



# Fathers of children with autism spectrum disorder: Their perceptions of paternal role a predictor of caregiving satisfaction, self-efficacy and burden

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## ABSTRACT

**Background:** The positive effect of a father's involvement in children's upbringing is now recognised. However, research on fathers raising children with autism spectrum disorder (ASD) are still few. This study examines the relationship between the perception, fathers of children with ASD have of the importance of their role in the development of their children and the feelings (self-efficacy, caregiving burden, satisfaction) they express about their parenting experience.

**Method:** Sixty-three Swiss Italian fathers of children with ASD completed The Role of the Father Questionnaire (ROFQ), three sub-scales of the Caregiver Survey, a subtest of the Child Adjustment and Parent Efficacy Scale and a home-made questionnaire measuring Perceived Social Support.

**Results:** The results from hierarchical multiple regression analyses show that the importance that fathers attach to the paternal role predicts positively their caregiving satisfaction and their feeling of self-efficacy. The children's challenging behaviours predict positively the caregiving burden whereas the assessment of social support predicts it negatively.

**Conclusions:** The perception of the importance of the paternal role needs to be considered in the support offered to families with a child with ASD. A better understanding of the fathers' feelings could be of value for the programmes.

## 1. Introduction

In the scientific literature on family with children with Autism Spectrum Disorder (ASD), it is easy to note a general lack of research focusing specifically on fathers. In 2007, Bailey already wrote "the vast majority of family research might be better characterised as maternal research" (p. 292). More recently, Cabrera et al. (2018) noted "that traditional mother-focused models of developmental influence are outdated and do not represent the experiences of most children" (p. 152). In an initial literature review devoted to parents of children and adolescents with ASD published between 2001 and 2010, Braunstein et al. (2013) pointed out the lack of empirical studies focusing on fathers. Out of 404 studies identified, 86.4 % focused on the mothers or both parents without making any distinction between them, 12.1 % considered fathers and mothers separately and only 1.5 % focused specifically on fathers.

In a recent systematic review, Rankin et al. (2019) identified 18 empirical studies published before 2016 focusing on the

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involvement of fathers in the upbringing of their children with ASD. Out of these, 13 studies were conducted on the basis of self-reporting (interview, questionnaire or direct self-report), four by direct observation (observation of spontaneous or structured interactions, for example, playing with the child at home), the last interviewed the mothers, about the fathers. Aside from some more recent studies (Potter, 2016a, 2016c) in which the samples consisted of 198 and 306 fathers respectively, the average number of participants in the studies was 29 (min = 5, max = 91). The studies identified that fathers express a wish to take an active part in their children's lives (Shave & Lashewicz, 2016) but at the same time mention problems with reconciling their professional and family duties. The role of financial provider comes up frequently. Fathers say that they get particularly involved in family leisure activities (Mitchell & Lashewicz, 2015), in the child's education, notably in helping with homework and in emotional (Potter, 2016b) or daily behaviour regulation (Potter, 2017b). Fathers of infants (0–18 months) developing autism speak to their infants more than fathers of infants with typical development (TD), which encourages more responses and an increase in active behaviour of the children (Cohen et al., 2013). One in two fathers feel mainly or equally responsible for their child's daily care routines, irrespective of the child's age or diagnosis (Potter, 2016a). A recent study conducted in Israel shows that about 16 % of the variance in fathers' involvement can be explained by their education (Sharabi & Marom-Golan, 2018).

Fathers' involvement also depends on their own perceptions (Paynter et al., 2018): the more they are aware of the importance of their parental role, the less they exhibit avoidance in the relationship with the child with ASD or a developmental disorder. Consequently, the more involved they are in the relationship and care and the more supportive they are (MacDonald & Hastings, 2010b). Research has shown that paternal involvement is influenced by a range of personal, family and environmental factors (Hart, 2011; Turcotte & Gaudet, 2009). One crucial variable in paternal involvement is the fathers' freedom of choice whether to get involved (Lamb, 2010). The effect is significantly more pronounced when fathers spontaneously choose to get involved and not when they are obliged to get involved due to external circumstances, i.e. mother, employed or father, unemployed. The conditions and/or the motivating factors, are likely to encourage fathers of children with ASD to get involved or to prevent them from doing so, as well as their concept of paternal involvement therefore represent a vital subject for research.

