Mothers who are resolved were found to be more sensitive to their child’s cues (Feniger-Schaal & Oppenheim, 2013), were better at adjusting their reactions to the child, even when the child’s responses were inappropriate (Feniger-Schaal & Oppenheim, 2013) and were more attuned to their child’s needs (Wachtel & Carter, 2008). The one study examining the links between parental resolution (when having children with Cerebral Palsy) and both mother–child and father–child interactions found no significant associations for neither mothers nor fathers (Olrick, Pianta, & Marvin, 2002). As for the children’s reactions to their mothers, Oppenheim, Dolev, Koren-Karie, Sher-Censor, & Salomon (2007) found that low functioning children with Autism Spectrum Disorder reacted in a more responsive and involving manner to mothers who were resolved rather than unresolved. Lack of resolution was found repeatedly as contributing to parental stress symptomology (e.g., Kearney et al., 2011; Marvin & Pianta, 1996). Mothers of children with disabilities (such as Cerebral Palsy, Autism Spectrum Disorder, Phenylketonuria & psychiatric disorders) who were resolved experienced lower levels of parental stress than mothers who were unresolved (Kearney et al., 2011; Lord et al., 2008). Lord et al. (2008) found this also to be true for fathers of children with Phenylketonuria. However, to the best of our knowledge, no research examined the links between parental resolution state, parent–child interaction and parental stress. The reaction to the diagnosis of parents of children with mild ID has, also, not been studied, and the knowledge concerning paternal resolution is lacking.

Parenting takes place within a family. Therefore, parent’s reaction to a crisis such as the diagnosis of mild ID in a child could affect, and be affected by contextual familial factors (Cox & Paley, 2003; Minuchin, 1988). As mentioned, following Belsky’s (1984) model we have focused on parental resolution, parent–child interaction and contextual familial factors. In his model, Belsky (1984) identified marital relations and social networks as “contextual sources of stress and support” (Belsky, 1984, p. 86) affecting parenting functioning. More recent research has also suggested that having a child with disability creates an adverse effect on marital relationships (e.g., Florian & Findler, 2001). Lack of social support has been a well-known stressor in families of children with mild ID as well (Wanamaker & Glenwick, 1998). Furthermore, in the last decade, household chaos was found to have a substantial effect on general cognitive abilities (Hart, Petrill, Deater-Deckard, & Thompson, 2007) and was associated with parenting behavior (Coldwell, Pike, & Dunn, 2006), parental intelligence and parental stress (Deater-Deckard et al., 2009). Thus we have decided to focus on these three (italicized) factors in order to evaluate the parental perception of contextual familial risk. As mothers and fathers may perceive their familial surroundings in different manners we elected to attend separately to each parent’s subjective perception of the cumulative factor of familial risk.

There is extensive research to suggest that risk factors act in a cumulative manner (e.g., Atzaba-Poria, Pike, & Deater-Deckard, 2004; Deater-Deckard, Li, & Bell, 2015). The cumulative model states that assessing the combined effect of adverse variables can strengthen research conclusions as well as their statistical analysis (Deater-Deckard, Dodge, Bates, & Pettit, 1998). That is, the additive effect of the combined contextual familial risk factors is detrimental for parenting behavior,
regardless of which factors constitute the risk. However, not much is known regarding the links between the above mentioned family risk factors and the state of parental resolution. The few studies examining these links indicated that, for example, maternal resolution with a child’s diagnosis of Cerebral Palsy was related to husband marital satisfaction and to level of social support (Plant, Marvin, Britner, & Borowitz, 1996). The three family risk factors mentioned were, therefore, chosen by us to be considered when studying the relationship between parental resolution and parent–child interaction as well as parental stress.

