Journal of Early Childhood Education Research
Volume 13, Issue 3, 2024, 141–172
https://doi.org/10.58955/jecer.137959

JECER

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Exploring the job demands and resources and work-related sense of coherence of preschool educators working with children in need of special support

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ABSTRACT: Inclusion of children needing special support presents challenges for preschool educators. Understanding factors that enhance their well-being can improve their ability to meet all children's needs. This cross-sectional study investigated 90 preschool educators perceived job demands and resources related to working with children in need of special support, and work-related sense of coherence (comprehensibility, manageability, meaningfulness). Analyses of group differences between preschool teachers and child carers revealed no significant differences in the experience of job demands and resources but preschool teachers reported a higher degree of meaningfulness at work compared to child carers. Correlation analyses showed that job resources were all intercorrelated and either inversely correlated or uncorrelated with job demands. Job demands were also inversely correlated to sense of coherence. Linear regression results indicated that a higher work-related sense of coherence and self-perceived control predicted lower self-perceived job demands, even after controlling for social support, growth/development, child group size and insufficient reflection time. This study underscores the need to integrate a sense of comprehensibility, manageability, and meaningfulness at work to improve well-being and to cope with the emotional,

cognitive, and organisational demands of working with children needing special support.

Keywords: *work-related sense of coherence, preschool educators, children in need of special support, job demands, job resources*

Introduction

In Sweden, all children, regardless of their need for support, have the right to be included in everyday preschool. A total of 17% of preschool children have been identified as needing special support, of which 4% are formally diagnosed (Lillvist & Granlund, 2010). The expectation that the Swedish preschool should work inclusively and meet the different needs of all children can be demanding to meet. This might in turn contribute to the stress of preschool staff. Swedish and international research also report high levels of teacher stress (Farewell et al., 2021; Persson & Tallberg Broman, 2019; Ramberg et al., 2022). The World Health Organization (Leka et al., 2003, p. 3) defines work-related stress as 'the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities'.

Research on the relationship between job demands and resources in five European countries shows that job demands explain about 8-11% of the variance in teachers' job satisfaction (Casely-Hayford et al., 2023). Above all, a high workload had a negative effect on job satisfaction. When job demands remain high over time, they lead to exhaustion and when job resources are low over time, disengagement and withdrawal from work take place (Demerouti et al., 2001). These processes are known as burnout, which is defined as 'physical, emotional, or mental exhaustion accompanied by decreased motivation, lowered performance, and negative attitudes toward oneself and others' (VandenBos, 2007). Job characteristics (e.g., time pressure, workload, resource scarcity), occupational and organisational factors (e.g., implicit values shaping emotional, and cognitive relationships), and individual factors (e.g., age, external locus of control) are related to burnout (Maslach et al., 2001). To improve working conditions and well-being, research emphasises the importance of access to work resources (e.g., social support) and clarity of roles (Casely-Hayford et al., 2023; Demerouti et al., 2001; Organization for Economic Co-operation and Development [OECD], 2014; Skaalvik & Skaalvik, 2018). These resources contribute to a person's work-related sense of coherence (Work-SoC), making work more comprehensible, manageable, and meaningful (Broetje et al., 2020). Previous research has identified various conditions of relevance to preschool teachers' well-being, such as: physical (e.g., ergonomic pains), psychological (e.g., job stress and depression), and professional well-being (e.g., relationship with children and job commitment) (Kwon et al., 2022). In addition, the level of education and compensation (Hall-Kenyon et al., 2014) can also be important.

The main purpose of the present study was to investigate preschool educators' perceived job demands and resources related to working with CINSS, and their Work-SoC, and associations between these. Knowledge gained might contribute to better preschool educators working conditions, and by that give them better chances to meet the needs of all children. Swedish preschools employ various occupational groups as educators: preschool teachers with 210 university credits as well as them without a preschool teacher education, here referred to as child carers[1]. The study also analysed differences between these groups.

Theoretical framework

Work-SoC is a context-specific modification of Aaron Antonovsky's theory of sense of coherence (SoC) (Antonovsky, 1987/2005). SoC is defined as a global dispositional orientation to life, where comprehensibility, manageability, and meaningfulness are important dimensions for health and resilience (Bauer et al., 2015; Vogt et al., 2013). 'Comprehensibility' refers to 'the extent to which a [current] work situation is perceived as structured, consistent and clear' (Vogt et al., 2013, p. 2). 'Manageability', in turn, refers to the experience of determining whether adequate resources are available for people to cope with job demands, whereas 'meaningfulness' represents 'the extent to which a situation at work is seen as worthy of commitment and involvement' (Vogt et al., 2013, p. 2). Meaningfulness is thus described as the motivational dimension and the most important as it constitutes the driving force for increasing the understanding of one's world and the resources available (Antonovsky, 1987/2005). High comprehensibility and manageability do not last long if a person does not feel a sense of meaningfulness. However, individual characteristics, the characteristics of the working environment, and the interactions between them are all important for the three mentioned dimensions of Work-SoC. Previous research has shown that the job resources and job demands of a current work situation influence Work-SoC (Cecon et al., 2022; Vogt et al., 2013). Job resources can strengthen and predict Work-SoC just as Work-SoC can predict job resources. Researchers highlight the possibility that a stronger Work-SoC can support individuals to actively create new job resources and evaluate existing resources in different ways, where both variants can contribute to an upward spiral (Broetje et al., 2020).