The parenting experience of fathers of children with ASD has mainly been studied on the basis of qualitative interviews and self-reported questionnaires (Rankin et al., 2019). In an extensive survey conducted in the UK in which 198 fathers took part, Potter (2016c, p. 957) notes that "fathers of children with autism do not comprise a monolithic group". The experience of fathers and their feelings about these experiences, are complex. The negative perceptions, for example, caregiving burden, do not rule out positive feelings, and vice versa (Cheuk & Lashewicz, 2016; Kayfitz et al., 2010; Paynter et al., 2018). Likewise, caregiving satisfaction and caregiver self-efficacy should also be studied systematically, because they are likely to constitute distinct dimensions under the influence of different factors (Hastings & Taunt, 2002). "While many fathers having children with autism and additional disabilities made a range of positive comments, (a few) fathers of children with autism, learning disabilities and challenging behaviour were unable to do so" (Potter, 2016c, p. 957). A majority of fathers mention a changing role throughout their sons' life but a constant responsibility of being a 'father' (Mackey, 2015). They talk about having to learn how to adjust (Meadan et al., 2015); for example, after observing that the parenting strategies used by their own parents or on their other children did not work most of the time. "One of the most difficult learning experiences of living with a son with ASD was learning how people with ASD think differently, therefore, parenting strategies needed to be learnt anew rather than based on past experiences or intuition" (Axup, 2012, p.167). Fathers report that the child's success is the most rewarding part of their fathering experience (Hannon et al., 2017; Pottas & Pedro, 2016). They considered it as a reflection of their own success as fathers and a source of motivation to support and encourage the child and family (ib.). For most of them, the role of father is a continuous learning experience (Keller et al., 2014).

These results suggest that, when undertaking studies focusing on the parents, it is important to look at fathers separately from the mothers, or to study them in a distinctly different way (Ainge et al., 1998). The specific needs of fathers of children with ASD compared with mothers, as regards support, for example, are poorly understood (MacDonald & Hastings, 2010a) and this has an impact on the planning and development of intervention programmes (for example, family education programmes) or may lead to fathers being excluded by certain services (Meadan et al., 2015; Potter, 2016a, 2017a). By focusing mainly on mothers and leaving fathers to one side, researchers and practitioners implicitly risk unintentionally burdening mothers with greater responsibilities (Flippin & Crais, 2011). This can also have repercussions on learning and development opportunities offered to the children who will be less likely to benefit from the positive effects of fathers' involvement (ib.). Finally, having a greater understanding of fathers, in particular, the way they see their role in their children's upbringing, and involving them in the parenting process should make it possible to promote the sharing of responsibilities with mothers and sharing the emotional experience (pleasures and problems) and, in turn, have a positive effect on the entire family system.

To the best of our knowledge, the links between the representations of fathers of children with ASD, particularly how they evaluate the importance of the role of the father in parenting and affective expressions such as caregiving satisfaction, caregiver self-efficacy and caregiving burden have not been investigated. This study seeks to broaden our knowledge of fathers of children with ASD, by studying the importance they attach to the paternal role in the education and development of the child. Four research questions have been developed:

- i Do fathers of children with ASD consider the role of the father to be important for the development and/or the education of the child with ASD?
- ii What level of satisfaction do they express as regards fathering, and how far do they feel effective or over-burdened by their role as a father?
- iii Is the importance they attach to their role as a father connected to their feeling of satisfaction, self-efficacy or the feeling of caregiving burden that they express?

- iv Does fathers' satisfaction with the social support received have an influence on the feelings expressed? What about the child's challenging behaviour, if there is any?

## 2. Method

### 2.1. Procedure

The study has been reviewed and authorised by the local ethical authority and all participants have given their written consent to participate in the study. Participants have been informed of their right to withdraw from the study at any moment. Convenience and snowball sampling methods were employed to recruit participants from across Canton of Ticino (an Italian-speaking canton of Switzerland, total population in 2019 = 353,709, [Office Fédéral de la statistique \[Swiss Federal Statistical Office\], 2019](#)). The questionnaire, accompanied by a cover letter, was delivered to the participants by hand or by email. The inclusion criteria for participants (i.e. fathers) were having a child aged between 3 and 20 years old with a diagnosis of ASD (DSM-5, DSM-IV or ICD-10 criteria) and attending school in the Canton of Ticino.