1.1. The current study

To the best of our knowledge, no research has investigated the role family risk factors play in the process of influencing parents of children with mild ID and their reaction to their child’s diagnosis or whether these factors statistically predict both the parent–child interaction and parental stress. Guided by the diathesis model (Monroe & Simons, 1991), we postulated that parents, who are unresolved with their child’s diagnosis, are at increased vulnerability to experience parental stress and parent–child relationship difficulties. Based on the family system theory (Cox & Paley, 2003), we examined how the intrinsic factor of one parent’s resolution state and the extrinsic factor of family risk affect the other parent’s parent–child interaction and parental stress. Previous studies examined the role of familial risk factors as moderators influencing the effects of other risk factors on parental behavior in families of children with disabilities (e.g., Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Hastings, 2002; Kersh et al., 2006). There is, therefore, merit in investigating how family risk acts together with parental resolution to enhance parental stress and lower parent–child positive interaction. Specifically, in this study, we have decided to focus on four hypotheses:

1. Family risk and lack of parental resolution will predict the parent–child interaction so that the more risk and the less resolution the less positive the interactions will be.
2. Family risk and lack of parental resolution will predict parental stress so that the more risk and the less resolution the more parental stress will be found.
3. Family risk will moderate the link between parental resolution and parent–child interaction so that parents who are, themselves or their spouse, unresolved with their child’s diagnosis will have less positive interaction with their children than parents who are resolved, if they experience high family risk. However, in the context of low family risk this correlation will no longer be significant.
4. Family risk will moderate the link between parental resolution and parental stress so that parents who are, themselves or their spouse, unresolved with their child’s diagnosis will show more stress than parents who are resolved, if they experience high family risk. However, in the context of low family risk this correlation will no longer be significant.

2. Method

2.1. Sample

This study’s sample included 72 two-parent families of children aged 4–7 (M = 5.53, SD = 0.73) years old (62% boys). All children were diagnosed with mild ID and attended special education kindergartens. Children with co-morbid developmental disabilities such as Cerebral Palsy and/or Autism Spectrum Disorder were not included in the sample. In the southern region of Israel there are 54,000 students attending kindergartens. Amongst them 640 (1.18%) children with a diagnosis of mild ID that study in 65 special education kindergartens, specializing in children with mild ID. Seventy-one mothers and 65 fathers completed the interviews (even though initial consent was given, 1 mother and 7 fathers eventually did not agree to complete all of the interviews and questionnaires). Children’s gestational age ranged between 24 and 43 weeks (M = 38.41, SD = 4.3) and children’s birth weights ranged between 600 and 4500 g (M = 2987, SD = 833.22). Mean age at child’s diagnosis with mild ID was 2.22 (SD = 1.56) years.

The majority of the mothers (78%) and fathers (75%) were Israeli born. Mothers’ age ranged from 25 to 49 years of age (M = 37.51, SD = 6.27) and fathers’ age ranged from 27 to 57 years (M = 40.25, SD = 6.47). The number of children in a family ranged from 1 to 12 (M = 3.42, SD = 2.01). Target children’s birth order ranged from 1st to 11th in the family: 20% were first born, 29% were second, 21% were third and 30% were fourth or above. Fourteen percent of mothers and 23% of fathers had a university degree, 22% of mothers and 15% of fathers had a high-school diploma, 64% of mothers and 56% of fathers had 8–12 years of studies and 6% of fathers had less than 8 years of education. Socioeconomic status of the family was composited by university degree, 22% of mothers and 15% of fathers had a high-school diploma, 64% of mothers and 56% of fathers had 8–12 years of studies and 6% of fathers had less than 8 years of education. Socioeconomic status of the family was composited by

2.2. Procedure

The researchers contacted special education kindergartens, specializing in children with mild ID, in the southern region of Israel. Letters detailing the research topic and procedures were sent via the kindergarten teachers to all eligible families, thus protecting families’ confidentiality. Interested parents were contacted by phone to arrange a home-visit. All families were visited at home where both parents completed questionnaires and were interviewed. In addition, mother–child and father–child
interactions were videotaped during a 25 min play session. All participating parents signed informed consent forms. The study received the Israeli Ministry of Education Ethics Committee approval.

2.3. Measures

2.3.1. Parental resolution with child’s diagnosis

Parental resolution with child’s diagnosis was assessed using the Reaction to Diagnosis Interview (RDI; Pianta & Marvin, 1992), a semi-structured interview, where parents were asked: (1) To recall the period of time they began noticing that something was wrong with their child’s development; (2) How did they feel at that time and were there changes to those feelings; (3) To describe the events and emotions surrounding the time they received the diagnosis; (4) How did their feelings change since the time of the diagnosis; (5) To detail whether they have been searching for existential or other reasons for their experiences. All interviews were videotaped and coded.