Previous studies have demonstrated that job demands and resources can influence the experience of a coherent work life (Broetje et al., 2020; Jenny et al., 2022). Therefore, the Job-Demands-Resources (JD-R) theory of burnout was also used as a theoretical

[1] Of those non-preschool teachers who worked in preschools in the year 2022, 2% had a teacher's degree or a teacher's degree for extended school, about 17% had a degree for teaching at upper-secondary school and about 19% had some kind of other pedagogical education, and about 23% had another form of education (Swedish National Agency for Education, 2023).

framework. According to this theory, various kinds of working conditions can be divided into two broad categories, which are associated with job-related stress (Demerouti & Bakker, 2011; Demerouti et al., 2001): (1) *Job demands* "refer to those physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (e.g., exhaustion)' (Demerouti et al., 2001, p. 501). (2) *Job resources*, in turn, "refer to those physical, psychological, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands at the associated physiological and psychological costs; (c) stimulate personal growth and development.' (Demerouti et al., 2001, p. 501). In this context, individual psychological resources such as self-efficacy and optimism can also aid in the employee's ability to gain control and influence their environment (Xanthopoulou et al., 2007). The JD-R theory encompasses multiple dimensions of employee well-being (Bakker & Demerouti, 2017) and is characterised by dual processes: the health impairment process (where job demands lead to an employee's reduced health) and the motivational process (where job resources can predict work engagement) (Demerouti & Bakker, 2011).

In summary, the JD-R theory focuses on understanding how job demands and resources affect individual well-being and performance at work, emphasising the importance of having sufficient resources (e.g., social support, autonomy and feedback) that allow employees to cope with the demands and challenges of the workplace. Work-SoC, like the JD-R theory, is linked to reduced burnout in teachers (Brady et al. 2023). Unlike JD-R, Work-SoC emphasises individual's perceptions of their role, engagement, and contributions in the workplace, fostering a sense of meaningfulness and motivation, which may influence how they perceive and manage job demands. The relevance of the JD-R theory across various working conditions has been asserted by Bakker and Demerouti (2007). The impact of job demands and resources on job strain varies according to job characteristics. Its assumptions apply to both self-reports and objective data, and previous research has demonstrated its effectiveness in predicting organisational outcomes (Demerouti & Bakker, 2011).

Study context and selection of study variables

In Sweden CINSS shall be provided with the special support they need (SFS 2010: 800). In the present study CINSS are defined as 'children who, regardless of any identified disability, temporarily or permanently need more stimulation and support than most other children' (Semelius Granevald, 2024). According to the curriculum for preschool (Swedish National Agency for Education, 2018), the work team should 'promote a good accessible environment for care, play, movement, development and learning', but preschool teachers are the ones responsible for ensuring that the preschool's work is continuous and systematically followed-up, analysed, and evaluated. Staff density,

planning time, and the educational level and competence of preschool staff are important for preschool quality and occupational well-being (Grisham-Brown et al., 2010; Kumpulainen et al., 2023; Persson, 2015; Persson & Tallberg Broman, 2019).

Job resources can be found on several levels, such as the organisational level (e.g., job security), the interpersonal level (e.g., colleague support), the specific job situation level (e.g., opportunity to make decisions), and the task level (e.g., performance feedback) (Demerouti & Bakker, 2011). At the organisational level, it is noteworthy that preschools in Sweden often collaborate with special needs educators (SNEs) in their work with CINSS. SNEs are usually responsible for several preschools. According to Swedish preschool teachers, the role of the SNEs involves guiding the work team, observing children and activities, and acting as an advisor to staff and parents (Gäreskog & Lindqvist, 2022). In other words, SNEs serves as a job resource for preschool educators by providing support to preschool educators both individually and in groups. Previous research shows that the role of SNEs is shaped both by the SNEs itself and by expectations from colleagues, (pre)school managers, and organisations (Göransson et al., 2019; Klang et al., 2017). Although the role of SNEs is not stated in governing documents, supervision of preschool educators is one common task and is valued highly by preschool educators (Gäreskog, 2021; Gäreskog & Lindqvist, 2020, 2022; Sandberg et al., 2009). Researchers suggest regular feedback from internal or external observers for preschool teachers, as this both directly and indirectly improves their social and emotional responsiveness to children. Observation is also associated with increased motivation for professional development (Lang et al., 2017). This study uses two variables in the SNE profession: the perception of SNE as a resource (SNE support) and special educational group supervision (SEGS support). SEGS is characterised by collaborative discussions on challenges and strategies for supporting children with special needs.