### 2.2. Participants

The sample of this study includes 63 fathers of children with ASD. [Table 1](#) shows participants' demographics. The ages of the participants range between 28 and 64 years ( $M = 45.2$  years old;  $SD = 6.65$ ) and about the half of them have two children. Most of participants were married and fully employed, their level of education was quite heterogenous and the most frequent gross annual salary ranged between 50,000 and 100,000 Swiss francs when the study took place.

[Table 2](#) presents socio-demographic characteristics of participants' children. Most of the children are male and their ages range from 3 to 16 years ( $M = 8.9$  years old,  $SD = 3.35$ ). ASD is the most frequent diagnosis, and all children fall on the spectrum. About 80 % of the diagnosis were made before the children were five years old. The absence of verbal language concerns less than 15 % of the participants. Most children were reported to have good or excellent health.

**Table 1**  
Demographics of the fathers.

Demographics	%
Nationality	
Swiss	65.08
Italian	23.81
European (excluding Swiss and Italian)	6.35
Non-European	4.76
Native language	
Italian	77.78
French	4.76
Portuguese	4.76
Albanian	3.17
Other languages	9.53
Number of children	
1 child	25.40
2 children	50.79
3 children	20.63
4 or more children	3.18
Marital status	
Single	1.59
Married	87.30
Separated	3.17
Divorced	7.94
Level of education	
Compulsory education	12.70
Vocational secondary education	26.98
General secondary education	9.53
Advanced professional training	23.81
Further education college/university	26.98
Current employment status	
Full time employment	80.95
Part-time employment	11.11
Unemployed	7.94
Gross annual salary	
0 – 50,000 CHF	28.57
50,000–100,000 CHF	44.44
Over 100,000 CHF	25.40
Data not available	1.59

Note. CHF = Swiss francs.

**Table 2**  
Demographics of children with Autism Spectrum Disorder.

Demographics	
Gender (%)	
Male	80.95
Female	19.05
Diagnosis (%)	
Autism Spectrum Disorder	61.90
Autism	15.87
Asperger Syndrome	11.11
Pervasive Developmental Disorder - NAS	7.94
Atypical autism	3.18
Age at the time of diagnosis (%)	
Between 2 and 3	22.22
Between 3 and 4	36.51
Between 4 and 5	22.22
Over the age of 5	19.07
Type of verbal communication used (%)	
No verbal communication (non-verbal)	14.29
Words (holophrases)	17.46
Sentences with at least 2–3 components	68.25
Reported general state of health (%)	
Weak	1.59
Average	9.52
Good	46.03
Excellent	42.86
Challenging behaviors	
Mean (Standard deviation)	13.49 (7.32)
Min – Max	1.00–39.00
Median (Interquartile range)	12.00 (9.00)

Information on the type of schooling and school attendance is shown in Table 3. Most of the children were attending primary school (5–6 to 11–12 years) when the study took place, 44 % of them in a special school and 38 % in regular school receiving special support. Only a small part of them (9%) was attending regular primary school without special support. The proportion of children attending secondary school (11–12 to 15–16 years) without special support was 17 %, while no children were attending nursery school (3–4 to 5–6 years) without receiving support.

## 2.3. Measures

### 2.3.1. Demographic variables

**2.3.1.1. Demography of fathers.** The fathers answered questions about their age, marital status, nationality, native language, highest level of education, work experience and annual income. Then they reported the number of children they have, specifying the year in which they were born and their gender.

**2.3.1.2. Demography of children with ASD.** Information concerning the children with ASD was collected from the fathers (age of the

**Table 3**  
Children's scholar level.

Scholar level	%	%
Pre-school (n = 1)	1.59	
Nursery school (n = 16)	25.40	
No attendance		4.76
Part-time attendance with support		17.46
Full-time attendance with support		3.18
Primary school (n = 34)	53.97	
Special school		23.82
Primary school with support		20.63
Primary school without support		4.76
Other		4.76
Secondary school (n = 12)	19.04	
Special school		7.93
Secondary school with support		7.93
Secondary school without support		3.18
	100 %	

child, gender, diagnosis, year of diagnosis, language level and state of health). Data was also collected on school attendance and type of learning support. The fathers had to say whether or not the child attends or has attended nursery school and whether the attendance was part time (with or without support) or full time (with or without support). As regards primary and secondary schooling, they had to state whether the child has attended a special school, regular school (with or without support) or whether the child has taken a different educational route or pathway (if this was the case, fathers were asked to provide specific details).

