



Parenting sense of competence and associated factors among parents facing adversity in Norway: a cross-sectional study

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ABSTRACT

Objective: Parenting sense of competence plays a central role in understanding the dynamics within a family and is central to positive parenting. Nevertheless, few studies have investigated parenting sense of competence among parents facing adversity. The study aimed to investigate self-reported parenting sense of competence (PSOC) and associated factors at individual, family, social and service levels among parents using a low threshold family service in Norway.

Method: The study was based on a cross-sectional survey conducted in 2020. The sample consisted of 275 parents (83.3 % females, mean age 38 years). Linear regression analysis, adjusting for potential confounding factors, was conducted.

Results: There were no statistically significant differences in the mean values for mothers and fathers on the Efficacy and Satisfaction subscales of the Parenting Sense of Competence Scale. Self-reported economic situation, symptoms of anxiety/depression, general health status, family functioning, social cohesion and support, and relationships with staff at the low-threshold service were all significantly associated with PSOC. However, no significant associations were found between PSOC and education level, cohabitation status, number of children, child age, substance abuse, or time spent at the low-threshold service.

Conclusion: These findings highlight the complexity of factors influencing parental competence in populations facing adversities, underscoring the need for comprehensive approaches in parenting support programs. Tailored interventions targeting these determinants could significantly enhance the well-being of families facing adversities.

1. Introduction

Parenting sense of competence plays an important role in understanding the dynamics within a family and is central to positive parenting (Albanese et al., 2019; Jones & Prinz, 2005). Parental efficacy is the degree to which a parent feels competent and confident in handling children's challenges. The sense of competence in parenting is a reflection of parenting skills, problem-solving abilities, and capabilities (Johnston & Mash, 1989). When parents are confident in their ability to deal with their children, they are warmer, more responsive, and more accepting of their children (Gondoli & Silverberg, 1997). Research shows that parents who feel competent are less likely to use

harsh discipline, exhibit hostility, or employ inconsistent and intrusive parenting techniques. Additionally, they tend to perceive their children as easier to parent (Coleman & Karraker, 2003; Sanders & Woolley, 2005). Greater parenting sense of competence has been associated with fewer concurrent depressive symptoms and less parenting stress (Jones & Prinz, 2005). Those with lower levels of parenting sense of competence tend to show less adequate parenting skills and withdraw from interactions with their children. Additionally, they may stop addressing child problem behaviours altogether (Coleman & Karraker, 1998). Increases in parenting sense of competence have been found to predict subsequent positive changes in parenting behaviours and a reduction in externalizing and internalizing behaviour problems in children (Deković

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et al., 2010; Dumka et al., 2010; Glatz & Buchanan, 2015; O'Connor et al., 2012; Preyde et al., 2015). Moreover, the relationship between parental sense of competence, parenting competence, and behaviour is likely multifaceted. Improved parenting competence may influence both the sense of competence and parenting behaviour. (Jones & Prinz, 2005). These findings highlight the importance of assessing the determinants of parental self-efficacy, especially among families facing multiple challenges, where parenting can be more challenging (Nunes et al., 2022; Rodríguez-JenKins & Marcenko, 2014).

Although there is no standard definition of families facing adversities, this term refers to those who live under personal or environmental circumstances that impede children's well-being, but whose situation is not severe enough to warrant children's out-of-home placement (Rodrigo & Byrne, 2011). They usually face multiple stressful life events, and their circumstances may hinder their parenting competencies and compromise appropriate parenting (Nunes & Ayala Nunes, 2017; Rodríguez-JenKins & Marcenko, 2014). In a cross-sectional study conducted on parenting sense of competence among low-income Mexican-origin mothers of infants in the United States, it was found that lower levels of parenting sense of competence were associated with increased levels of depressive symptoms in parents (Curci et al., 2021). Two cross-sectional studies have found that at-risk families experience parental competence differently than normative families (Menéndez Álvarez-Dardet et al., 2011; Nunes & Ayala Nunes, 2017). For parents facing adversity, parenting efficacy appears to be more closely related to parenting behaviour. For instance, within African-American families residing in impoverished inner-city neighbourhoods, mothers' increased levels of self-efficacy beliefs exhibited a stronger correlation with positive parenting behaviours, self-efficacy, and the academic success of children compared to Caucasian middle-class families. (Ardelt & Eccles, 2001). Parents facing adversity with older children have been reported to feel less effective and less satisfied in their parenting roles compared to parents of younger children. (Ardelt & Eccles, 2001; Nunes & Ayala Nunes, 2017; Seigny & Loutzenhiser, 2010). A cross-sectional study indicated that parenting sense of competence has not generally been associated with demographic variables such as gender, birth order, or child age (Kuhn & Carter, 2006). A recent systematic review on parental self-efficacy indicated that parental self-efficacy decreases during the school-age and adolescent period (Glatz et al., 2023). In summary, the existing research on factors linked to parenting sense of competence among parents facing adversity is both limited and inconclusive.

