

## Enrolment of children and adolescents in psychosocial care: more likely with low family social support and poor parenting skills

Marieke Nanninga · Danielle E. M. C. Jansen ·  
Erik J. Knorth · Sijmen A. Reijneveld

Received: 18 February 2014 / Accepted: 14 July 2014 / Published online: 13 August 2014  
© Springer-Verlag Berlin Heidelberg 2014

**Abstract** Knowledge about determinants of child and adolescent enrolment in psychosocial care concerns only single types of care and usually only socio-demographic factors. The social environment is also a likely key determinant but evidence is lacking. The aim of this study was to examine the associations between family social support, parenting skills and child and adolescent enrolment in psychosocial care. We obtained data on 1,331 children (response rate 56.6 %), 4–18 years old, enrolled in preventive child health care, and child and adolescent social care and mental health care because of psychosocial problems, and on 463 children (response rate 70.3 %) not enrolled in psychosocial care. Results showed that enrolment in psychosocial care was associated with low family social support (odds ratio; 95 %-confidence interval: 3.2; 2.4–4.4), and with poor parenting skills, i.e. poor supervision (1.5; 1.1–2.1) and inconsistent disciplining (1.5; 1.1–2.1). Children’s psychosocial problems partially mediated the associations with family social support and completely with parenting skills. Children’s problems did not moderate the associations. Positive parenting was not associated with care enrolment. We conclude that low

family social support and poor parenting are important factors associated with enrolment, in particular because they are associated with more frequent occurrence of children’s psychosocial problems. This implies that professionals and policymakers need to be aware that factors in children’s social environment are related with enrolment in psychosocial care, in addition to children’s psychosocial problems.

**Keywords** Child · Adolescent · Psychosocial care utilisation · Social support · Parenting · Health services accessibility

### Introduction

Approximately 10–25 % of children and adolescents have emotional or behavioural problems [1–5]. Recent studies have shown that only a proportion of the children up to 18 years of age with emotional or behavioural problems receive psychosocial care [3, 6–12]. For example, a recent Dutch study showed that only 29 % of the adolescents in need of care actually received psychosocial care [13]. These findings might imply that enrolment in psychosocial care depends not only on the degree to which a child suffers from emotional or behavioural problems, but also on other factors.

Knowledge of the determinants of children’s enrolment in psychosocial care in particular concerns socio-demographic factors and severity of psychosocial problems, but is lacking regarding other child, parent and family factors. Recent studies show that psychosocial care enrolment is more likely for children of white/Caucasian ethnicity, residence in an urban area, with health insurance, older children and children of families with a single parent and a

---

M. Nanninga (✉) · D. E. M. C. Jansen · S. A. Reijneveld  
Department of Health Sciences, University Medical Center  
Groningen, University of Groningen, Antonius Deusinglaan  
1/FA10, 9713 AV Groningen, The Netherlands  
e-mail: m.nanninga02@umcg.nl

D. E. M. C. Jansen  
Department of Sociology and Interuniversity Center for Social  
Science Theory and Methodology (ICS), University of  
Groningen, Groningen, The Netherlands

E. J. Knorth  
Department of Special Needs Education and Youth Care,  
University of Groningen, Groningen, The Netherlands

higher socio-economic status [1, 14–25]. Child gender seems to be of importance as well but its effect varies across studies. Knowledge is limited to single types of care [1, 8, 11, 15, 25, 26] and does not cover psychological and social factors. However, the social environment is likely to be a key determinant of care enrolment in the event of problems [27, 28].

Certain factors in the child's social environment act as resources of the family to cope with psychosocial problems of the child, for example family social support and parenting skills [29]. Both the lack of family social support and of good parenting skills may impede the family to manage the child's problems appropriately. The resulting difficulties may urge the family to seek and use psychosocial care [29]. However, evidence on the associations between family social support and parenting skills with psychosocial care enrolment is scarce and inconclusive. Regarding family social support the limited evidence showed a neutral, positive or negative association with care enrolment [26, 29–32]. The direct association between parenting skills and care enrolment has not been studied before as far as we know. However, it is known that children of parents with poor parenting skills are at risk of developing psychosocial problems [3, 33–35]. This might mean that parenting skills, and potentially also family social support, are associated with enrolment in psychosocial care only if the child has psychosocial problems. Another possibility is that parenting skills and family social support are indirectly associated with care enrolment through their effects on the child's psychosocial problems.

In order to fill the gaps in knowledge, we, therefore, examined the associations between family social network support and parenting skills on the one hand and, on the other hand, children's enrolment in psychosocial care. We also examined the role of children's psychosocial problems in these associations. We assessed whether children's psychosocial problems acted as a moderator, meaning that the associations only apply to children with psychosocial problems, or as a mediator, meaning that the associations occur indirectly through the child's psychosocial problems. We compared a group of children enrolled in psychosocial care with a group not enrolled in psychosocial care.

## Methods

### Study design

We obtained data on a sample of children enrolled in preventive child health care, and child and adolescent social care and mental health care due to psychosocial problems (care sample) and on a sample of children from

the same catchment area who were not enrolled in psychosocial care (community sample). We used data from the first measurement wave of a large prospective cohort study called TakeCare which is being conducted by the Collaborative Centre on Care for Children and Youth (C4Youth) and is designed to investigate the trajectories and outcomes of children aged 4–18 receiving psychosocial care in one Dutch region. The design was assessed by the Medical Ethics Committee of the University Medical Center Groningen and approved without needing full assessment. Informed consent was obtained from all participating respondents.