### 2.3.2. Independent variables

**2.3.2.1. The role of the father questionnaire (Palkovitz, 1984).** The perception of the importance of paternal role in the development and/or the education of the child was measured using the Role of the Father Questionnaire (ROFQ) a 15-item self-report inventory. Items are rated on a 5-point scale where higher scores indicate paternal attitudes characterised by a significant commitment and heightened sensitivity towards their children (possible range = 15–75). An adapted version of the ROFQ was used by Buckley and Schoppe-Sullivan (2010) to measure the beliefs about the paternal role. McBride and Rane (1997) recorded a respectable overall internal consistency ( $\alpha = 0.77$  for fathers) and a good construct validity by examining the correlation with the level of commitment of the fathers in the care of their children (internal consistency of sub-dimensions between 0.67 and 0.82). The overall alpha value of the Italian version of the ROFQ used in the present study was 0.71.

**2.3.2.2. Child adjustment and parent efficacy scale - developmental disability (Emser et al., 2016).** Challenging behaviour was measured using the sub-test “total problems” of the Child Adjustment and Parent Efficacy Scale - Developmental Disability (CAPS-DD) a 16-item caregiver-report inventory. Items are rated on a 4-point scale where higher scores are indicative of more emotional and behavioural problems in the child (possible range = 0–48). The sample of 636 parents of children aged between 2 and 16 years, exhibit a high degree of reliability ( $\alpha = 0.90$ ), and a very good convergent and predictive validity. The alpha value of the Italian version of the sub-test “total problems” of the CAPS-DD was 0.85.

**2.3.2.3. Perceived social support (Rudelli, 2020).** The subjective assessment of the social support received by fathers was measured using a customised scale of 5 items inspired by the social support dimensions described by Beauregard and Dumont (1996), in particular the feeling of being adequately supported, confidence in the likelihood of receiving assistance in case of need and availability/relevance of support to their own needs. Items are rated on a 5-point scale where higher scores are indicative of a higher rating of the social support received (possible range = 5–25). The alpha value of the present scale was 0.84.

### 2.3.3. Outcomes

We used three scales “caregiving satisfaction”, “caregiver self-efficacy” and “caregiving burden” of the Caregiver Survey of Burke and Heller (2016). These scales have been used with the permission of the authors and translated into Italian for this study.

**2.3.3.1. Caregiving Satisfaction (Lawton et al., 1982).** Caregiving satisfaction was measured using the 5-item Caregiving satisfaction scale. Items are rated on a 5-point scale where higher scores are indicative of more caregiving satisfaction (possible range = 5–25). In its original version (Lawton et al., 1982), this scale was backed up by a respectable level of reliability mentioned in two studies ( $\alpha = 0.78$ , Miltiades & Pruchno, 2002, cited by Burke & Heller, 2016 et  $\alpha = 0.78$ , Burke & Heller, 2016). The alpha value of the Italian version of the Caregiving satisfaction scale was 0.73.

**2.3.3.2. Caregiver Self-Efficacy (Heller et al., 1999).** Caregiver Self-Efficacy was measured using the 7-item Caregiver Self-Efficacy scale. Items are rated on a 5-point scale where higher scores are indicative of more caregiver self-efficacy (possible range = 7–35). The reliability of this scale was found to range between “very good” ( $\alpha = 0.82$ , Heller & Caldwell, 2006) to “respectable” ( $\alpha = 0.71$ , Burke & Heller, 2016). The alpha value of the Italian version of the Caregiver Self-Efficacy scale was 0.73.

**2.3.3.3. Caregiving Burden (Heller et al., 1994).** Caregiving burden was measured using the 9-item scale Caregiving Burden scale. Items are rated on a 5-point scale where higher scores are indicative of more caregiving satisfaction (possible range = 9–45). This scale was found to have good reliability on two occasions ( $\alpha = 0.87$ , Burke & Heller, 2016;  $\alpha = 0.83$ , Heller & Caldwell, 2006). The alpha value of the Italian version of the Caregiving Burden scale was 0.82.