Identified job resources in educational contexts include a positive work environment and recognition from colleagues (Sullanmaa et al., 2022), and manager support is crucial for preschool educators (Gu & Wang, 2019). Studies indicate that self-efficacy directly influences teacher engagement (Dicke et al., 2018), with job resources correlating to engagement and supervisor support aiding teachers in managing challenging student interactions (Bakker et al., 2007). High-quality supervisor relationships, colleague support, and performance feedback can buffer work overload's impact on exhaustion (Bakker et al., 2005). Thus, this study considers social support from colleagues and managers as a job resource at the interpersonal and task levels in relation to work with CINSS.

In addition to the perception of work as meaningful (Gu & Wang, 2019), studies show that comprehensibility and manageability are also important components for coping with demands at work (Ramberg et al., 2022). Research highlights the significance of autonomy

(Kumpulainen et al., 2023). Research also shows that individual-level control and reward are linked to fewer burnout symptoms (Blöchliger & Bauer, 2018). At the specific job situation level, a variable focusing on self-perceived sense of control in the work with CINSS is therefore utilised. Bakker and Demerouti (2007) explain that job resources can have both intrinsic and extrinsic motivational effects. They can both contribute to employees' growth, learning, and development, and help them achieve work goals. However, for employees to be dedicated and motivated, there must be a sound balance between job demands and resources (Demerouti & Bakker, 2011). This study includes a variable measuring how working with CINSS serves as a stimulating job resource, by contributing to personal development and balancing job demands with resources, and thereby enhance engagement and well-being.

Job demands in the preschool setting encompass various factors that significantly impact educators' roles and responsibilities. Research shows that a lower organisational-level workload is significantly associated with lower burnout among preschool educators (Blöchliger & Bauer, 2018), and that work demands in a preschool setting, such as workload, contribute to work-family conflict over time (Gu & Wang, 2019). In addition to work overload, workplace stress, pressures of time and attempts to meet children's needs (Kelly & Berthelsen, 1995) can be perceived as job demands. For example, previous research indicates that physical demands are a significant predictor of work ability (Viotti et al., 2017), while time pressure, along with other job demands, strongly and negatively predicts teacher well-being (Skaalvik & Skaalvik, 2018). A study on stress in early childhood settings found that teachers who experienced more anger in the past week also reported higher work-related stress, professional investment, and classroom discipline stress (Clayback & Williford, 2022). Moreover, in a study of Head Start teachers, greater overall workplace stress was associated with increased conflict in their relationships with children in the classroom. This finding applied to both teachers and assistant teachers even after considering various factors such as the teacher's symptoms of depression, which were strongly linked to both perceived workplace stress and relationship conflict (Whitaker et al., 2015). Additionally, over one third of preschool teachers in a study (N = 262) reported job-related stressors, including challenging behaviours exhibited by children (Kwon et al., 2022). Children's behaviour problems or needs, parental blame, and communication issues have been identified as workplace challenges in preschool settings (Roberts et al., 2019). Lack of time to perform one's tasks can have negative consequences. Parents, for example, express concerns about a lack of time for collaboration and failures in implementing jointly decided measures among preschool educators (Sandberg & Ottosson, 2010). SNEs believe that preschools are ill-equipped to manage the differences between children and that teachers lack sufficient knowledge (Gäreskog & Lindqvist, 2020). Previous research also indicates that although preschool employees have some awareness of the support children may need, such as speech and language development (Lillvist & Granlund, 2010; Sandberg et al., 2009), preschool educators differ in their level

of knowledge and motivation in terms of providing that extra support (Sandberg & Ottosson, 2010). Everyday routines and activities and the way they are tailored to meet a child's needs can vary and create challenges. This study employs a job demands scale designed to cover a substantial portion of job demand factors.

Rationale and research questions

Further research is needed on the work environment of preschool educators (Cumming, 2017; Hall-Kenyon et al., 2014; Whitaker et al., 2015) that focuses on specific areas within the preschool context (e.g., Løvgren, 2016). Furthermore, quantitative research on associations between variables is underrepresented in a Nordic perspective of special education (Palla, 2019). To our knowledge, only a few studies have specifically addressed work-related well-being in relation to working with CINSS. Existing research has highlighted the significance of the proportion of CINSS in the group for educators' attitudes towards the environment and/or their perception of demands and resources (see e.g., Farewell et al., 2021; Lillvist & Granlund, 2010). A deeper understanding of job demands, resources, and Work-SoC within this professional group in relation to their work with CINSS may support improvements in working conditions and enhanced quality in education. Investigating Work-SoC can enhance understanding of how educators manage stress and challenges in their work. A strong Work-SoC, for instance, can improve both individual well-being and workplace dynamics (Antonovsky, 1987/2005).

Given conflicting results in well-being research (on emotional exhaustion; see e.g., Kumpulainen et al., 2023; Løvgren, 2016) among qualified preschool teachers and child carers without university education, it is essential to investigate their perceptions of working with CINSS. This knowledge is vital for developing targeted strategies and support measures to enhance working conditions and professional development for preschool educators, ultimately benefiting the children. By examining differences between preschool teachers and child carers, this study intends to contribute to the research on work-related well-being across professional groups.