Evidence-based parenting interventions incorporating active acquisition of parenting skills are available (Chorpita & Daleiden, 2009; Furlong et al., 2012; Wyatt Kaminski et al., 2008); however, their implementation and availability are limited in scope (Fixsen et al., 2013). In addition, these programs are typically delivered to clinical populations rather than offered as preventive interventions. The importance of directly targeting parenting sense of competence in the context of prevention work with families facing adversity has been highlighted by several studies (Albanese et al., 2019; Jackson & Moreland, 2018). In a Spanish sample of parents facing adversity, including those with low income, limited education, and unemployment, as well as immigrant backgrounds (Amorós-Martí et al., 2016), the levels of parenting sense of competence increased after receiving a family support program. Moreover, parenting sense of competence was identified as a mechanism of change in a Dutch evaluation of the Home-start parenting program, a parenting support program for mothers with young children who experience difficulties in child-rearing (Deković et al., 2010). In a randomized controlled trial (RCT) of a brief parent-training program conducted with a community sample of parents with children aged 2 to 8 years, researchers, (Reedtz et al., 2011) identified significant differences between the intervention and control groups. Specifically, they observed an improvement in parents' sense of competence within the intervention group across pre-intervention, post-intervention, and one-year follow-up assessments. Nevertheless, empirical data on parenting sense of competence and associated factors

in a Scandinavian setting are scarce.

The aim of the study was to investigate self-reported parenting sense of competence and associated factors at individual (i.e., demographic and health factors), family and social and service level among parents utilizing a low threshold family service in Norway.

2. Method

2.1. Setting

The study's data collection occurred at the Blue Cross Children's Station (hereafter called Children's Station), a Norwegian low threshold service for families in vulnerable life situations with at least one child aged 0–12 years, as well as pregnant women. Children's Station has since 2006 provided supportive and strengthening activities to families with small children in Norway. At the time of data collection, there were Children's Stations in the following cities: Fredrikstad, Kristiansand (including Lindesnes and Lister), Drammen, Trondheim, Hamar, Oslo and Bergen/Askøy. All offers are free and there is no need for a referral.

Children's Station prioritizes prevention and early intervention, centered around a child-centric approach while actively involving both children and their parents to achieve mutual goals. Its overarching objective is to ensure robust developmental support for children and enhance parental capabilities by nurturing long-term caregiving competence. The program offers individual and group sessions, along with an environmental therapeutic service focusing on interaction, coping strategies, and skill development. At all Children's Stations, there exists multidisciplinary expertise in health and social care, supplemented by continuous education that encompasses subjects like substance abuse, mental health, and family welfare. Circle of Security™ (COS) (Cooper et al., 2011; Yahlkoski et al., 2016) is the basic approach, and all employees at Children's Station are certified in COS. Circle of Security™ is a mental health intervention designed for at-risk young children and parents, aiming to address potential issues with attachment relationships and subsequent negative behavioral outcomes. It emphasizes enhancing maternal sensitivity towards the child's needs and communication, which is crucial in fostering secure attachment development (Cooper et al., 2011). The circle of security is recognizable in all offers at the Children's Station. The fundamental belief that guides the work at Children's Station is that all parents inherently prioritize the best interests of their children. (Blue Cross, 2024).

2.2. Sample and procedure

At the time of the survey, there were nine Children's Stations across Norway, all of which were invited to participate in the questionnaire survey, designed for electronic completion. The staff at Children's Station provided valuable assistance in recruiting respondents and aiding individuals who required support in filling out the questionnaire. To ensure preparedness, all employees were thoroughly familiarized with the questionnaire's contents in advance. The questionnaire underwent a pilot test conducted with user representatives from the Children's Station, and subsequent modifications were made based on their input. Parents had the option to complete the electronic questionnaire either at the Children's Station or from their mobile phones or personal computers at home. Participants electronically completed informed consent forms prior to finalizing the questionnaire.