## 2.4. Data analysis

Before exploring the research questions, we verified the internal consistency of each scale using Cronbach’s alpha ( $\alpha$ ) and Dillon’s rho ( $\rho$ ). We then described the relationships between all the variables included in the analyses in terms of bivariate correlations. Pearson’s correlation was used when both variables were normally distributed; otherwise, Spearman’s correlation was computed. We explored the research questions using hierarchical multiple regression analyses. Child’s challenging behaviours and father’s social support were entered for each dependent variable – i.e. caregiving self-efficacy, satisfaction and burden (Step 1). Role of father perception was then included (Step 2). Significant improvement of the model at Step 2 suggests that role of father perception significantly predicts the dependent variable even when challenging behaviours and fathers’ social support are controlled. We also compared the importance of predictors for the three regression models following the method proposed by Braun and Oswald (2011).

### 3. Results

#### 3.1. Descriptive statistics

Table 4 shows descriptive statistics for the five study variables. Since we translated several scales for the purpose of this study, we computed Cronbach's  $\alpha$  and composite reliability for those scales. The results suggest acceptable to good reliability for all scales (Nunnally, 1978).

Correlations between study variables are presented in Table 5. ROFQ presents significant positive correlations with caregiving satisfaction, caregiving self-efficacy but—surprisingly—not with caregiving burden. The child's challenging behaviors appears to be positively associated with father's caregiving burden and negatively with father's caregiving self-efficacy. Social support shows positive correlations with caregiving satisfaction and caregiving self-efficacy as well as a negative correlation with caregiving burden. Among the three outcome variables, only caregiving satisfaction and self-efficacy show a significant association, while no significant associations are present among the three independent variables of the study. We have also verified possible correlations between the outcome variables and the age of the child finding no significant associations between these variables.

#### 3.2. Regression analyses

As shown in Table 5, multi-collinearity was not a concern, given that the variables were only moderately associated. Furthermore, all Variance Inflation Factor values were lower than 1.5, confirming the absence of multicollinearity. Residuals were normally distributed in all models. Since the data of this study were not time series data, we cannot use Durbin-Watson statistic to check independence of errors. Instead, we analysed plots of standardised residuals versus predicted standardised residuals which showed no particular patterns suggesting that errors were independent. Overall, the data were suitable for hierarchical linear regression analysis.

Hierarchical linear regression analyses (Table 6) showed that Model 2 better predicts the outcome for both caregiving satisfaction ( $F(3, 59) = 19.53, p < 0.001$ ) and caregiving self-efficacy ( $F(3, 59) = 9.42, p < 0.001$ ). This result means that role of father perception significantly predicts these outcomes, even when children's challenging behaviours and fathers' social support are controlled. The role of father perception seems to be particularly important for predicting caregiving satisfaction, accounting for an improvement of 42.8 % of explained variance. In the case of caregiving self-efficacy, the improvement due to this independent variable is also significant but smaller (16.6 % of the explained variance). The different impact of role of father perception on the two outcome variables is also illustrated by the fact that for caregiving satisfaction this was the only statistically significant predictor, while for caregiving self-efficacy, children's challenging behaviours also proved to be significantly—and negatively—associated with the outcome. We computed dominance weights (also reported in Table 6) in order to rank the statistical importance of each model predictor employed. Again, role of father perception proved to be a more effective predictor of both caregiving satisfaction and caregiving self-efficacy compared to children's challenging behaviours and fathers' social support.

The variable, caregiving burden, showed different results. In fact, role of father perception did not improve the model and Model 1 was therefore retained ( $F(2, 60) = 11.29, p < 0.001$ ), and it accounted for 27.3 % of total variance. Both predictors included in Model 1 were significantly associated with the outcome and dominance weights suggest that children's challenging behaviours presented a slightly higher weight than fathers' social support.