Drawing on prior research and the study's theoretical framework, the research questions (RQs) and associated hypotheses (Hs) are as follows:

RQ1: Are there any group differences regarding self-rated job demands, job resources, and Work-SoC, between preschool teachers and child carers?

Given that prior research has shown that the education level and competence of preschool staff are crucial for preschool quality and well-being (Grisham-Brown et al., 2010; Kumpulainen et al., 2023; Persson, 2015), and that a higher educational level is associated with more positive and less negative responses to children's negative emotions and challenging social interactions (Lang et al., 2017), it can thus be assumed that preschool

teachers have a higher stress threshold for perceived job demands. The hypothesis is therefore:

> (H1) Preschool teachers who have an educational background that qualifies them to work with CINSS report lower job demands levels than child carers.

RQ2: Are there any associations between self-rated job demands, job resources and Work-SoC?

In line with the health impairment process and the motivational process (Demerouti & Bakker, 2011) and given that job resources and demands have been shown to influence a coherent work life (Broetje et al., 2020; Jenny et al., 2022) it was hypothesized that:

> (H2) Job resources correlate positively with each other and with a work-related sense of coherence, while job demands correlate inversely with resources and a work-related sense of coherence.

RQ3: How does a higher sense of work-related coherence predict the perceived level of job demands in work with CINSS, after controlling for social support, self-perceived control, growth/development, child group size, and not enough reflection time?

Since previous studies indicate that a higher Work-SoC level among teachers makes them less likely to experience burnout (Brady et al., 2023; Vogt et al., 2013), it is assumed that:

> (H3) a higher Work-SoC predicts lower perceived job demands in the work with CINSS, even after controlling for social support, self-perceived control, growth/development, child group size, and not enough reflection time.

Method

Research design and participants

The current study utilised a cross-sectional research design. Data were collected between April and September 2022 using a web survey directed at Swedish preschool educators. A combination of two selection processes was employed regarding the choice of municipalities. Firstly, Sweden's 290 municipalities located in 21 counties were categorised into different strata. Secondly, from these, a systematic selection was made, which resulted in the inclusion of 57 municipalities. The number of selected municipalities increased with the size of the county. Principals in the selected municipalities were asked to invite preschool educators who at some point in the last 12 months had been in contact with a SNE with regard to group supervision. Excluded from

participating in the study were private preschools whose contact details were unavailable, special preschools for children with, for example, hearing impairments, and cooperative preschools. The selection process generated a total of 553 individuals who were asked to participate in the study and to whom the web survey link was sent. Ultimately, 93 participants from 34 distinct municipalities responded. At this stage, three participants were excluded as they did not meet the inclusion criteria of having experienced a SNE within the past 12 months. Consequently, the response rate was approximately 16%. All participants (100%) worked at a public preschool in Sweden.

Municipalities in Sweden are responsible for providing a preschool place for all children between the ages of 1 and 5. Preschool is voluntary but from the autumn semester the year a child turns six, it is mandatory[2]. The present study's participants match the Swedish preschool educators in terms of, for example, gender and age distribution[3]. For details, see Table 1.

Procedure and ethical considerations

An email with an information letter about the research project was sent to principals at the selected municipal preschools (public and private) and included a request for the contact details (email) of preschool educators who met the inclusion criteria. The information letter to the preschool educators was the same as the one sent to the principals. Additionally, it included a personal link to the web survey. At this stage, informed consent was obtained, and the respondents were informed of the confidentiality and possibility to discontinue their participation in the study. The web survey took approximately 25 minutes to complete. Respondents did not receive any compensation for their involvement, and they were in no way reliant on the researchers. Considering the Swedish law of research involving humans, no ethical review was carried out since no sensitive personal data (e.g., questions about ethnic origin) were requested (*Lag om etikprövning av forskning som avser människor* [SFS], 2003).

[2] In 1998 when a curriculum for preschool (Swedish National Agency for Education, 1998) was introduced, institutions such as daycare centres and kindergarten were called preschools so as to make clear their role in education.

[3] At the time the study was conducted, there were 93 100 preschools (70% municipal, 30% independent) in Sweden with just over 109 000 employees (96% women, 4% men), where 40% had a preschool teacher's degree. The number of children per preschool teacher was 12.7 (5:1 per all employees). In autumn 2022, the average age of staff working with preschool children was 39 years for a man and 44 years for a woman. Four percent of employees were men. Of employees with a degree in preschool education, 31% were men and 41% were women (Swedish National Agency for Education, 2023).