### Sample and procedure

Parents/caregivers and their children when aged 12 and over were invited to participate in TakeCare between April 2011 and June 2013. For the care sample, 2,664 children and their parents were recruited via the main psychosocial care organizations for children in the North-East of the Netherlands, that is preventive child health care, child and adolescent social care, and child and adolescent mental health care. In the Dutch care system, children can access psychosocial care via either their general practitioner, the office for youth care or preventive child health care. Children can then be referred to more specialized care that is either child and adolescent social care, i.e. mostly provided by child and adolescent workers and social workers, or child and adolescent mental health care, i.e. mostly provided by child psychologists and psychiatrists. In addition, doctors and nurses in preventive child health care may also provide light parenting support, as may general practitioners [36]. Children with insufficient understanding of Dutch, living outside the Northern region, or following special education because of intellectual disability were excluded ( $N = 223$ ). Of the eligible 2,441 respondents, some declined the invitation to participate in the study by filling out the opting-out form ( $N = 533$ ); 1,382 participated, i.e. either the child and/or the parent (response 56.6 %). Differences between respondents and non-respondents were trivial to small regarding age, gender, degree of urbanisation and psychosocial problems, with Cohen's effect sizes ranging from 0.01 (age) to 0.12 (degree of urbanisation) for the care sample. For this study only parent/caregiver-reported information was used, which was available for 1,331 children.

The community sample ( $N = 1,025$ ) concerned a stratified random sample of schoolchildren, obtained via five primary schools, two secondary schools and one school for intermediate vocational education from the same region recruited by taking into account the distribution of children across the study region according to their age, gender, socio-economic position and degree of urbanisation. Of

these, 77 were excluded. Of the eligible 948 respondents, 99 filled out the opting-out form and 666 participated (70.3 %). Differences between respondents and non-respondents were trivial for age, gender, degree of urbanisation and psychosocial problems, with effect sizes ranging from 0.02 (psychosocial problems) to 0.08 (degree of urbanisation). Parent-reported information was available for 664 children. Differences between respondents and children in the community were trivial for age and gender, effect sizes were 0.00 and 0.01, respectively. We limited the analyses to those participants in the community sample whose child had not had contact with a professional for psychosocial problems in the past 6 months, resulting in 463 participants.

Data were obtained from parents/caregivers via web-based or paper questionnaires. Research comparing web-based and paper questionnaires demonstrates that there are no differences in the contents of responses and neither in the type of non-response [37, 38]. If required, we provided assistance in filling out the questionnaire. Participants filled out the first questionnaire when they enrolled in the study; for participants in the care sample this meant at the moment of their child's care enrolment. They were frequently reminded about filling out the questionnaire, and returned questionnaires were checked for completeness to reduce the chance of missing data. Participants were rewarded with a gift token.

## Measures

Psychosocial care enrolment was defined as enrolment of the child in any new type of care in one of the psychosocial care organizations because of psychosocial problems. These organizations were preventive child health care, child and adolescent social care, and child and adolescent mental health care.

Family social support was measured with a subscale of the Family Questionnaire (FQ) [39], based on family circumstances that influence a child's social-emotional development. The subscale measures support from relatives, friends, and neighbours, with nine items on a five-point Likert scale (maximum of three missing items, Cronbach's  $\alpha = .92$ ). The subscale was categorized as low (score 9–36), medium (37–42) and high (43–45) level of support based on tertiles of data distribution.

Parenting skills were measured with the three subscales of the nine-item version of the Alabama Parenting Questionnaire (APQ) [40]. The subscales poor supervision, inconsistent disciplining and positive parenting were answered with a five-point Likert scale (maximum of one missing item, Cronbach's  $\alpha$  respectively: 0.28, 0.70, 0.85). The item 'Your child fails to leave a note or to let you know where he/she is going' caused the subscale poor

supervision to have a low reliability (0.28) and, therefore, it was not included, leading to a Cronbach's  $\alpha$  of 0.57. Poor supervision and inconsistent disciplining were dichotomized as either good/consistent (highest 25 %; respectively, scores 1–2, 1–2.67) or poor/inconsistent (respectively, scores 2.5–5, 3–5). Positive parenting was dichotomized to 'low' (lowest 25 %, score 1–3.67) and 'high' (score 4–5).

Relevant background characteristics concerned children's age, gender, ethnicity, parental educational level and family composition. Parental educational level was based on the highest educational level achieved by either one of the parents/caregivers [41]. Family composition was assessed by asking the parent with whom the child lived and was categorized as 'biological two-parent family' or 'other' (e.g. living with one parent, a foster family or living in a residential care facility).

Children's psychosocial problems were measured using the total difficulties score of the 'Strengths and Difficulties Questionnaire' (SDQ) based on the past 6 months (Cronbach's  $\alpha = .73$ ) [42–45]. The score consists of 20 items describing positive and negative attributes of children to the following dimensions: emotional symptoms, conduct problems, hyperactivity/inattention and peer problems. The scale was dichotomized into the 'normal' range and the 'borderline to abnormal' range of the SDQ.

## Statistical analyses

First, we described the characteristics of the children enrolled and not enrolled in psychosocial care. Second, we used logistic regression analyses to assess the association between family social support, parenting skills and children's psychosocial care enrolment. We repeated these analyses with adjustment for background characteristics. Third, we assessed whether the associations differed for children with and without psychosocial problems or whether the associations were mediated by the child's psychosocial problems. We tested this using moderator and mediator analyses, according to the procedure proposed by Baron and Kenny [46]. Relevant mediation was defined as at least 10 % change in the regression coefficient after adjustment [47]. Finally, we included participants from the community sample whose children contacted a professional regarding psychosocial problems in the past 6 months in the enrolled group and repeated all analyses to examine whether there were any differences with the original analyses.

For all logistic regression analyses odds ratios (OR) and 95 %-confidence interval (CI) were presented. A  $p$ -value < 0.05 was considered statistically significant (two-sided test). Analyses were performed using SPSS version 20.