The RDI coding system (see Pianta & Marvin, 1992) was used to code the interviews. Using this holistic approach, each parent was classified as resolved or unresolved based on the presence of elements of resolution, such as: a sense of change since diagnosis and assertion of moving on in life, suspension of the search for a reason and a realistic representation of a child’s abilities. The interviews were coded by two trained coders. Reliability was reached coding 20% of the sample (kappa = 0.8, p ≤ 0.001). All disagreements were discussed and resolved by consensus (Barak-Levy & Atzaba-Poria, 2013).

2.3.2. Family risk factor

A cumulative approach for risk gathers variables into a cumulative score and assesses their combined effect (e.g., Atzaba-Poria et al., 2004). The family risk factor included three variables: marital adjustment, social support and chaos in the home. In order to create the cumulative score, where a higher score reflects more risk, all scores were first standardized and reverse-scored where necessary. An average score was calculated to create maternal and paternal family risk factor scores.

Marital adjustment was evaluated by the Dyadic Adjustment Scale (Spanier, 1976). This scale is a 32-item questionnaire that is used to evaluate the quality of marital relationship, shared activities and extant of agreement on issues such as household tasks, family decision making and recreation. Items were answered on 6–7 point scales ranging from 0 = ‘never’ to 5/6 = ‘always’. Two of the scales of this questionnaire were used: the dyadic cohesion scale, with an internal reliability of $\alpha = 0.82$ and 0.81 for mothers and fathers, respectively; and the dyadic satisfaction scale, with an internal reliability of $\alpha = 0.89$ and 0.86 for mothers and fathers, respectively.

Social support was assessed by The Social Support Questionnaire 6 (Sarason, Sarason, Shearin, & Pierce, 1987) which is a six-item self-report measure assessing parents’ perception of their social support. Parents list individuals from which they can receive support, indicate the relationship to these individuals and rate their satisfaction with the support they receive from them on a six-point scale (1 = very unsatisfied and 6 = very satisfied). Internal reliability was high ($\alpha = 0.93$ and 0.94 for mothers and fathers, respectively).

Chaos in the home was assessed using the short version of the confusion, hubbub, and order scale (Matheny, Wachs, Ludwig, & Phillips, 1995). The scale consists of six items rated on a five-point scale (where 1 = definitely untrue and 5 = definitely true) describing levels of chaos in the home. A total chaos score was generated by averaging across the items. Good internal reliability was found for this questionnaire ($\alpha = 0.73$ and 0.75 for mothers and fathers, respectively).

2.3.3. Parental stress

The Parenting Stress Index (short form) (Abidin, 1990) is a measure of parenting stress derived from parents’ own characteristics and their child behavior. The parental stress score is a composite of parental distress, parent–child dysfunctional interaction and difficult child subscales. The scale consists of 36 items rated on a 5-point scale (where 1 = strongly agree and 5 = strongly disagree). Internal reliability for this questionnaire was high ($\alpha = 0.93$ and 0.94 for mothers and fathers, respectively).

2.3.4. Mother–child and father–child interactions

Mother–child and father–child interaction during structured play and free play session were videotaped during home visits. The interactions were coded according to the Emotional Availability Scales (Biringen, 1998). Emotional Availability Scales is conceptualized as a bidirectional interactive construct. Hence, the coding system includes four scales assessing parental behavior: sensitivity, structuring, non-intrusiveness and non-hostility; and two scales assessing child behavior: child responsiveness and child involvement with the parent. Each variable was coded on a scale ranging from 1 to 7. Reliability ranged from 0.77 to 0.98, with approximately 12% of interactions coded by all (3) coders together. All 6 scales were averaged into one score.

3. Results

3.1. Data analytic approach – creating cumulative score

The family risk factor was defined based on a theoretical basis, grouping together marital adjustment, social support and household chaos into a combined family risk factor. In order to confirm the cohesion of this composite,
correlations for variables within the factor were verified as being higher than \( r = 0.25 \). Pearson correlations are specified in Table 1.

A factor analysis revealed that these three variables compounded into one risk factor explaining 61% and 56% of the variance for mothers and fathers, respectively.

3.2. Preliminary analysis

Correlations between study variables were calculated for fathers and mothers. As can be seen in Table 2, moderate significant links were found between parental stress and family risk factor for both mothers and fathers. However, no links were found between parent–child interaction and parental stress as well as family risk factor. Parental resolution was only linked to family risk factor for mothers. No other links were found to be significant for this variable.