TABLE 1 Descriptive statistics for the participants (N = 90)

VARIABLE	*CATEGORY*	*N (%)*	*MEAN (SD)*	*MIN*	*MAX*
Profession	Preschool teacher	65 (72%)			
	Child carers	25 (28%)			
Gender	Women	85 (94%)			
	Men	5 (6%)			
Age			44.58 (11.50)	21	67
Type of municipality	Large city (≥ 200 000 inhabitants)	4 (4%)			
	Big city (≥ 50 000 inhabitants)	19 (21%)			
	Small city/town (≥ 15 000 inhabitants)	39 (43%)			
	Rural municipality (≤ 15 000 inhabitants)	28 (31%)			
Exp in preschool			17.39 (12.22)	2	45
Exp in current preschool			7.34 (7.85)	1	41
Child educator ratio [a]			6.29 (1.68)	1	15
Child group size [a]			16.79 (4.86)	5	40
	5 – 10 children	7 (8%)			
	11 – 15 children	28 (31%)			
	16 – 20 children	39 (43%)			
	21 – 30 children	13 (14%)			
	30+ children	2 (2%)			
SEGS exp			5.19 (5.47)	0 [b]	25
SEGS last year			3.88 (3.83)	0 [b]	20

Notes. SEGS = Special educational group supervision; Exp = Work experience.
[a] Three cases missing; [b] 0 = Within the last 12 months

Measures

The web-survey was designed and piloted in three rounds. Since no modifications were needed after the third and final round, respondents (N = 30) from this round were included in the final sample. The web survey included items that focused on the following: (1) job demands, (2) job resources, and (3) Work-SoC. For the first two, a selection of occupation-specific potential job demands and resources on several levels was used based on the research previous presented and research that have explained or used the JD-R theory (e.g., Bakker & Demerouti, 2007, 2017; Demerouti et al., 2001; Skaalvik & Skaalvik, 2018).

For more details on the items used and descriptive statistics of the included variables, see *Appendix Table A1*. All scales were created by calculating the average of all included items. A six-point Likert scale ranging from 'completely disagree' (1) to 'completely agree' (6) was used for the job demands scale and for the various job resources scales, with the additional option 'no opinion'. High scores on the scales correspond to experiences of high

job demands or job resources. In the following section, the variables used in the study are explained. Cronbach's alpha (α) was used to measure internal consistencies of the scales, and values above .70 were considered as acceptable for research purposes (Bland & Altman, 1997). The reliability of the included variables varied between α = .78 and .97.

Job demands

Job demands (α .91) was a scale related to emotional, cognitive, and organisational aspects of job demands in relation to working with CINSS and included nine negatively worded items (cf. Semelius Granevald, 2024). This variable served as dependent variable in predictive analyses. Emotional demands are often described as being associated with specific professions, e.g., the teaching profession (Bakker & Demerouti, 2007), and stress (see e.g., Kelly & Berthelsson, 1995; Whitaker et al., 2015) can, for example, be an expression of the experience of emotional demands. Emotional exhaustion (see e.g., Demerouti et al., 2001; Maslach et al., 2001) is considered the stress dimension of burnout, a job related, and situation specific problem often seen in caregiving and service occupations (Maslach et al., 2001), such as preschool educators. Expressions of cognitive aspects of job demands can, for example, be feelings of how difficult the work feels (see e.g., Gäreskog & Lindqvist, 2020; Kelly & Berthelsson, 1995; Roberts et al., 2019) and feelings of work overload (see e.g., Blöchliger & Bauer, 2018; Gu & Wang, 2019; Maslach et al., 2001). A feeling of lack of time (see e.g., Maslach et al., 2001; Sandberg & Ottosson, 2010; Skaalvik & Skaalvik, 2018) can be an expression of an experience of organisational demand. The indicators included in the current study aim to reflect the three aspects of job demands in the professional role in relation to working with CINSS.

Job resources

Five variables measured job resources in relation to working with CINSS. All items belonging to the job resources scales were positively worded. (1) *Personal Growth/Development* (α = .85) (personal resource) as a scale consisted of five items regarding positive aspects of working with CINSS; (2) *Self-perceived Control* (α = .88) (personal resource) was measured using eight items assessing, for example, influence and knowledge; (3) *Social support* (α = .92) (external resource) was measured as a total scale with seven items and divided into two sub scales: *Colleague support* (α = .94; four items) and *Manager support* (α = .97; three items); (4) *SNEs support* (Special Needs Educators' support) (α = .96) (external resource) was measured with six items. (5) *SEGS support* (Special Educational Group Supervisory Support) (α = .92) was measured using nine items. The scales 1 – 3 were utilised in a previous study focused on preschool SNEs (Semelius Granevald, 2024).

Work-SoC

Work-related sense of coherence (Work-SoC; see e.g., Bauer et al., 2015) was measured by a Swedish translation of the Work-SoC-scale (for more details on the translation process, see Semelius Granevald, 2024). The original German scale is construct validated, and results provide evidence that the scale's factor structure will be invariant across time and robust (Vogt et al., 2013). The scale is also considered to be invariant across occupational groups (Grødal et al., 2018), and measures of internal consistencies have in several studies shown acceptable values (above .70) with Cronbach's alpha between .83 to .93 (Bauer et al., 2015; Grødal et al., 2018; van der Westhuizen & Ramasodi, 2016). Like other studies (e.g., van der Westheisen & Ramasodi, 2016; Vogt et al., 2013), the total Work-SoC scale (α = .91) in this study was divided into three sub-dimensions: *Comprehensibility* (α = .78; items 1, 3, 6, and 9), *Manageability* (α = .90; items 4 and 7), and *Meaningfulness* (α = .90; items 2, 5, 8). The overall question 'How do you personally find your current job and work situation in general?' was assessed by participants using nine bipolar adjective pairs (e.g., unrewarding - rewarding).