## Results

### Participant characteristics

Child, parent, family and care-related characteristics of the total sample and separately for children enrolled and not enrolled in psychosocial care are shown in Table 1. Children enrolled in psychosocial care received less family social support ( $t = 9.20$ ,  $p < .001$ ), and their parents scored higher on poor supervision ( $t = -4.69$ ,  $p < .001$ )

and inconsistent discipline ( $t = -7.46$ ,  $p < .001$ ) compared to children not enrolled in psychosocial care. There was no significant difference between the groups of parents' ratings for positive parenting ( $t = -0.32$ ,  $p = .751$ ).

Association between family social support, parenting skills and children's enrolment in psychosocial care

The results of the univariable analyses show that children with medium or low family social support were more likely

**Table 1** Characteristics of the samples, overall and for the care sample and the community sample

Characteristics	Total sample $N = 1794^a$		Care sample $N = 1331$		Community sample $N = 463$	
	N	(%)	N	(%)	N	(%)
<b>Child characteristics</b>						
Age						
4–11	1097	(61.1)	828	(62.2)	269	(58.1)
12–19	697	(38.9)	503	(37.8)	194	(41.9)
Gender						
Male	915	(51.0)	720	(54.1)	195	(42.1)*
Female	879	(49.0)	611	(45.9)	268	(57.9)
Ethnicity						
Dutch	1521	(84.8)	1099	(85.1)	422	(93.8)*
Non-Dutch	220	(12.3)	192	(14.9)	28	(6.2)
Psychosocial problems						
Normal	968	(54.0)	527	(39.6)	441	(95.2)*
Borderline	219	(12.2)	207	(15.6)	12	(2.6)
Abnormal	607	(33.8)	597	(44.9)	10	(2.2)
<b>Parent and family characteristics</b>						
Parental educational level						
Primary education	44	(2.5)	41	(3.1)	3	(0.6)*
Lower levels of secondary education	232	(12.9)	201	(15.2)	31	(6.7)
Higher levels of secondary education	911	(50.8)	694	(52.5)	217	(46.9)
Senior vocational education	435	(24.2)	280	(21.2)	155	(33.5)
University	164	(9.1)	107	(8.1)	57	(12.3)
Family composition						
Biological two-parent family	906	(50.6)	586	(44.1)	320	(69.1)*
Other	885	(49.4)	742	(55.9)	143	(30.9)
Family social support (mean (SD) (9–45))	37.67	(7.3)	36.76	(7.6)	40.30	(5.6)*
Parenting skills (mean (SD))						
Poor supervision (1–5)	1.70	(0.8)	1.75	(0.8)	1.56	(0.6)*
Inconsistent disciplining (1–5)	2.27	(0.7)	2.34	(0.7)	2.05	(0.7)*
Positive parenting (1–5)	4.19	(0.6)	4.19	(0.6)	4.17	(0.5)
<b>Care-related characteristics</b>						
Type of psychosocial care						
None	463	(25.8)	–	–	463	(100.0)*
Preventive child health care	364	(20.3)	364	(27.3)	–	–
Child and adolescent social care	209	(11.6)	209	(15.7)	–	–
Child and adolescent mental health care	758	(42.2)	758	(56.9)	–	–

\* Significant differences between care and community sample,  $p < 0.001$

<sup>a</sup> Numbers do not always add up to  $N = 1794$  due to missing data

**Table 2** Associations between family social support, parenting skills and psychosocial care enrolment: results of univariable and multivariable logistic regression analyses ( $N = 1706$ )

	Crude			Adjusted <sup>a,b</sup>		
	OR	(95 % CI)	<i>P</i>	OR	(95 % CI)	<i>P</i>
Family social support (reference: high)			<0.001			<0.001
Medium	1.50	(1.17–1.93)	0.001	1.51	(1.15–1.98)	0.003
Low	3.50	(2.65–4.61)	<0.001	3.20	(2.35–4.35)	<0.001
Parenting skills						
Poor supervision (vs. good)	1.90	(1.42–2.55)	<0.001	1.52	(1.08–2.14)	0.017
Inconsistent disciplining (vs. consistent)	1.91	(1.44–2.53)	<0.001	1.52	(1.11–2.06)	0.009
Low positive parenting (vs. high)	1.06	(0.81–1.38)	0.690	0.88	(0.65–1.19)	0.400

<sup>a</sup> Adjusted for children's age, gender, ethnicity, parental educational level and family composition

<sup>b</sup> Nagelkerke  $R^2 = .20$

<sup>c</sup> OR odds ratio, CI confidence interval

to enrol in psychosocial care, compared to children with high family social support (Table 2). Poor supervision and inconsistent disciplining were found to be positively associated with children's psychosocial care enrolment. Positive parenting was not associated with care enrolment.

When adjusting for the background characteristics, low family social support, poor supervision and inconsistent disciplining remained significantly positively associated with children's psychosocial care enrolment.

#### Children's psychosocial problems as a moderator or mediator

Non-significant interaction terms show that children's psychosocial problems did not moderate the association between family social support, poor supervision, inconsistent disciplining and psychosocial care enrolment (Fig. 1).

Results of the mediation analyses show that children's psychosocial problems did mediate the association between family social support, poor supervision, inconsistent disciplining and psychosocial care enrolment (Fig. 2). The association between family social support and care enrolment was partially mediated. The association between poor supervision, inconsistent disciplining and care enrolment was completely mediated by children's psychosocial problems. No moderator and mediator analyses were performed for positive parenting because it was not significantly associated with psychosocial care enrolment (Table 2). Inclusion of children of the community sample in the enrolled group that contacted a professional regarding psychosocial problems in the past 6 months led to similar findings for all analyses (data not shown).