The data collection occurred during a period coinciding with significant COVID-19 outbreaks across the country. Consequently, the recruitment and execution of the survey were considerably impacted by the resulting uncertainties. Mobility and social distancing restrictions led to fewer physical visits by parents to the Children's Stations, affecting the ability to inform and assist them in filling out the questionnaire face-to-face as initially intended. As a result, a convenience sampling strategy was employed.

2.3. Measures

2.3.1. Demographic variables

Demographic variables included participant age, number of children in the household, sex. Additionally, **education level** (six categories: 1) primary education, 2) one to two years of upper-secondary school, 3) three years of upper-secondary school, 4) vocational education, 5) less than four years of college/university, 6) more than four years of college/university). **Household total income last year** (gross income) (under 250 000, 250 000–450 000, 451 000–750 000, 751 000–1 000 000, over 1 000 000 Norwegian Kroner). **Self-rated financial situation** was measured by the item “How would you judge the current financial situation of your household?” (Arampatzi et al., 2015) with the following response categories 1) very good, 2) good, 3) neither good nor bad, 4) not good and 5) very bad.

The primary activity was assessed by marking one option from the following categories: 1) Employed, 2) On leave, 3) Engaged in education (student), 4) Unemployed, on sick leave, receiving disability benefits, or undergoing rehabilitation, 5) Managing household responsibilities. **Cohabitation status** was measured by the following categories: 1) I live alone, 2) Living alone with the child/children, 3) Living with a partner who is the child’s biological parent, 4) Living with a partner who is the child’s biological parent and the children/our children, 5) Living with a new partner and my child/children and/or his/her children, 6) Other. **Care responsibilities** were measured by the item “Who do you share your caring responsibilities with?”, with the following response categories: 1) The child’s/children’s mother/father, 2) Partner (not the child’s/children’s mother/father), 3) Relatives, foster homes outside family/networks, 4) foster homes in family/networks, 5) Emergency homes, 6) Institutions, 7) Others, please write whom). **Native language** was measured by the item “What is your native language?” with the response categories as follows: 1) Norwegian, 2) other European language 3) non-European language. **Use of other services** was measured by the question “In addition to the services you receive at the Children’s Station, has your family also received help (or get help) from any of these services? (You can put multiple crosses). Selected responses were coded 1 and selected responses were coded 0. The relevant services were Child welfare services, Child and adolescent mental health services, General practitioner, Psychologist and Family Counselling.

2.3.2. Individual, family and social factors

Parents’ sense of competence was measured by the “Parenting Sense of Competence” (PSOC) scale (Johnston & Mash, 1989). The scale was translated into Norwegian by Professor Charlotte Reedtz, University of Tromsø. The PSOC contains 16 questions that are answered on a 6-point scale from “Strongly disagree” to “Strongly agree”. Scoring of some sections was reversed so that higher scores in all sections indicated higher parent-related self-esteem. Two subscales measure effectiveness (seven items) and satisfaction (nine items) in parents’ upbringing of their children and are calculated by summing the scores within each scale. A higher score indicates a better experience of parenting competence. The satisfaction dimension examines the parents’ anxiety, motivation and frustration, while the effectiveness dimension looks at the parents’ perceived competence, ability level and problem-solving abilities in the parenting role. There are no average scores, or threshold values available/previously calculated for this measurement instrument. The psychometric properties of the Parenting Sense of Competence Scale have been reported to be good (Nunes et al., 2022; Ohan et al., 2000; Reedtz & Klest, 2016). The internal consistency (McDonalds omega, ω) of the effectiveness and satisfaction subscales were satisfactory (i.e., 0.76 and 0.74 respectively).

Symptoms of anxiety and depression were measured by a short version of the Hopkins Symptom Check List (HSCL) (10 items). The HSCL-10 is a self-reported measure that consists of 10 questions about symptoms of anxiety and depression over the previous week (Strand et al., 2003). The respondents answer each question with a score from 1

(not at all) to 4 (extremely). For SCL-10, an average score of 1,85 or over is generally accepted as a predictor of a significant symptoms of mental health problems, to the extent that it affects daily functioning (Strand et al., 2003). The SCL-10 has shown good psychometric properties in international (Nettelbladt et al., 1993) and Norwegian studies (Jakobsen et al., 2011; Strand et al., 2003). In the current study, the scale showed high internal consistency ($\omega = 0.91$).

Self rated health status is measured by the question: How do you rate your health? The response categories were: 1) poor, 2) not quite good, 3) good, or 4) very good. The question is taken from the well-validated instrument SF-36 and is often used in the assessment of self-health status (Bowling, 2005; Chen, 2017).