Characteristics of the job

Based on previous presented research, five variables measured different types of characteristics of the job: (1) *Big proportion of CINSS* (0 = some children/no children, 1 = half of/almost all children) refers to the participants' estimates of the proportion of CINSS within the child group they were currently working with; (2) *Not enough reflection time* (0 = Enough/No need for more, 1 = Not enough/Need more) measured the participants' ratings concerning whether they have continuous reflection time together when they discuss educational issues for the benefit of CINSS; (3) *Working experience* (0 = 24 years or less, 1 = 25 years or more) corresponds to the participants' work experience in preschools. Long work experience has been shown in previous research to increase work-related well-being in preschools (Kumpulainen et al., 2023). Finally, two more variables were used: (4) *Child group size*; and (5) *Child per educator*.

Statistical analysis

All data where the response 'no opinion' was given were treated as missing. For *Child group size* and *Child per educator*, one outlier value – each pertaining to different respondents – was identified. These values were considered typos and treated as missing data. Missing value analysis showed that this added up to a total of 12 cells missing (< 1% of the total data material). Participants with missing data were retained. Normal distribution was investigated via a visual inspection of histograms and by comparing *z*-converted skewness and kurtosis coefficients to a critical value of ± 1.96, according to the recommendations of Ghasemi and Zahediasl (2012).

We examined group differences between preschool educators and child carers for the job demands, resources and Work-SoC scales, and characteristics of the job (RQ1). Typically, we ran independent samples *t*-tests to determine whether the groups were statistically different. Due to the limited sample size of the sub-groups, we also carried out the non-parametric version of the *t*-test (Mann-Whitney *U*) in cases where the normality of the dependent variable was compromised. The analyses were enriched with measures of effect size: Cohen's *r*, Hedge's *g* and phi (ϕ), respectively. Benchmarks according to Cohen's standard were used in connection to independent sample *t*-tests when examining effect sizes for Hedge's *g*: 0 – .20 (negligible), .21 – .50 (small), .51 – .80 (moderate), .81 – > (large). The following benchmarks for Phi were used: .10 (small), .30 (medium), and .50 (large) (Téllez et al., 2015).

Pearson's correlation coefficient was applied for correlation analyses (RQ2) and Spearman's rho correlation coefficients was used instead where outliers and non-normality affected the correlation. Cohen's (1988) convention to interpret effect sizes for correlation coefficients was used: .10 (weak or small), .30 (moderate) and .50 (large).

To assess the relative contributions of the most important variables for explaining job demands (dependent variable), linear hierarchical regression analysis was used (RQ3). A total of five predictors (independent variables) were used in the multiple regression analysis, of which the last two served as control variables: Work-SoC, self-perceived control, social support, child group size and not enough reflection time. Previous research emphasises people's perception of control (e.g., Blöchliger & Bauer, 2018) and social support (e.g., Broetje et al., 2020) for their well-being. Limited opportunities for recovery and reflection and large groups of children (Persson & Tallberg Broman, 2019) are examples of factors that can have a negative impact on working conditions. A power analysis suggested sufficient power (>.80) for six predictors given our sample size and significance level, and for detection of a medium size effect. Cook's distance and DFBeta (values <1 and standardised residuals outside ± 1.96 (>5%)) were utilised to detect multivariate outliers. Residual plots were inspected for multivariate non-normality. Multicollinearity was assessed via Variance Inflation Factor (VIF values >10; Field, 2018 referring to Myers, 1990). The significance level was set at $p < .05$, with two-tailed significance applied to all tests. All statistical analyses were conducted using IBM SPSS Statistics (Version 29.0.1.0 (171)).

Results

Group differences between preschool teachers and child carers

In relation to RQ1 group differences for Work-SoC and JD-R are presented in Table 2. Only Work-SoC's sub-dimension meaningfulness showed a statistically significant group difference (z = 1.97, p < .05, r = 0.21) where preschool teachers reported higher scores than child carers. The remaining variables did not differ in a statistically significant way, and all had effect sizes in the negligible to small range (0.01 to -0.19).

Associations between job demands, job resources and Work-SoC

RQ2 explored the connections between job demands, job resources and Work-SoC. The results (Table 3) show that social support and self-perceived control when working with CINSS were significantly positively correlated with all other job resources, with a large effect size observed for the relationship between social support and perceived control. Job demands were significantly negatively associated with social support, self-perceived control, growth/development and Work-SoC, with small to medium effect sizes. However, there were no significant associations with SNEs or SEGS support. Work-SoC showed significant positive correlations with all job resources, except for SNEs support. As shown in Table 3, the sub-dimensions of Work-SoC were strongly intercorrelated, motivating the use of the total scale for subsequent analysis.