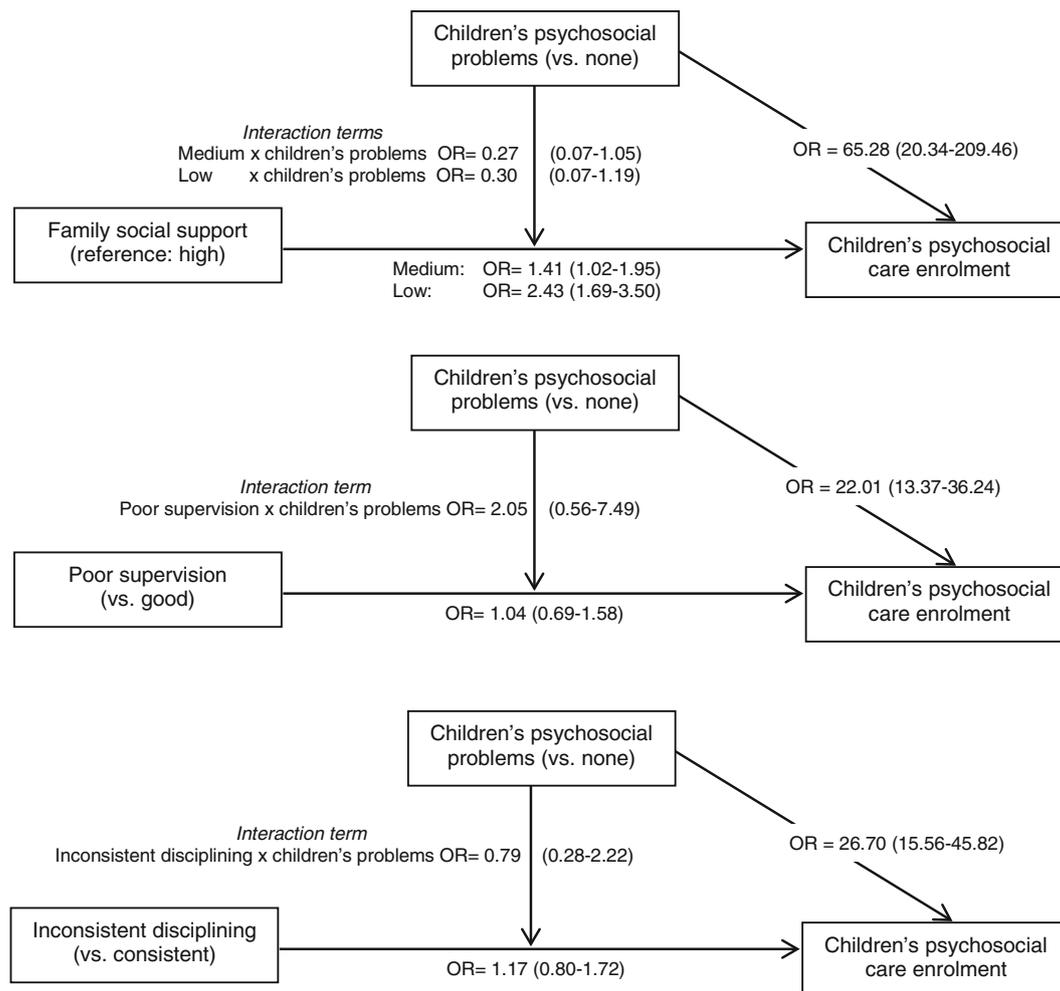
## Discussion

We found that children of families with low family social support and parents with poor parenting skills were more likely to enrol in psychosocial care. Children's psychosocial problems mediated this association rather than moderating it. The association between poor parenting skills and psychosocial care enrolment was completely mediated by children's psychosocial problems and the association of family social support partially. We found no association between positive parenting and children's enrolment in psychosocial care.

#### Interpretation and fit with other studies

To our knowledge, this study is the first to examine the associations between family social support, parenting skills and children's enrolment in a broad field of psychosocial care, i.e. comprising preventive child health care, and child and adolescent social care and mental health care.

Our finding that low family social support is associated with children's psychosocial care enrolment is in accordance with studies in the field of child and adolescent mental health care, showing that children and adolescents in families receiving little social support are more likely to enrol in this kind of care [26, 30]. The finding that low family social support is directly related to children's psychosocial care enrolment suggests that a family's need for professional care originates to a significant extent in problems in the family and is not only based on problems of the child [48]. However, a family may also receive less social support because their child is involved in psychosocial care, for example because of the stigma attached to psychosocial problems [49, 50].



**Fig. 1** Associations between family social support, parenting skills and psychosocial care enrolment: results of moderation analyses for children's psychosocial problems<sup>a</sup>. <sup>a</sup> All models have been adjusted

for children's age, gender, ethnicity, parental educational level, family composition, family social support, poor supervision, inconsistent disciplining and positive parenting. <sup>b</sup> OR odds ratio