Family functioning was measured using a subscale (general functioning (GF) scale) from the McMaster Family Assessment Device (FAD) (Epstein et al., 1983). The FAD-GF, consisting of 12 items, is a unidimensional assessment tool designed to gauge the overall pathology of a family. It includes six items each related to healthy and unhealthy family functioning, respectively. The response categories varied from 1 (Strongly agree) to 4 (Strongly disagree). A higher score indicates poorer family functioning. A score of 2.0 or higher indicates problematic family functioning (Mansfield et al., 2018). The internal consistency of the FAD-GF has been observed to be satisfactory (Epstein et al., 1983; Hausken et al., 2019; Wo et al., 2018). The internal consistency of the scale in the current study was satisfactory ($\omega = 0.89$).

Social cohesion and social support was measured by three items from the Social Cohesion and Support Index (SCS) (Sørensen et al., 2002). This index is based on Cobb’s definition of social support (Cobb, 1976). The response categories ranged from 1 (totally agree) to 5 (totally disagree). High scores indicate high levels of social cohesion and support. The index shows high predictive validity, interacting with negative life events and childhood adversities regarding mental health (Sørensen et al., 2002). The internal consistency of the scale in the current study was satisfactory ($\omega = 0.70$).

2.3.3. Service level factors

Relationship with staff was measured by eight items, where the participants were asked to rate how much they agree with the following statements regarding the staff [at the low threshold service] “Shows consideration toward you”; “Understands your situation”; “Shows consideration towards your child”; “Meets you with courtesy and respect”; “Takes your views as a parent seriously”; “Sufficient time to talk with staff”; “Cooperates well with you”; “Appears to be professionally capable”. The scale was adopted from www.bed.rekommune.no, an online tool for municipalities to conduct user satisfaction surveys. The online tool was developed by Municipal Publishing House (Norwegian: Kommuneforlaget) and the Norwegian Association of Local and Regional Authorities (KS), from the Knowledge Centre for the Health Services (Norwegian: Kunnskapssenteret). Higher scores indicate higher levels of satisfaction. The scale has previously been used in a larger study (Collaboration and service quality in health-care services for children, youths, and their families; SKO-study) (Kaiser et al., 2022). The internal consistency of the scale in the current study was satisfactory ($\omega = 0.95$).

Time spent at the Low threshold service was measured by the item When (roughly) did you first come into contact with the Children’s Station? (year/month). This variable was recoded into number of months.

Participation in parents’ groups was measured by the item: Offers/activities at the Children’s Station you/your family used? Parent groups only, with the response categories 0 = No, and 1 = yes.

2.4. Statistical analysis

Cronbach’s α and McDonald’s ω are both estimates of the internal consistency of multi-item scales. Even though the α is the most used estimate of scale internal consistency, the ω provides better accuracy of

internal consistency as it has more realistic data assumptions (Dunn et al., 2014; Hayes & Coutts, 2020; Peters, 2014; Ravinder & Saraswathi, 2020). Thus, the ω was chosen as the main indices for scale internal consistency in the current study. Internal consistency was calculated in SPSS27 using the macro written by Hayes and Coutts (2020). For ω calculation, the closed-form algorithm for estimating factor loadings option was chosen, which is described in more detail in Hancock and An (2020). Confidence intervals (CIs) were calculated by bootstrapping 1000 samples. For the α , a commonly used cutoff for acceptable internal consistency is ≥ 0.70 (Taber, 2018). In the current study, the same cutoff was applied for the ω as well.

Mean score indices were computed if at least 50 % of the items of the scales were answered. The demographic characteristics of the sample and study variables were described using descriptive statistics (minimum and maximum values, means, standard deviations, and percentages). Independent *t*-test with bootstrapping was conducted to test the mean differences of the two dimensions of PSOC and parent sex (male/female). Multiple linear regression analyses were used to examine the associations between various factors (demographic, individual, social and family and service level) and parenting sense of competence. The dependent variables were the two subscales of PSOC; Satisfaction and Efficacy. Sex and age were included as covariates. To adjust for multiple hypothesis, the significance level was set at 1 %, rather than the conventional 5 % (Lydersen, 2021). This will provide some protection against false-positives, but without reducing statistical power as much as a formal adjustment would (Lydersen, 2021). The amount of missing data was < 10 %. Hence, the analyses were conducted on complete case dataset.