### 4. Discussion

The average score of 59.08 (out of a maximum of 75) indicates that the fathers who took part in the study are generally in agreement with the statements on the major importance of the paternal role in the parenting process. Their perception is consistent with the current social representations (Palkovitz, 1984) and the nature of their experience is close to that recorded by Potter (2016b) in his sample. They state that they are satisfied overall with their fathering experience, enjoy spending time with their son/daughter, feel close to them and express positive feelings about the parental role. The feeling of self-efficacy they express tends to be relatively high: the vast majority state that they do their best to take care of the child, consider themselves successful in improving their situation and defending their rights and say that they feel capable of managing their behaviour when it becomes necessary. The feeling of caregiving burden is expressed in diverse ways depending on the dimensions investigated (Hartley et al., 2011). Three quarters of the fathers say that they are concerned about the future of their child, which coincides with the findings of Donaldson et al. (2011) and

**Table 4**  
Descriptive statistics and reliability of all variables.

Variables	Mean (SD)	RANGE	Potential range	Cronbach's alpha	Composite reliability
ROFQ	59.08 (6.01)	45–72	15–75	.71	.85
Caregiving Satisfaction	21.27 (2.61)	15–25	5–25	.73	.75
Caregiving Self-Efficacy	27.10 (3.59)	19–34	7–35	.73	.75
Caregiving Burden	22.98 (6.88)	9–43	9–45	.82	.83
Child's Challenging Behaviors	13.49 (7.32)	1–39	0–48	.85	.89
Social Support	19.49 (3.84)	11–25	5–25	.84	.85

Note. ROFQ = The Role of the Father Questionnaire. SD = Standard Deviation.

**Table 5**  
Pearson's or Spearman's correlations between study variables.

		1	2	3	4	5	6
1	ROFQ <sup>a</sup>	–	0.66 <sup>**†</sup>	0.42 <sup>**§</sup>	–0.05 <sup>‡</sup>	–0.10 <sup>‡</sup>	0.13 <sup>‡</sup>
2	Caregiving Satisfaction		–	0.44 <sup>**†</sup>	–0.15 <sup>‡</sup>	–0.09 <sup>‡</sup>	0.25 <sup>†‡</sup>
3	Caregiving Self-Efficacy			–	–0.22 <sup>‡</sup>	–0.42 <sup>**†‡</sup>	0.26 <sup>†‡</sup>
4	Caregiving Burden				–	0.35 <sup>**†‡</sup>	–0.38 <sup>**†‡</sup>
5	Child's Challenging Behaviors					–	–0.12 <sup>‡</sup>
6	Social Support						–

Note.

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

§ Pearson's correlation.

† Spearman's correlation.

<sup>a</sup> The Role of the Father Questionnaire.

**Table 6**  
Hierarchical linear regression analyses predicting caregiving satisfaction, caregiving self-efficacy and caregiving burden in fathers.

Predictors and steps	<i>b</i>	DW	<i>F</i>	<i>R</i> <sup>2</sup>	$\Delta F$	$\Delta R^2$
Caregiving Satisfaction						
Step 1						
Challenging behaviors	.05		2.28	.07		
Social support	.17*					
Step 2						
Challenging behaviors	.03	.00			50.28***	.42
Social support	.11	.04				
ROFQ	.28***	.44				
Caregiving Self-Efficacy						
Step 1						
Challenging behaviors	–.14*		5.63**	.15		
Social support	.21					
Step 2						
Challenging behaviors	–.15**	.10			14.46***	.16
Social support	.16	.05				
ROFQ	.24***	.17				
Caregiving Burden						
Step 1						
Challenging behaviors	.34**	.15	11.29***	.27		
Social support	–.56**	.12				
Step 2						
Challenging behaviors	.34**				.05	.00
Social support	–.55**					
ROFQ	–.03					

Notes. ROFQ = The Role of the Father Questionnaire. DW = Dominance Weights.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

Davys et al. (2016). Conversely, a relatively large proportion of fathers feel that having a child with ASD has little or no effect on their job (71.4 % of participants). On the other hand, around half (49.2 %) are of the opinion that the family's financial situation is adversely affected by this. The difference between the two opinions can be explained by the fact that in Switzerland, it is usually mothers who reduce their working hours to take care of their children. Furthermore, the context and the macro-systemic conditions probably also account for this result which is different from the previous findings obtained in England (Carpenter & Towers, 2008) or on the international stage (Davys et al., 2016). This is probably because Swiss families having a child with special educational needs are eligible for certain types of financial support from the child's date of birth and/or from the date of diagnosis. These measures are specifically designed to compensate in part for the extra time these families have to devote to the child, which often results in a reduction in working hours for one of the parents, which can mean uncertainty in the family's finances. A recent assessment of the financial support granted shows that it is appreciated and effective (Büro für arbeits- und sozialpolitische Studie [BASS], 2019).