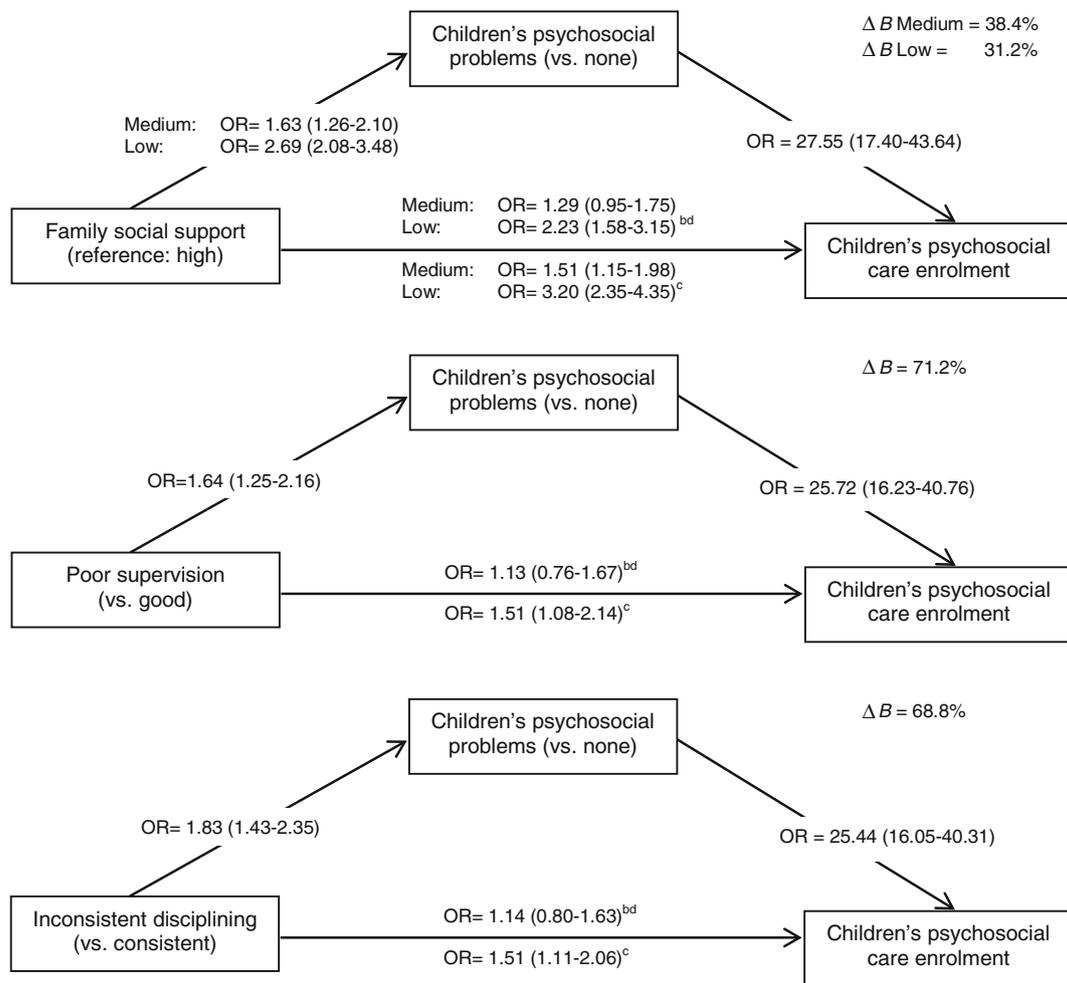
Poor parenting skills, i.e. poor supervision and inconsistent disciplining, were also associated with a higher likelihood of children's enrolment in psychosocial care. The finding that positive parenting was not associated with children's care enrolment could be due to the fact that the vast majority of the included parents scored high on the positive parenting subscale. This high mean score may reflect parents' tendency to provide socially desirable answers in a society in which this type of parenting, i.e. positively reinforcing good child behaviour, is currently receiving a great deal of attention [51].

Children's psychosocial problems mediated rather than moderated the associations examined. This means that children of families with low family social support were more likely to have psychosocial problems and that these problems in turn made enrolment in psychosocial care more likely. This may be interpreted as meaning that social support for the family might buffer the impact of children's

psychosocial problems, or in some cases might even prevent problems, rather than that the social network promotes early problem recognition and help-seeking, as has been suggested previously [28].

We found that poorly supervised children were more likely to have psychosocial problems, leading to a higher likelihood of enrolment in psychosocial care. An explanation may be that the antisocial behaviour of these children is corrected to a lesser degree. Moreover, they may hang out on the streets more often and, therefore, be more likely to develop antisocial behaviour, particularly if they are in the company of antisocial peers [52].

Inconsistent parental disciplining was also associated with children's psychosocial problems and via psychosocial problems with care enrolment. This may be explained by Dwairy's theory that inconsistent parental behaviour can lead to children having feelings of ambivalence towards themselves and their parents [53].



**Fig. 2** Associations between family social support, parenting skills and psychosocial care enrolment: results of mediation analyses for children’s psychosocial problems. <sup>a</sup> All models have been adjusted for children’s age, gender, ethnicity, parental educational level,

family composition, family social support, poor supervision, inconsistent disciplining and positive parenting. <sup>b</sup> Adjusted for children’s psychosocial problems. <sup>c</sup> Not adjusted for children’s psychosocial problems. <sup>d</sup> Nagelkerke  $R^2 = .45$ . <sup>e</sup> OR odds ratio

Unpredictable parent behaviour may also cause the child to have feelings of hurt and injustice, which may disturb children’s attachment to and identification with their parents [53].

The associations between family social support, parenting skills and psychosocial care enrolment did not differ between children with and without psychosocial problems, i.e. there was no moderation. This challenges the assumption that parenting is more important in the case of child problems. Poor parenting may lead to more child problems and make enrolment in care more likely, which fits with previous findings that children’s need for psychosocial care depend on a complex interaction of factors [54]. However, it appears not to affect the likelihood of enrolment in psychosocial care further, depending on the severity of the child’s problems.

**Strengths and limitations**

An important strength of this study is the inclusion of children enrolled in psychosocial care as well as children who were not. Additional strengths are its large sample size, extensive recruitment procedure and successful actions to reduce missing data. This study made it possible to examine a broad field of psychosocial care for children and adolescents.

A limitation of our study might be the potential selection bias due to a low response rate. However, we found trivial to small differences between respondents and non-respondents, which decreases the likelihood of bias. Moreover, we lack information on those who opted out of the study, but it seems reasonable to assume that these resemble the non-responders [55]. Another limitation of our study might

be the reliance on only parent-reported information. However, we used only well-validated questionnaires which, for example regarding psychosocial problems, have been shown to be very informative [56, 57]. Another limitation is that we cannot be decisive on causality, i.e. on the direction of the associations of low family social support, poor parenting skills and children's enrolment in psychosocial care. Our findings should thus be confirmed in future longitudinal studies.