3.3. Testing research hypotheses

In order to analyze the effects of familial risk and parental resolution on parent–child interaction and on parental stress, hierarchical regression analyses were conducted. Each regression included two steps. The first step included the family risk factor and the maternal and paternal resolution status. The second step included the two interaction variables (i.e., family risk \( \times \) maternal resolution and family risk \( \times \) paternal resolution). Moderation was inferred when the interaction variable, entered in the 2nd step, significantly predicted variance in the parent–child interaction or the parental stress variables (see Tables 3 and 4). The significant two way interactions were interpreted by using analysis of simple slopes at one standard deviation above and below the mean of the statistical moderator (e.g. Holmbeck, 2002).

3.4. Parent–child interaction as predicted by family risk and parental resolution

Our first hypothesis was not supported and no main effects were found either between family risk and parent–child interaction or between parental resolution and parent–child interaction (see Table 3). Hierarchical regression analysis revealed that, as proposed in our third hypothesis, the two way interactions of family risk and maternal, as well as paternal resolution state were significant in the prediction of the mother–child interaction indicating moderation effects (see Table 3).

Using post hoc analyses (i.e., simple slopes \( \pm 1 \) SD), a large difference in mother–child interaction between mothers who are resolved and unresolved was evident, in the context of high familial risk where mothers who are unresolved had significantly less positive interaction with their children. However, there was hardly any difference in the mother–child interaction for families experiencing lower levels of risk (see Fig. 1a). A similar pattern appeared when investigating the links between the paternal resolution state and the mother–child interaction (see Fig. 1b). In the context of high family risk, mother–child interaction was less positive in families where fathers are unresolved, as opposed to families where fathers are resolved.

As for the father–child interaction, hierarchical regression analyses were conducted to investigate whether the family risk factor moderated the links between father–child interaction and both mothers’ and fathers’ resolution state, yet no significant effects were found (see Table 3).

3.5. Parental stress as predicted by family risk and parental resolution

Our second hypothesis was partly supported as family risk was found to be significantly linked to paternal as well as maternal stress. No main effect links were found between parental resolution and parental stress (see Table 4). Our fourth hypothesis proposed that parents who are unresolved who experience high family risk would report higher levels of stress.

| Table 1 |
| Correlations between variables within risk factor composite. |
|-----------|----------------|----------------|
|          | Marital adjustment | Social support | Household chaos |
| Marital adjustment | – | 0.39** | 0.40** |
| Social support | 0.30** | – | 0.39** |
| Household chaos | 0.44** | 0.32** | – |

Notes: Figures above diagonal represent paternal results, whereas figures below diagonal describe maternal results. ** \( p < 0.01 \).
compared to parents who are resolved or parents who experience less family risk. In order to test this hypothesis, hierarchal regression analyses were conducted. It was found that the two way interactions of family risk by both maternal and paternal resolution states were significant in the prediction of maternal stress and close to significant in the prediction of paternal stress (see Table 4).

Next, in order to uncover the nature of these moderation effects, post hoc analyses were conducted. As can be seen in Fig. 2a, in contrast to our hypothesis, in high family risk circumstances mothers reported the same levels of stress whether they were resolved or unresolved. High levels of stress were also reported for mothers in low family risk contexts who were unresolved. However, mothers who were resolved, in low family risk circumstances, were found to have the lower levels of stress than all other groups.

As for fathers, the interaction term was only close to significant and thus, all interpretation of results should be done with great caution. The examination of the simple slopes analysis suggested a double risk effect. Specifically, fathers in high risk contexts who were unresolved were found to have the highest level of paternal stress than all other groups (see Fig. 2b).