#### 4.1. Perception of fathers' role as a predictor

The results show that the importance attached to the paternal role is a positive predictor of fathers' satisfaction and feeling of self-efficacy, even when the influence of the child's challenging behaviour and fathers' subjective evaluation of social support are controlled. How can we explain this relationship? The representation of the paternal role appears to be a powerful predictive factor of

actual paternal commitment (McBride et al., 2004). In social representations, being (or becoming) a parent is widely considered to be an essential, if not indispensable aspect of a meaningful and fulfilling life (Hansen, 2012). We might suppose that there is “culturally” a very strong link between “being parents” and “being satisfied in this role”. A further explanation lies in the fact that the act of getting involved in care, play and various activities with the child enables him to acquire skills and knowledge that help to strengthen his feeling of self-efficacy. Palkovitz (1984) noted that the way in which men perceive their role as a father is strongly associated with the amount of father-child interactions. But the opposite may also be true: the father who gets involved, and in spite of that does not manage to engage with his child as he would have hoped, may experience a decline in his feeling of self-efficacy. This interpretation is corroborated by the negative correlation between the child’s challenging behaviour and the fathers’ feeling of self-efficacy, suggesting that this behaviour is at best seen as a dimension beyond parental control or perceived as a parenting failure (Argumedes et al., 2018). The perception of the importance of the father’s role could also have implications for father-mother and co-parenting relationships. A father, who is aware of his role and gets actively involved in the day-to-day parenting activities (meals, washing, play, etc.), is likely to be more active in decision-making and discussions concerning the upbringing of his child. This attitude could also have an effect on the scope that mothers “allow” fathers in the child’s upbringing. Fagan and Barnett (2003) reported that the maternal gatekeeping, defined “as mothers’ preferences and attempts to restrict and exclude fathers from child care and involvement with children” (p. 1021), has an effect on the father’s involvement and acts as a mediating link between the skills of fathers and their involvement in parenting. Fathers who are convinced that their role is important for their child’s upbringing, by their behaviour and attitudes in and outside the family, benefit from (and probably in turn encourage) the mothers’ increasing and more frequent gestures of inclusivity towards them. In the long run, a virtuous circle might develop: a father who believes that the father’s role is important, is a father who is more satisfied and more confident of his abilities. The satisfaction that he feels in relation to his role as a father is likely to have a positive effect, although indirectly, on the quality of his parenting or co-parenting (May et al., 2015), his well-being and his health, as well as on his satisfaction within his marriage (Falk et al., 2014; Rogers & White, 1998). Acting positively on the feeling of self-efficacy, the importance the father attaches to his role as father can also be expected to have an indirect effect on the psychological functioning of his partner and his children’s adjustment (Jones & Prinz, 2005). Conversely, low levels of feelings of self-efficacy are generally predictors of depression, loss of motivation and self-esteem and a fall in the individual’s satisfaction (Bandura, 1982). In the specific case of fathers of children with ASD, a raised level of the feeling of self-efficacy is associated with a low stress level, low incidence of symptoms of depression and anxiety, as well as a high level of well-being (García-López et al., 2016a). Hastings and Brown (2002) observed that the feeling of paternal self-efficacy could operate as a mediating variable between challenging behaviour and the father’s anxiety. The feeling of caregiving burden expressed by the fathers does not depend on the importance they attach to their role as a father.

#### 4.2. Challenging behaviour as a predictor

On the contrary, the caregiving burden is positively predicted by the child’s challenging behaviour and negatively by the level of appreciation of social support. The link between the child’s challenging behaviour and the psychological well-being of the parents has been demonstrated by a number of studies, particularly as regards the level of stress (Jones et al., 2013) and paternal anxiety (Falk et al., 2014). McStay et al. (2014) have shown that the child’s challenging behaviour has a negative effect on the quality of family life and Hartley and Schultz (2015) observed that the child’s challenging behaviour is linked to an increase in the number of needs felt by fathers, whether these needs are being met or not.