### Implications

This study showed that family social support and parenting skills are associated with children's psychosocial care enrolment and that these associations were mediated by children's psychosocial problems. Professionals and policymakers should, therefore, be aware that these factors are associated with enrolment. Further research is needed to determine whether influencing these factors indeed leads to less enrolment in care.

Moreover, further research is needed to examine whether these associations will be confirmed when parenting skills and children's psychosocial problems are rated by professionals. Finally, longitudinal research should provide insight into the pathways leading to the associations between low family social support and children's enrolment in psychosocial care, as well as leading to the association between poor parenting skills and care enrolment.

**Acknowledgments** This study has received grants from the Netherlands Organization for Health Research and Development (Zon-Mw), the Province of Groningen, the University Medical Center Groningen, the University of Groningen, the Menzis health insurance company, and the child and adolescent care providers Elker and Accare.

**Conflict of interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

### References

- Briggs-Gowan MJ, Horwitz SM, Schwab-Stone M, Leventhal JM, Leaf PJ (2000) Mental health in pediatric settings: distribution of disorders and factors related to service use. *J Am Acad Child Adolesc Psychiatry* 39:841–849. doi:10.1097/00004583-200007000-00012
- Merikangas KR, He JP, Burstein M, Swanson SA, Avenevoli S, Cui L, Benjet C, Georgiades K, Swendsen J (2010) Lifetime prevalence of mental disorders in U.S. adolescents: results from the National Comorbidity Survey Replication – Adolescent Supplement (NCS-A). *J Am Acad Child Adolesc Psychiatry* 49:980–989. doi:10.1016/j.jaac.2010.05.017
- Patel V, Flisher AJ, Hetrick S, McGorry P (2007) Mental health of young people: a global public-health challenge. *Lancet* 369:1302–1313. doi:10.1016/S0140-6736(07)60368-7
- Tick NT, van der Ende J, Verhulst FC (2007) Twenty-year trends in emotional and behavioral problems in Dutch children in a changing society. *Acta Psychiatr Scand* 116:473–482. doi:10.1111/j.1600-0447.2007.01068.x
- Zwaanswijk M, van Dijk CE, Verheij RA (2011) Child and adolescent mental health care in Dutch general practice: time trend analyses. *BMC Fam Pract* 12:133–143. doi:10.1186/1471-2296-12-133
- Jansen DEMC, Wieggersma P, Ormel J, Verhulst FC, Vollebergh WA, Reijneveld SA (2013) Need for mental health care in adolescents and its determinants: the TRAILS study. *Eur J Public Health* 23:236–241. doi:10.1093/eurpub/cks087
- Brugman E, Reijneveld SA, Verhulst FC, Verloove-Vanhorick SP (2001) Identification and management of psychosocial problems by preventive child health care. *Arch Pediatr Adolesc Med* 155:462–469. doi:10.1001/archpedi.155.4.462
- Reijneveld SA, Brugman E, Verhulst FC, Verloove-Vanhorick SP (2004) Identification and management of psychosocial problems among toddlers in Dutch preventive child health care. *Arch Pediatr Adolesc Med* 158:811–817. doi:10.1001/archpedi.158.8.811
- Zwaanswijk M, Verhaak PF, Bensing JM, Van der Ende J, Verhulst FC (2003) Help seeking for emotional and behavioural problems in children and adolescents: a review of recent literature. *Eur Child Adolesc Psychiatry* 12:153–161. doi:10.1007/s00787-003-0322-6
- Zwaanswijk M, Verhaak PF, Van der Ende J, Bensing JM, Verhulst FC (2006) Change in children's emotional and behavioural problems over a 1-year period: associations with parental problem recognition and service use. *Eur Child Adolesc Psychiatry* 15:127–131. doi:10.1007/s00787-005-0513-4
- Zwaanswijk M, Verhaak PF, Van der Ende J, Bensing JM, Verhulst FC (2005) Consultation for and identification of child and adolescent psychological problems in Dutch general practice. *Fam Pract* 22:498–506. doi:10.1093/fampra/cmi045
- Zwaanswijk M, Van der Ende J, Verhaak PFM, Bensing JM, Verhulst FC (2003) Factors associated with adolescent mental health service need and utilization. *J Am Acad Child Adolesc Psychiatry* 42:692–700. doi:10.1097/01.CHI.0000046862.56865.B7
- Jansen DE, Vermeulen KM, Schuurman-Luinge AH, Knorth EJ, Buskens E, Reijneveld SA (2013) Cost-effectiveness of Multi-systemic Therapy for adolescents with antisocial behaviour: study protocol of a randomized controlled trial. *BMC Public Health* 13:369. doi:10.1186/1471-2458-13-369
- Burns BJ, Phillips SD, Wagner HR, Barth RP, Kolko DJ, Campbell Y, Landsverk J (2004) Mental health need and access to mental health services by youths involved with child welfare: a national survey. *J Am Acad Child Adolesc Psychiatry* 43:960–970. doi:10.1097/01.chi.0000127590.95585.65
- Bussing R, Zima BT, Gary FA, Garvan CW (2003) Barriers to detection, help-seeking, and service use for children with ADHD symptoms. *J Behav Health Serv Res* 30:176–189. doi:10.1007/BF02289806
- Cabiya JJ, Canino G, Chavez L, Ramirez R, Alegría M, Shrout P, Hohman A, Bravo M, Bauermeister JJ, Maritínez-Taboas A (2006) Gender disparities in mental health service use of Puerto Rican children and adolescents. *J Child Psychol Psychiatry* 47:840–848. doi:10.1111/j.1469-7610.2006.01623.x
- Chavira DA, Garland A, Yeh M, McCabe K, Hough RL (2009) Child anxiety disorders in public systems of care: comorbidity and service utilization. *J Behav Health Serv Res* 36:492–504. doi:10.1007/s11414-008-9139-x
- Cuffe SP, Waller JL, Addy CL, McKeown RE, Jackson KL, Moloo J, Garrison CZ (2001) A longitudinal study of adolescent mental health service use. *J Behav Health Serv Res* 28:1–11. doi:10.1007/BF02287230
- Cuffe SP, Moore CG, McKeown R (2009) ADHD and health services utilization in the national health interview survey. *J Atten Disord* 12:330–340. doi:10.1177/1087054708323248