4. Discussion

Parents’ realization that their child has a condition that changes expectations of normal development usually triggers strong emotional responses such as disappointment, sadness and anger (Marvin & Pianta, 1996). There is a large variation in the intensity of these emotions, as well as in the ability of parents to cope with them (Barak-Levy & Atzaba-Poria, 2013; Jedlicka-Kohler, Gotz, & Eichler, 1996). The aim of our study was to examine how both maternal and paternal reactions to a child’s diagnosis of mild ID statistically predict variation in the mother–child and father–child interaction as well as in the

| Table 2 |
| Correlations between all research variables. |

<table>
<thead>
<tr>
<th></th>
<th>Family risk</th>
<th>Parental stress</th>
<th>Parent-child interaction</th>
<th>Parental resolution</th>
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</thead>
<tbody>
<tr>
<td>Family risk factor</td>
<td>0.47***</td>
<td>0.42***</td>
<td>-0.11</td>
<td>0.17</td>
</tr>
<tr>
<td>Parental stress</td>
<td>0.36**</td>
<td>0.47***</td>
<td>0.16</td>
<td>-0.06</td>
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<td>Parent-child interaction</td>
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<td>-0.18</td>
<td>0.43***</td>
<td>0.07</td>
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<tr>
<td>Parental resolution</td>
<td>0.25*</td>
<td>-0.11</td>
<td>0.07</td>
<td>0.21*</td>
</tr>
</tbody>
</table>

Notes: Figures above diagonal represent paternal results, whereas figures below diagonal describe maternal results. Figures on diagonal represent correlation between maternal and paternal scores. *p < 0.05; **p < 0.01; ***p < 0.001.

| Table 3 |
| Hierarchical multiple regression analysis for the interactions of family risk variables and maternal and paternal resolution in predicting mother–child and father–child interactions. |

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
<th>( R^2 )</th>
<th>F</th>
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<tr>
<td><strong>Mother–child interaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Step 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>FRV</td>
<td>0.05</td>
<td>0.14</td>
<td>0.05</td>
<td>0.01</td>
<td>0.17</td>
</tr>
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<td>MRS</td>
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<td>0.25</td>
<td>-0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRS</td>
<td>-0.15</td>
<td>0.26</td>
<td>-0.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRV × MRS</td>
<td>-0.55</td>
<td>0.27</td>
<td>-0.40*</td>
<td>0.16</td>
<td>1.99*</td>
</tr>
<tr>
<td>FRV × PRS</td>
<td>-0.78</td>
<td>0.43</td>
<td>-0.37*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Father–child interaction</strong></td>
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<td></td>
<td></td>
<td></td>
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<td>Step 1:</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>FRV</td>
<td>-0.20</td>
<td>0.19</td>
<td>-0.20</td>
<td>0.04</td>
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<td>MRS</td>
<td>0.22</td>
<td>0.24</td>
<td>0.14</td>
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<td>PRS</td>
<td>-0.09</td>
<td>0.25</td>
<td>-0.06</td>
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<tr>
<td>Step 2:</td>
<td></td>
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<td></td>
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<tr>
<td>FRV × MRS</td>
<td>0.14</td>
<td>0.37</td>
<td>0.07</td>
<td>0.05</td>
<td>0.50</td>
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<tr>
<td>FRV × PRS</td>
<td>0.13</td>
<td>0.37</td>
<td>0.06</td>
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<td></td>
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</table>

Notes: FRV, family risk variables; MRS, maternal resolution status; PRS, paternal resolution status.

* 0.10.

* p < 0.05.
Table 4
Hierarchical multiple regression analysis for the interactions of family risk variables and maternal and paternal resolution in predicting maternal and paternal stress.

<table>
<thead>
<tr>
<th>Variables</th>
<th>$B$</th>
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<th>$\beta$</th>
<th>$R^2$</th>
<th>$F$</th>
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<td><strong>Maternal stress</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1: FRV</td>
<td>9.07</td>
<td>3.32</td>
<td>0.33**</td>
<td>0.11</td>
<td>4.19**</td>
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<td>MRS</td>
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<td>5.08</td>
<td>0.01</td>
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<td>PRS</td>
<td>-1.80</td>
<td>5.30</td>
<td>-0.04</td>
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</tr>
<tr>
<td>Step 2: FRV $\times$ MRS</td>
<td>13.93</td>
<td>6.90</td>
<td>0.25*</td>
<td>0.17</td>
<td>4.28**</td>
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<tr>
<td>FRV $\times$ PRS</td>
<td>0.30</td>
<td>9.19</td>
<td>0.01</td>
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<td><strong>Paternal stress</strong></td>
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<tr>
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<td>11.83</td>
<td>3.78</td>
<td>0.39**</td>
<td>0.16</td>
<td>5.37**</td>
</tr>
<tr>
<td>MRS</td>
<td>-3.25</td>
<td>6.21</td>
<td>-0.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRS</td>
<td>2.46</td>
<td>5.95</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2: FRV $\times$ MRS</td>
<td>8.47</td>
<td>8.61</td>
<td>0.12</td>
<td>0.22</td>
<td>4.41**</td>
</tr>
<tr>
<td>FRV $\times$ PRS</td>
<td>12.75</td>
<td>8.56</td>
<td>0.21*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: FRV, family risk variables; MRS, maternal resolution status; PRS, paternal resolution status.