#### 4.3. Perceived social support as a predictor

The results show that fathers who express a greater feeling of satisfaction in relation to social support are less prone to the feeling of being overburdened as a parent. This connection can be explained by the fact that social support stands between stress, social isolation and depression which are the dimensions considered in majority of studies as co-variables of caregiving burden (Dunn et al., 2001; Falk et al., 2014). Finally, the feeling of caregiving burden has no correlation with the feeling of satisfaction, or the feeling of self-efficacy, whereas these two variables are often linked to one another as suggested by Bandura (1982). It is to be noted that this result supports the assumptions of Hastings and Taunt (2002) which call for positive and negative perceptions to be considered as independent dimensions predicted by separate factors. Finally, the identification of a link between the overload perceived by the fathers and their satisfaction in relation to the support received must be taken seriously, as fathers of children with ASD are significantly more likely to report that they are unable to get support when they needed it as compared with fathers of children without a disability (Seymour et al., 2019).

### 5. Implications

Taken as a whole, the results obtained from this study are plausible and can be synthesised in a coherent pattern in line with scientific literature.

The importance that fathers attach to the paternal role appears to have a significant impact on their satisfaction as a parent and their feeling of self-efficacy, two variables which in turn may have positive effects on the fathers’ parenting skills, the psychological well-being of the parents, the child’s development and the quality of co-parenting (Lopez et al., 2019; Rollè et al., 2019). The results suggest that measures aimed at fathers of children with ASD should focus in particular on coping with the child’s challenging behaviour, by giving the family—including fathers—the means to address it. A more systematic evaluation of the appropriateness of social supports (both formal and informal), their effectiveness and how they are viewed by the fathers should be considered. These

measures could reduce the level of the caregiving burden perceived by fathers and boost their feeling of self-efficacy (Weiss et al., 2015). We hope that the study and the results obtained will be useful to the support services and families.

However, this study has a number of limitations that may affect the generalisability of the results. The primary limitation of this study is the lack of a comparison group. The findings, therefore, cannot address causal relationships. The second limitation concerns the limited number of participants. Moreover, the participants came exclusively from the Canton of Ticino, which represents a unique reality within Switzerland (i.e. it is the only entirely Italian-speaking canton). Recruitment of participants living in other cantons, or even another country (i.e. Italy), would have probably provided a less local perspective and the opportunity for studying the influence of the macro-systemic conditions created for families and their children through different educational and social systems. The limitations relating to the nature of the sample of children with ASD also have to be considered. The study, which focused on fathers whose children were aged between 3 and 16 years, produced a sample with a wide spectrum of ages. However, the range adopted was justified by the need to be able to recruit sufficient number of participants in a relatively small canton while regulating some of the framework conditions, particularly the educational conditions, because in Switzerland, each canton has its own school system. The advantage of the inclusion criteria adopted lies nevertheless in the ability to access a wide-ranging sample on a number of levels (i.e. age, skills, severity of symptoms of the ASD, school attendance, type of action received). However, for greater control of the children's characteristics, it would, however, have been preferable if more specific information could be obtained (i.e. functional behaviour). A further limitation concerned the measurement tools adopted. As there were none available in Italian, we arranged for a translation of the original scales. Although the internal validation coefficients were calculated systematically and proved to be satisfactory to good, a full validation would have been preferable and would have produced sounder results.

Further work is desirable. It would be an advantage to be able to study the links between actual paternal involvement and the variables considered in the study, given that actual paternal involvement was mentioned in the discussion as a potential means of enhancement. The analyses failed to pick up the specific, and potentially evolving reality of fathers during their children's school years (Mitchell & Lashewicz, 2019). Continuing the research and extending it to include fathers whose children have reached an adult age would be useful for recording the longitudinal evolution of involvement (Ainge et al., 1998; Boyd et al., 2019; Mitchell & Lashewicz, 2019; Nelson Goff et al., 2016). Focusing on the potential action of mediating variables on the aspects considered in the study would offer a different perspective. Finally, family system research has shown that complementarity of paternal and maternal roles is very important to our understanding of how the family functions (García-López et al., 2016b; Jones et al. 2013). The inclusion of mothers' perceptions in the model should therefore be considered.

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## CRediT authorship contribution statement

**Nicola Rudelli:** Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft. **Claudio Straccia:** Formal analysis, Visualization. **Geneviève Petitpierre:** Conceptualization, Methodology, Writing - review & editing, Supervision.

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