20. Garcia A, Courtney M (2011) Prevalence and predictors of service utilization among racially and ethnically diverse adolescents in foster care diagnosed with mental health and substance abuse disorders. *J Public Child Welf* 5:521–545. doi:[10.1080/15548732.2011.617277](https://doi.org/10.1080/15548732.2011.617277)
21. Garland AF, Hough RL, Landsverk JA, McCabe KM, Yeh M, Ganger WC, Reynolds BJ (2000) Racial and ethnic variations in mental health care utilization among children in foster care. *Child Serv Soc Pol Res Pract* 3:133–146
22. Simpson GA, Cohen RA, Bloom B, Blumberg SJ (2009) The impact of children's emotional and behavioural difficulties on their lives and their use of mental health services. *Paediatr Perinat Epidemiol* 23:472–481. doi:[10.1111/j.1365-3016.2009.01043.x](https://doi.org/10.1111/j.1365-3016.2009.01043.x)
23. Stahmer AC, Leslie LK, Hurlburt M, Barth RP, Webb MB, Landsverk J, Zhang J (2005) Developmental and behavioral needs and service use for young children in child welfare. *Pediatrics* 116:891–900. doi:[10.1542/peds.2004-2135](https://doi.org/10.1542/peds.2004-2135)
24. Wu P, Katic BJ, Liu X, Fan B, Fuller CJ (2010) Mental health service use among suicidal adolescents: findings from a U.S. national community survey. *Psychiatr Serv* 61:17–24. doi:[10.1176/appi.ps.61.1.17](https://doi.org/10.1176/appi.ps.61.1.17)
25. Amon-P'Olak K, Ormel J, Oldehinkel AJ, Reijneveld SA, Verhulst FC, Burger H (2010) Socioeconomic position predicts specialty mental health service use independent of clinical severity: the TRAILS study. *J Am Acad Child Adolesc Psychiatry* 49:647–655. doi:[10.1016/j.jaac.2010.03.007](https://doi.org/10.1016/j.jaac.2010.03.007)
26. Bussing R, Zima BT, Gary FA, Mason DM, Leon CE, Sinha K, Garvan CW (2003) Social networks, caregiver strain, and utilization of mental health services among elementary school students at high risk for ADHD. *J Am Acad Child Adolesc Psychiatry* 42:842–850. doi:[10.1097/01.CHI.0000046876.27264.BF](https://doi.org/10.1097/01.CHI.0000046876.27264.BF)
27. Andersen RM, Rice TH, Kominski GF (2007) Changing the US health care system: key issues in health services policy and management. Jossey-Bass, San Francisco, CA
28. Srebnik D, Cauce AM, Baydar N (1996) Help-seeking pathways for children and adolescents. *J Emot Behav Disord* 4:210–220. doi:[10.1177/106342669600400402](https://doi.org/10.1177/106342669600400402)
29. Brannan AM, Heflinger CA, Foster EM (2003) The role of caregiver strain and other family variables in determining children's use of mental health services. *J Emot Behav Disord* 11:77–91. doi:[10.1177/106342660301100202](https://doi.org/10.1177/106342660301100202)
30. Martinez JI, Lau AS (2011) Do social networks push families toward or away from youth mental health services? A national study of families in child welfare. *J Emot Behav Disord* 19:169–181. doi:[10.1177/1063426610377898](https://doi.org/10.1177/1063426610377898)
31. Lindsey MA, Gilreath TD, Thompson R, Graham JC, Hawley KM, Weisbart C, Browne D, Kotch JB (2012) Influence of caregiver network support and caregiver psychopathology on child mental health need and service use in the LONGSCAN study. *Child Youth Serv Rev* 34:924–932. doi:[10.1016/j.childyouth.2012.01.022](https://doi.org/10.1016/j.childyouth.2012.01.022)
32. Pescosolido BA, Boyer CA (2010) Understanding the context and dynamic social processes of mental health treatment. Cambridge University Press, New York, pp 420–438
33. Fletcher AC, Walls JK, Cook EC, Madison KJ, Bridges TH (2008) Parenting style as a moderator of associations between maternal disciplinary strategies and child well-being. *J Fam Issues* 29:1724–1744. doi:[10.1177/0192513X08322933](https://doi.org/10.1177/0192513X08322933)
34. Bauer NS, Webster-Stratton C (2006) Prevention of behavioral disorders in primary care. *Curr Opin Pediatr* 18:654–660. doi:[10.1097/MOP.0b013e3280106239](https://doi.org/10.1097/MOP.0b013e3280106239)
35. Sanders MR (2012) Development, evaluation, and multinational dissemination of the Triple P-Positive Parenting Program. *Annu Rev Clin Psychol* 8:345–379. doi:[10.1146/annurev-clinpsy-032511-143104](https://doi.org/10.1146/annurev-clinpsy-032511-143104)
36. Reijneveld SA, Wieggersma PA, Ormel J, Verhulst FC, Vollebergh WA, Jansen DE (2014) Adolescents' use of care for behavioral and emotional problems: types, trends, and determinants. *PLoS One* 9:e93526. doi:[10.1371/journal.pone.0093526](https://doi.org/10.1371/journal.pone.0093526)