* $p < 0.05$.
** $p < 0.01$.

Fig. 1. (a) Simple slopes analysis for the link between maternal resolution and mother–child interaction as moderated by family risk. (b) Simple slopes analysis for the link between paternal resolution and mother–child interaction as moderated by family risk.
feelings of parental stress, under distinct conditions of family risk. The results indicate that family risk moderates the association between maternal resolution state and mother–child interaction. Specifically, when high familial risk was present, mothers who were unresolved portrayed considerably less positive mother–child interaction, while, in the presence of lower levels of family risk, interactions were more positive and resembled those seen among mothers who were resolved. This finding can be explained using the diathesis stress model (Rosenthal, 1963), proposing that stress activates a diathesis, transforming the predisposition to psychopathology into its presence (Monroe & Simons, 1991). In our case, high level of family risk is related to increased vulnerability in mothers who were unresolved, resulting in a harmful influence on the mother–child relationship. However, in low risk situations, ergo when there is no diathesis, mothers were able to reduce the risk associated with their vulnerability and to exhibit positive relationship with their children regardless of their personal state of resolution.

Furthermore, mother–child interaction was also influenced by the paternal state of resolution. Specifically, in high family risk situations mothers displayed less positive interaction with their children when fathers were unresolved. However, in families experiencing low levels of family risk the mother–child interaction did not differ by the fathers’ state of resolution. It appears that the double risk of living in a dire family situation and with a partner that is unresolved with the child’s diagnosis has a spillover effect on the mother–child interaction. These results support the family system model (Cox & Paley, 2003) indicating that one parent’s mental and emotional state may have an impact on family relationships in which he or she is not directly involved. Recent research on families of children who are typically developed and children with other disorders (e.g. Field, 2010; Gueron-Sela, Atzaba-Poria, Barak-Levy, Meiri, & Yerushalmi, 2011) has pointed out this spillover effect. For instance, studies investigating parental depression found that mothers who are not depressed, living with fathers who are depressed, are negatively affected by them, and show less positive mother–child interaction than such mothers living with fathers who are not depressed (Field, 2010). Thus, it seems plausible that paternal distress is related not only to the father–child interaction but also to the mother–child interaction. However, the process in which paternal distress influences the mother–child and father–child interactions needs to be further studied.

As for fathers, no moderating effect for family risk was found in regards to the father–child interaction. The association between paternal resolution state and the father–child interaction was not significant, even when high family risk was present. This suggests that fathers who are exposed to high levels of family risk do not function differently with their children.

Fig. 2. (a) Simple slopes analysis for the link between maternal resolution and maternal stress as moderated by family risk. (b) Simple slopes analysis for the link between paternal resolution and paternal stress as moderated by family risk.
regardless of their state of resolution with the diagnosis. This puzzling finding may be the result of the difference between the father–child interaction which is more playful, physical and stimulating in nature (Costigan et al., 1997; Floyd et al., 1997) and of the more positive reaction of children to this type of interaction (Costigan et al., 1997; Floyd et al., 1997), compared to their reaction to the mother–child more educational interaction. It could be that in this type of physical playfulness it is easier to maintain a more positive interaction even in dire family risk situations and in an unresolved state of mind.

As for parental stress, a significant main effect was found for family risk. Furthermore, the hypothesis, proposing that the association between parental state of resolution and parental stress would be moderated by the family risk factor, was also supported. This interaction effect indicates that the main effects are only valid within certain conditions. However, the moderation patterns were different for mothers and fathers. Under high family risk, mothers of children with mild ID were vulnerable to parental stress, regardless of their state of resolution. However, in low family risk situations mothers who were resolved displayed significantly lower levels of parental stress than all other mothers in our study, suggesting a “double buffer” effect. That is, the supportive surroundings acted in a compensatory manner and enabled mothers who were resolved to feel less burdened and stressed, yet, low levels of family risk could not buffer the feeling of stress that mothers in an unresolved state experienced. These findings expand previous research that found mothers who were unresolved to be prone to higher levels of parental stress (Kearney et al., 2011; Lord et al., 2008) and demonstrate that this happens even in low familial risk circumstances. Our results also indicated that although mothers in a low family risk situation who were unresolved experienced higher levels of stress, this group of mothers did, in fact, have more positive interaction with their children than mothers experiencing high family risk. It may be that the support that low level of family risk provides, serves as a protective mechanism to help these mothers buffer the negative influence of stress on the mother–child interaction. Further investigation is needed to understand the nature of this protective mechanism.