2.5. Ethics

The project was approved as being within the privacy legislation by NSD – Norwegian Centre for Research Data (reference 710844). A submission assessment application was also submitted to the Regional Committee for Medical and Health Research Ethics (REC). In assessing this, we were asked to submit a complete application for ethical assessment, and the conclusion of the committee’s assessment was that the project is outside REK’s mandate (reference 191802).

3. Results

3.1. Descriptive results

Of the total sample of respondents ($n = 275$), 83.3 % were females ($n = 229$), and 16.3 % were males ($n = 45$). One individual did not report sex (0.4 %). The mean age was 38.0 years ($SD=7.60$). On average, the participants had 1.7 children (under 18 years) living at home. The mean age of the participants’ firstborn child was 6.6 years ($SD=4.1$, $n = 271$). The mean age of the second-born child was 5.7 years ($SD=3.5$, $n = 153$). The mean age of the third-born child was 4.2 years ($SD=3.1$, $n = 48$). There were 49.1 % ($n = 135$) who reported to live with one child; 32.9 % ($n = 89$) lived with two children; 15.3 % ($n = 42$) lived with three children; 2.2 % ($n = 6$) lived with four children, and one individual reported to live with six children. Lastly, one participant (0.4 %) had missing information on this variable.

Of the total, 60 % ($n = 150$) were living alone (i.e., without a partner). There were 45.9 % of participants who were married or cohabiting. In terms of single parents, 58.3 % were single parents while 50.1 % shared care responsibilities. None of the participants reported that they share care responsibilities with foster homes, emergency shelters or residential youth care institutions. There were 24.3 % of respondents who living with a partner who is the biological parent of the child/children; 51.2 % indicated that they live alone with their child(s). Most of the participants (66.9 %) had Norwegian as their mother tongue, 11.4 % reported other European language and 21.7 % non-European mother tongue.

There were no statistically significant differences in mean values for mothers and fathers on the Efficacy ($t(249) = 1.64$, $p = 0.102$), and Satisfaction ($t(249) = 1.27$, $p = 0.207$) subscales of the POCS. Weighted averages were computed to test differences in both subscales, and one sample *t*-test showed that participants scored higher on efficacy ($M=4.63$, $SD=0.69$) compared with satisfaction ($M=4.10$, $SD=0.78$) ($p < 0.001$). Both subscales were positive and significantly associated, $r(252) = 0.52$, $p < 0.001$ (Tables 1 and 2).

As presented in Table 3, approximately 20 % of the participants had been in contact with Child and adolescent mental health services, psychologist, and family counselling. Approximately 40 % of the participants had utilized child welfare services and had been in contact with a general practitioner.

3.2. Parenting sense of competence and associated factors

As presented in Table 4, of the demographic variables, only higher levels of self-reported economic situation was significantly, albeit weakly, associated with higher levels of parental sense of competence; both the efficacy ($\beta = -0.17$, CI: -0.22 to -0.01 , $p = 0.008$) and the satisfaction ($\beta = -0.12$, CI: -0.20 to -0.03 , $p = 0.006$) subscales. Parental education, cohabitation status and number of children were not statistically significantly associated with parenting sense of competence, including both the efficacy and satisfaction subscales.

Of the health factors, higher levels of anxiety and depression symptoms was strongly associated with lower levels of parenting efficacy ($\beta = -0.48$, CI: -0.66 to -0.37 , $p < 0.001$) and satisfaction ($\beta = -0.55$, CI: -0.82 to -0.58 , $p < 0.001$). Better general health was positively and significantly associated with increased parenting efficacy ($\beta = 0.30$, CI: 0.10 to 0.40 , $p < 0.001$) and satisfaction ($\beta = 0.42$, CI: 0.30 to 0.55 , $p < 0.001$), both indicating moderate strengths of association. Substance use was not significantly associated with parenting sense of competence, encompassing both the efficacy and satisfaction subscales.

Poorer family functioning was strongly and statistically significantly associated with lower levels of parenting efficacy ($\beta = -0.44$, CI: -0.81 to -0.40 , $p < 0.001$, $p < 0.001$) and satisfaction ($\beta = -0.45$, CI: -0.89 to -0.051 , $p < 0.001$). Higher scores on social cohesion and support were moderately associated with increased levels of parenting efficacy ($\beta = 0.31$, CI: 0.13 to 0.36 , $p < 0.001$) and satisfaction ($\beta = 0.27$, CI: 0.13 to 0.36 , $p < 0.001$).

Table 1
Characteristics of the sample, education, work affiliation and income.