37. Galea S, Tracy M (2007) Participation rates in epidemiologic studies. *Ann Epidemiol* 17:643–653. doi:[10.1016/j.annepidem.2007.03.013](https://doi.org/10.1016/j.annepidem.2007.03.013)
38. Hayslett MM, Wildemuth BM (2005) Pixels or pencils? The relative effectiveness of Web-based versus paper surveys. *Libr Inf Sci Res* 26:73–93. doi:[10.1016/j.lisr.2003.11.005](https://doi.org/10.1016/j.lisr.2003.11.005)
39. Van den Ploeg J, Scholte EM (2008) Gezinsvragenlijst (GVL) [Family Questionnaire]. Bohn Stafleu van Loghum, Houten
40. Elgar FJ, Waschbusch DA, Dadds MR, Sigvaldason N (2007) Development and validation of a short form of the Alabama parenting questionnaire. *J Child Fam Stud* 16:243–259. doi:[10.1007/s10826-006-9082-5](https://doi.org/10.1007/s10826-006-9082-5)
41. Centraal Bureau voor de Statistiek (CBS) (2006) Standaard Onderwijsindeling 2006 (Standard Education Classification 2006). <http://www.cbs.nl/nl-NL/menu/methoden/classificaties/overzicht/soi/2006/default.htm>. Accessed 27 Sep 2013
42. Van Widenfelt BM, Goedhart AW, Treffers PD, Goodman R (2003) Dutch version of the strengths and difficulties questionnaire (SDQ). *Eur Child Adolesc Psychiatry* 12:281–289. doi:[10.1007/s00787-003-0341-3](https://doi.org/10.1007/s00787-003-0341-3)
43. Muris P, Meesters C, van den Berg F (2003) The strengths and difficulties questionnaire (SDQ). *Eur Child Adolesc Psychiatry* 12:1–8. doi:[10.1007/s00787-003-0298-2](https://doi.org/10.1007/s00787-003-0298-2)
44. Crone MR, Vogels AG, Hoekstra F, Treffers PD, Reijneveld SA (2008) A comparison of four scoring methods based on the parent-rated strengths and difficulties questionnaire as used in the Dutch preventive child health care system. *BMC Public Health* 8:106–114. doi:[10.1186/1471-2458-8-106](https://doi.org/10.1186/1471-2458-8-106)
45. Goodman R (1997) The strengths and difficulties questionnaire: a research note. *J Child Psych Psychiatry* 38:581–586. doi:[10.1111/j.1469-7610.1997.tb01545.x](https://doi.org/10.1111/j.1469-7610.1997.tb01545.x)
46. Baron RM, Kenny DA (1986) The moderator–mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *J Pers Soc Psychol* 51:1173–1182. doi:[10.1037/0022-3514.51.6.1173](https://doi.org/10.1037/0022-3514.51.6.1173)
47. Twisk JWR (2007) Inleiding in de toegepaste biostatistiek [Introduction to applied biostatistics]. Elsevier gezondheidszorg, Maarssen
48. Scholte E, Van der Ploeg J (1996) Ambulant care for juveniles “at risk”. *Int J Child Fam Welfare* 1:57–69
49. Heflinger CA, Hinshaw SP (2010) Stigma in child and adolescent mental health services research: understanding professional and institutional stigmatization of youth with mental health problems and their families. *Adm Policy Ment Health* 37:61–70. doi:[10.1007/s10488-010-0294-z](https://doi.org/10.1007/s10488-010-0294-z)
50. Drakeford M, Colton M, Scholte EM, Casas F, Williams M, Roberts S (1997) Social policy and stigma. *Int J Child Fam Welfare* 2:21–38
51. Rodrigo MJ (2010) Promoting positive parenting in Europe: new challenges for the European Society for Developmental Psychology. *Eur J Dev Psychology* 7:281–294. doi:[10.1080/17405621003780200](https://doi.org/10.1080/17405621003780200)
52. Sentse M, Dijkstra JK, Lindenberg S, Ormel J, Veenstra R (2010) The delicate balance between parental protection, unsupervised wandering, and adolescents' autonomy and its relation with antisocial behavior: the TRAILS study. *Int J Beh Dev* 34:159–167. doi:[10.1177/0165025409350949](https://doi.org/10.1177/0165025409350949)
53. Dwaairy M (2010) Parental inconsistency: a third cross-cultural research on parenting and psychological adjustment of children. *J Child Fam Stud* 19:23–29. doi:[10.1007/s10826-009-9339-x](https://doi.org/10.1007/s10826-009-9339-x)

54. Bakker I, Bakker C, Van Dijke A, Terpstra L (1998) O&O in perspectief [O&O in perspective]. NIZW, Utrecht
55. Junghans C, Feder G, Hemingway H, Timmis A, Jones M (2005) Recruiting patients to medical research: double blind randomised trial of “opt-in” versus “opt-out” strategies. *Br Med J* 331:940–943. doi:[10.1136/bmj.38583.625613.AE](https://doi.org/10.1136/bmj.38583.625613.AE)
56. Sayal K, Taylor E, Beecham J (2003) Parental perception of problems and mental health service use for hyperactivity. *J Am Acad Child Adolesc Psychiatry* 42:1410–1414. doi:[10.1097/00004583-200312000-00007](https://doi.org/10.1097/00004583-200312000-00007)
57. Teagle SE (2002) Parental problem recognition and child mental health service use. *Ment Health Serv Res*. 4:257–266. doi:[10.1023/A:1020981019342](https://doi.org/10.1023/A:1020981019342)