As opposed to the mothers’ “double buffer”, for fathers, although only marginally significant, it is the “double risk” phenomenon that was evident. In situations of high familial risk fathers who were unresolved were more vulnerable to parental stress than fathers in a resolved state. However, when family risk was low, fathers who were unresolved were able to contain their vulnerability and exhibit lower levels of parental stress. This complies with previous findings showing fathers to display higher levels of parental stress in circumstances involving high family risk (Deater-Deckard et al., 2009; Kersh et al., 2006; Krauss, 1993). As the effect found was only close to significance, this finding needs to be taken with caution. Replication is needed to further establish this conclusion.

Our current study has several limitations. First, it employs a cross sectional research design. The results of this initial study point to the importance of future longitudinal research to better understand the influence of the parents’ resolution state on the quality of the parent–child interaction and on the levels of parental stress, and the direction of these links. In addition, the relatively small sample size limits this study’s statistical power. Although significant moderation effects were found, replicating this study with a larger sample size would strengthen the results. A larger sample would make it possible to examine a three way interaction (mother’s resolution × father’s resolution × family risk) and determine statistically the difference between the maternal and paternal moderation patterns. The small sample size is a result of our sampling decision to include only two parent families in order to investigate effects on both mothers and fathers. Yet, as familial risk may be even more pronounced in single parent families, it is important to pursue this exploration further and with a wider range of family circumstances.

The current study focused on one specific group – children with mild ID. Future research should consider whether these maternal and paternal vulnerabilities are stable through different disabilities. Finally, it is important to bear in mind that the two independent variables that contribute to a two-way interaction effect are always interchangeable statistically (e.g., Shannon, Beauchaine, Brenner, Neuhaus, & Gatzke-Kopp, 2007). In the current study we found that family risk moderated the links between parental resolution and both parent–child interaction and parental stress. But, it may also be that parental resolution moderated the links between family risk and these variables. Indeed, both family risk and parental resolution may operate simultaneously as moderators of each other’s effects on parent–child interaction and parental stress.

5. Conclusions and clinical implication

The results of our study point out the important role that both parental resolution state and familial risk play in the functioning of parents of children with mild ID. Our research suggests that the mother–child interaction is influenced by the combination of both maternal and paternal resolution states and the larger context of the family risk. Furthermore, whereas maternal stress was related to maternal resolution only under low risk conditions, paternal stress was related to resolution only under high risk conditions.

Interventions for these parents have traditionally focused on positive parenting and improvement of family environment and child behavior (Nowak & Heinriches, 2008). Only very few interventions have addressed the essential part that resolution with the child’s diagnosis has in parental wellbeing (e.g. Barnett, Clements, Kaplan-Estrin, & Fialka, 2003). Based on our findings we would like to emphasize the need for intervention programs aimed to assist parents in the process of resolution. We showed that low family risk conditions can buffer against the negative impact that lack of parental resolution with a child’s diagnosis with mild ID may have on the parent–child interaction and on parental stress. In fact, it was evident that, in families in low family risk situation, being unresolved was not related to more problematic mother–child relationship and was not associated with elevated parental stress. It is apparent, therefore, that intervention programs

should aim at reducing familial risk, in particular marital discord and household chaos, and help parents in widening their social support network.

It is clear that fathers are not a replica of mothers in their pattern of associations and behavior processes (Barak-Levy & Atzaba-Poria, 2013). Fathers generally do not benefit as much from current, mother oriented, support programs, nor do they maintain a constant attendance (Nowak & Heinriches, 2008). Counselors and psychologists should, therefore, be aware of the differences between paternal and maternal distress conditions and coping strategies, so as to be able to develop different approaches for supporting fathers and mothers.

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References