	Number	Percentage (%)
Highest completed education		
Primary education,	48	17.5
One to two years of upper-secondary school	45	16.4
Three years of upper-secondary school	56	20.4
Vocational education	45	16.4
College/university, less than 4 years	40	14.5
College/university, 4 years or more	33	12.0
Missing values	8	2.9
Main activity		
Working	72	26.2
Leave	7	2.5
In education (student)	40	14.5
Unemployed, on sick leave, disability benefits, rehabilitation	129	46.9
Homemakers	20	7.3
Missing values	7	2.5
Household total income last year (gross income)^a		
Under 250 000	91	33.1
250 000–450 000	95	34.5
451 000–750 000	49	17.8
751 000–1 000 000	7	2.5
Over 1 000 000	12	4.4
Missing values	21	7.6

^a Norwegian kroner (NOK).

Table 2
Descriptive results of the (continuous) study variables (n = 275).

	n	Min	Max	Mean	SD
PSOC total	252	1.71	6.00	4.33	0.65
PSOC satisfaction	253	1.78	5.89	4.10	0.78
PSOC efficacy	252	1.71	6.00	4.36	0.69
Symptoms of anxiety/depression	251	1.00	4.00	1.92	0.70
Self rated health	252	1.00	4.00	2.59	0.77
General family functioning	257	1.00	3.83	1.99	0.51
Self-reported financial situation	267	1.00	5.00	3.37	1.06
Social cohesion and support index	251	1.33	5.00	3.81	0.88
Staff relationship	243	2.57	5.00	4.52	0.56

Table 3
The usage of other services reported by the participants in the study (n = 275).

	n	%
Child welfare services	No	168
	Yes	107
Child and adolescent mental health services	No	224
	Yes	51
General practitioner	No	156
	Yes	119
Psychologist	No	211
	Yes	64
Family Counselling	No	215
	Yes	60

At the service level, higher quality of relationships with staff was weakly to moderately associated with increased parenting efficacy ($\beta = 0.17$, CI: 0.05 to 0.38, $p = 0.016$) and satisfaction ($\beta = 0.18$, CI: 0.05 to 0.44, $p = 0.014$). Greater participation in parent groups and more time at the low threshold service were not significantly associated with parenting sense of competence, including parenting efficacy or satisfaction.

4. Discussion

The main findings of the present study indicate that mental health, general health, family functioning, social cohesion and support and relationship with employees in a low threshold service were associated with parenting sense of competence. This study makes a valuable contribution to the existing literature by examining a broad range of factors at individual, social, and service levels among parents facing

Table 4
Associations between factors at individual, family and service level and the two dimensions of parent sense of competence: effectiveness and satisfaction. Adjusted for parental sex and age.

	Parenting sense of competence Efficacy					Parenting sense of competence Satisfaction				
	n	β	95 % CI		p	n	β	95 % CI		p
			LL	UL				LL	UL	
Demographic factors										
Financial situation	247	-0.17	-0.22	-0.01	0.008	248	-0.12	-0.20	-0.03	0.006
Education	245	0.04	-0.05	0.07	0.479	246	0.15	0.01	0.14	0.031
Cohabitation status	234	-0.11	-0.34	0.05	0.143	235	0.01	-0.018	0.22	0.837
Number of children	247	-0.03	-0.13	0.08	0.639	248	0.09	-0.03	0.20	0.133
Child age (years)	246	0.01	-0.02	0.02	0.979	247	-0.02	-0.04	0.01	0.205
Health factors										
Anxiety/depression	242	-0.48	-0.66	-0.37	0<.001	242	-0.55	-0.82	-0.58	0<.001
Self-rated health	241	0.30	0.10	0.40	0<.001	241	0.42	0.30	0.55	0<.001
Substance abuse	239	0.11	-0.16	0.86	0.160	239	0.08	-0.11	0.72	0.136
Family/social factors										
Family functioning	245	-0.44	-0.81	-0.40	0<.001	246	-0.45	-0.89	-0.051	0<.001
Social Cohesion and Support	242	0.31	0.13	0.36	0<.001	242	0.27	0.13	0.36	0<.001
Service factors										
Time spent at low threshold service (months)	239	0.01	-0.03	0.04	0.696	236	-0.02	-0.06	0.03	0.473
Participating in parent groups	247	-0.06	-0.25	0.10	0.360	248	-0.03	-0.25	0.15	0.675
Relationship with the staff at low threshold service	244	0.18	0.05	0.38	0.015	244	0.17	0.05	0.44	0.014

Note. Bootstrap results are based on 1000 bootstrap samples. The standardized beta (β) value is reported.

adversities, within the context of a Norwegian low-threshold family service. The inclusion of service-level factors is particularly notable, enhancing the current body of knowledge.