TABLE 2 Inferential statistics for group differences for the Work-SoC-scale, job demands, resources and characteristics of the job

VARIABLE	*ALL (N = 90)*		*PRESCHOOL TEACHERS (N = 65)*		*CHILD CARERS (N = 25)*		*GROUP DIFFERENCES*		
	n	Descriptives[a, b, c]	*n*	Descriptives[a, b, c]	*n*	Descriptives[a, b, c]	Statistic[d, e, f] (*df*)	*p*	Effect Size[g, h, i]
***Work- SoC* (total)**	90	5.72 (4.64/6.14)[a]	65	5.78 (4.83/6.28)[a]	25	5.11 (4.28/6.00)[a]	1.54[d]	.124	0.16[g]
Comprehensibility	90	5.25 (4.25/5.75)[a]	65	5.25 (4.50/6.00)[a]	25	5.00 (4.00/5.63)[a]	1.24[d]	.214	0.13[g]
Manageability	90	5.50 (4.38/6.00)[a]	65	5.50 (4.50/6.25)[a]	25	5.00 (4.00/6.00)[a]	0.98[d]	.327	0.03[g]
Meaningfulness	90	6.17 (5.33/7.00)[a]	65	6.33 (5.67/7.00)[a]	25	5.67 (4.67/6.83)[a]	1.97[d]	.049*	0.21[g]
Job demands	89	3.91 (1.08)[b]	64	3.87 (1.03)[b]	25	4.00 (1.22)[b]	0.49[e] (87)	.623	0.12[h]
Job resources									
Personal growth/development	90	5.40 (4.80/6.00)[a]	65	5.40 (4.80/6.00)[a]	25	5.40 (4.60/6.00)[a]	0.28[d]	.780	0.03[g]
Self-perceived control	90	3.76 (0.94)[b]	65	3.80 (0.90)[b]	25	3.63 (1.06)[b]	-0.79[e] (88)	.431	-0.19[h]
Social support (total)	90	4.29 (3.51/5.29)[a]	65	4.29 (3.71/5.29)[a]	25	4.14 (3.31/5.67)[a]	-0.19[d]	.846	-0.02[g]
Colleague support	89	4.75 (3.50/5.75)[a]	64	4.75 (3.56/5.75)[a]	25	4.50 (3.50/5.88)[a]	0.09[d]	.930	0.01[g]
Manager support	90	4.01 (1.47)[b]	65	4.00 (1.45)[b]	25	4.05 (1.54)[b]	0.15[e] (88)	.878	0.04[f]
Special needs educators support	88	5.00 (4.23/5.83)[a]	64	5.00 (4.21/5.79)[a]	25	5.17 (4.23/5.96)[a]	-0.22[d]	.824	-0.02[g]
Special educational group supervisory support	90	5.50 (4.78/5.89)[a]	65	5.44 (4.78/5.89)[a]	25	5.56 (4.81/5.94)[a]	-0.39[d]	.700	-0.04[g]

TABLE 2 Continued

VARIABLE	*ALL (N = 90)*		*PRESCHOOL TEACHERS (N = 65)*		*CHILD CARERS (N = 25)*		*GROUP DIFFERENCES*		
Characteristics of the job									
Not enough reflection time [I]	90	70 (78%)	65	53 (82%)[c]	25	17 (68%)[c]	1.92[f] (1)	.166	0.15[i]
Child group size	87	17.0 (15.0/20.0)[a]	62	17.0 (14.8/20.0)[a]	25	16.00 (15/19)[a]	0.38[d]	.706	0.04[g]
Child per educator	87	6 (5.00/7.00)[a]	63	6.00 (5.00/7.00)[a]	24	6.00 (5.00/6.00)[a]	1.52[d]	.128	0.16[g]
Large proportion of CINSS [II]	90	19 (21%)	65	12 (19%)[c]	25	7 (28%)[c]	0.99[f] (1)	.321	-0.11[i]
Working experience [III]	88	27 (30%)[c]	63	19 (29%)	25	8 (32%)	0.09[f] (1)	.764	0.03[i]

Notes. Work-SoC = Work-related Sense of Coherence; CINSS = Children in Need of Special Support.
[a] Median and in parentheses 25th and 75th percentile; [b] Mean and in parenthesis standard deviation; [c] Absolute (n) and relative (%) frequency within group; [d] *Z*-score for Mann Whitney *U*-test; [e] Independent sample *t*-test (*df*); [f] Pearson's Chi-Square (*df*); [g] Cohen's *r*; [h] Hedge's *g*; [i] Coefficient Phi.
[I] 0 = Enough/No need for more, 1 = Not enough/need more. [II] 0 = some children/no children, 1 = half of/almost all children. [III] 0 = 24 years or less, 1 = 25 years or more. * $P < .05$

TABLE 3 Pearson's correlation coefficients between job demands, job resources and Work-SoC among preschool educators (N = 90)