In accordance with Nunes and Ayala-Nunes (2017), we found no difference between fathers and mothers in parenting efficacy and satisfaction. Notably, the mean scores on the Parenting Sense of Competence (PSOC) subscales of Satisfaction and Efficacy in our current study were approximately the same level reported in Norwegian parents with mental illness (Kristensen et al., 2023). However, our study's mean scores were lower when compared to a Norwegian sample comprising non-clinical community parents (Reedtz et al., 2011). The relatively elevated scores observed in samples of parents facing multiple challenges might be attributable to participants successfully navigating various daily adversities, such as economic pressures and unemployment, while effectively raising and nurturing their children amidst these challenges. This might elevate their perceived competence in parenting. Another possible explanation for the high scores in the present study could be linked to social desirability bias. Approximately 40 % of the participants disclosed current or past involvement with child welfare services. This association with welfare services might lead parents to overstate their parenting competence, driven by a perceived need to conform to societal expectations, especially if they believe their reports to the services could have consequences.

Higher levels of anxiety and depression symptoms and poorer general health was strongly associated with lower levels of parenting sense of competence. This concurs with previous studies on mental health and PSOC (Curci et al., 2021; Jones & Prinz, 2005). Notably, this is the first study to investigate the relationship between general health and PSOC among parents facing adversities in a Scandinavian setting. It is plausible that general health is intertwined with factors such as fatigue and reduced physical activity, which have previously been linked to lower levels of PSOC (Studts et al., 2019). Poor physical health is also associated with mental health problems (Prince et al., 2007). In the present study, participants reported elevated mental distress, surpassing clinical thresholds, indicating a potential impact on their day-to-day functioning. However, despite this distress, their utilization of mental and physical health services remained relatively low. Nevertheless, approximately 40 % of respondents reported contact with their general practitioner. Considering the well-known association between parental mental and somatic illness and adverse outcomes for children (Chen, 2017; Rasic et al., 2014; Van Santvoort), the results underscore the significance of addressing parental health within low-threshold family services, recognizing its pivotal role in bolstering parental capacity and

augmenting their sense of competence in parenting.

Increased family functioning, social support and cohesion were moderately associated with greater levels of parenting sense of competence, aligning with previous research on adolescent parents (Anglely et al., 2015). Furthermore, positive relationships with the employees in the low threshold service Children's Station were also positively, albeit weak to moderately, associated with increased PSOC. Building connections with employees and fellow parents in similar situations at Children's Station can offer crucial social support. This finding supports earlier research indicating that easily accessible services for families facing adversities can foster trust and continuity. Returning to the centre and connecting with the same staff member over time provides a sense of stability in their parenting role (Bulling, 2017). While the exact causality remains unclear, it is possible that these parents generally possess better relationship skills. They might also have a stronger rapport with the staff, who may perceive them as more competent parents. This dynamic could have significant implications for service delivery, suggesting that fostering strong relationships between parents and staff might enhance the effectiveness of support services and improve parenting outcomes. Interestingly, participation in parent groups at the low threshold service was not associated with increased levels of self-reported parental sense of competence, as has been shown in a previous Norwegian study (Reedtz et al., 2011). This finding should be interpreted cautiously, as the content of parent groups can vary significantly among participants, and the current study lacks detailed information on this variable. Additionally, previous research has highlighted that interventions targeting families facing multiple problems often have limited durations, which is considered disadvantageous (Barth et al., 2005). In the present study, there were no significant association between time spent at the Children's Station and PSOC. However, it's plausible that the time factor might be relevant for other aspects like perceived social support. Further research is needed to clarify these potential mechanisms.

Studies investigating the association between parenting competences and sociodemographic variables have yielded mixed results. Consistent with previous studies (Coleman & Karraker, 2003; Gilmore & Cuskelly, 2009; Johnston & Mash, 1989; Seigny & Loutzenhiser, 2010), we found no association between child age and PSOC. Conversely, other studies have reported a connection between the age of children and the sense of parental competence (Ardelt & Eccles, 2001). This discrepancy may be due to the exclusion of parents with adolescents in some studies, including our own. Parenting adolescents presents unique challenges due to their increased autonomy, which can lead to a perceived loss of control and more frequent, intense conflicts within the parent-child relationship (Kobak et al., 2017).

Extensive research has consistently shown connections between socioeconomic status (SES) and various elements of parenting, encompassing parenting beliefs and behaviours (Roubinov & Boyce, 2017). We found that self-reported economic situation was significantly associated with PSOC, whereas education level was not. Considering the multifaceted influence of socioeconomic status (SES) as a significant social determinant of health (Braveman & Gottlieb, 2014; Stringhini et al., 2010), along with its established connections to health-related behaviours and outcomes, it is crucial to consider SES as an important factor when examining parental sense of competence. The association between better economic status and higher PSOC scores likely involves a complex interplay of factors, including marginalization, general self-esteem, and economic-related stress and concerns, all of which can influence a parent's sense of competence. Economic stability can reduce stress and anxiety, allowing parents to focus more effectively on their parenting roles. Additionally, there is a well-documented link between economic status and mental health, which in turn impacts parenting. Financial security often leads to better mental health outcomes, enhancing a parent's ability to engage positively with their children and feel more competent in their parenting abilities. Our study's identification of a significant association between self-reported financial situation and PSOC underscores the nuanced impact that socioeconomic factors can

have on parental perceptions. While educational level did not emerge as a significant predictor of PSOC in our findings, the intricate interplay between SES and parenting merits further exploration.

4.1. Limitations of the study

The study's limitations primarily stem from the utilization of a convenience sampling strategy, which poses several constraints on the generalizability and external validity of the findings. By relying on convenience sampling, the study may inadvertently introduce selection bias, as participants are often chosen based on their accessibility rather than a random and representative sampling method. Furthermore, there might be an underrepresentation of fathers in the survey, given that most participants were women (83 %). However, this distribution closely aligns with the gender distribution among parents utilizing services at Children's Station, as reported in their 2019 annual report, where women comprised 74 % of adult users. There were also few respondents from Children's Station in Oslo and Bergen. The participating stations were relatively newly established and were also affected by restrictions because of the COVID-19 pandemic – which may explain the low participation rate in the survey. This means that one must be cautious in interpreting and generalizing the findings. The associations presented in the study do not imply causality; relationships can also be bidirectional. The survey contained selected validated measuring instruments previously used in various Norwegian and international studies. There was also good internal reliability in the measuring instruments included in the survey, and there was a relatively small proportion of missing answers to most of the questions. Lastly, the Norwegian cultural context is characterized by a high level of social support and a strong welfare system, which can influence parental self-efficacy and satisfaction. In Norway, there is an emphasis on egalitarian values, gender equality, and child-centric parenting practices, which may affect responses on the PSOC measure. When comparing our findings to other ethnically and linguistically diverse samples, it is important to consider these cultural differences. The Norwegian context may provide more systemic support for parents, which can result in higher levels of reported satisfaction and effectiveness. Researchers should consider these cultural factors when interpreting the results and comparing them to findings from other countries with different cultural and social support systems.

4.2. Conclusion

This study investigates parenting sense of competence among at-risk parents utilizing low-threshold family services in Norway, revealing significant factors that influence parental perceptions. Both mothers and fathers demonstrated similar levels of efficacy and satisfaction in their parenting roles.

Our findings indicate that lower parenting sense of competence scores are significantly associated with several key factors: mental health emerged as the most strongly associated factor, followed by family functioning, self-reported health, and economic situation. Social support and relationships with service staff also play a role, though demographic and service-related variables such as education, cohabitation, child age, and service duration did not show significant associations with PSOC.

These results underscore the complex interplay of factors impacting parental competence in populations facing adversities and highlight the need for comprehensive support strategies. To effectively enhance parenting efficacy and satisfaction, interventions should prioritize addressing mental health issues, which have the most significant impact on PSOC. Furthermore, improving family dynamics and supporting better self-reported health and economic stability are crucial. Low-threshold services should integrate mental health support, family counselling, and resources aimed at improving health and economic conditions. A multifaceted approach that addresses these determinants

can significantly enhance the effectiveness of parenting support programs and improve outcomes for families facing multiple challenges. Such targeted interventions are essential for bolstering the well-being of this vulnerable group and fostering a more supportive environment for effective parenting.

Data availability statement

The public sharing of the data has been restricted by the Regional Committees for Medical and Health Research Ethics following the Norwegian law, as the participants have not given consent to the public sharing of their data. These data are therefore available upon appropriate request to the Norwegian University of Science and Technology, Department of mental health, Regional Centre for Child and Youth Mental Health and Child Welfare. The Norwegian translation of the PSOC can be obtained by contacting either the first or the last author.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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