	VARIABLE	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1	**Job demands**	1								
	Job resources									
2	Social support	**-.265** (.012)	1							
3	Self-perceived control	**-.434** (<.001)	**.579** (<.001)	1						
4	Growth/Development	**-.329** (.002)	**.325** (.002)	**.499** (<.001)	1					
5	Special needs educators' support	-.0005 (.962)	**.195** (.069)	**.433** (<.001)	**.312** (.003)	1				
6	Special educational group supervisory support	-.108 (.312)	**.269** (.010)	**.339** (.001)	**.501** (<.001)	**.433** (<.001)	1			
7	***Work-SoC* (total)**	**-.404** (<.001)	**.549** (<.001)	**.490** (<.001)	**.248** (.019)	.091 (.400)	**.284** (.007)	1		
8	Comprehensibility	**-.376** (<.001)	**.501** (<.001)	**.402** (<.001)	**.189** (.074)	.063 (.562)	**.259** (.014)	**.956** (<.001)	1	
9	Manageability	**-.475** (<.001)	**.466** (<.001)	**.457** (<.001)	**.256** (.015)	.053 (.626)	**.278** (.008)	**.8**83 (<.001)	**.824** (<.001)	1
10	Meaningfulness	**-.273** (.010)	**.523** (<.001)	**.495** (<.001)	**.247** (.019)	.131 (.224)	.243 (.021)	**.875** (<.001)	**.741** (<.001)	**.624** (<.001)

Notes. Work-SoC = Work-related sense of coherence.
Exact *p* – values in parentheses.
Statistically significant correlations ($p < .05$) are given in bold text.

Predicting perceived job demands in CINSS work: The role of Work-SoC, social support, self-perceived control, growth/development, child group size, and not enough reflection time

To address RQ3, which focused on whether higher Work-SoC predicts perceived job demand levels after controlling for social support, self-perceived control, growth/development, child group size, and not enough reflection time, a hierarchical linear regression analysis was employed. Social support, self-perceived control, and growth/development were inversely correlated with job demands (Table 3). The control variables; not enough reflection time was positively correlated with job demands ($r_{Spearman}$ = .290, p = .006) and child group size was uncorrelated ($r_{Spearman}$ = .195, p = .071). We introduced the variables one at a time in different models (Table 4), beginning with Work-SoC, which explained 16% of the variation in job demands. The relationship was substantial and negative in direction, which suggested that the more comprehensible, manageable, and meaningful the educators perceived their work, the less demanding they thought it was to work with CINSS. In Model 2, self-perceived control was introduced and the effect of Work-SoC was reduced. At the same levels of self-perceived control, the effect of Work-SoC no longer had as much influence. Self-perceived control was also negatively related to job demands, indicating that the higher the self-perceived control, the lower the perceived job demands in work with CINSS. In Model 3, social support was added, making the influence of Work-SoC slightly more pronounced. A similar additive effect was shown in Model 4 when the variable growth/development was introduced. To further control for the different contexts in which educators work, we controlled for the work characteristics of their job (child group size and not enough reflection time) in Model 5, which amounted in 26% explained variance. The estimates previously obtained changed slightly: not enough reflection time and larger child group size made the influence of Work-SoC less pronounced but still a significant predictor in the model. However, the variables of child group size and not enough reflection time did not make unique contributions. The same was true for the job resources personal growth/development and social support for every model they were introduced into. No test assumption violations (i.e. multicollinearity, outliers or non-normality) were detected.

TABLE 4 Hierarchical linear model of predictors of job demands in preschool educators (N = 90)

VARIABLE/STATISTIC	*MODEL 1*	*MODEL 2*	*MODEL 3*	*MODEL 4*	*MODEL 5*
Work-SoC[a]	-.397 ***	-.248*	-.278*	-.333*	-.254*
Self-perceived control		-.308**	-.343**	-.269*	-.232
Social support			.085	.093	.143
Personal growth/development				-.156	-.185
Child group size					.144
Not enough reflection time					.192
F	15.8***	12.4***	8.37***	6.85***	5.86***
R^2 adjusted	0.148	0.212	0.207	0.216	0.256
R^2 change	0.158	0.072	0.004	0.018	0.055

Notes. [a] Work-SoC = Work-related sense of coherence. Standardised beta-values are presented in italicized numbers. * $p < .05$; ** $p < .01$; *** $p < .001$

Discussion

The main purpose of the present study was to investigate preschool educators' perceived job demands and resources related to working with CINSS, their Work-SoC and associations between these to find out what might contribute to increased well-being among preschool educators, and by that give them better conditions to meet the needs of all children. The study also analysed differences between preschool teachers and child carers.

Group differences between preschool teachers and child carers

The hypothesis was that preschool teachers, since they are more adequately prepared to work with CINSS, exhibit lower stress levels than child carers. The results did not support this hypothesis. What the results showed was that there was no significant difference between these two occupational groups when it came to their perceptions of job demands and resources relating to CINSS and characteristics of the job. The absence of significant differences between groups suggests that they experience emotional, cognitive, and organisational demands (job demands) and resources in work with CINSS in the same way regardless of their level of education. However, the only significant difference observed pertains to the Work-SoC subdimension of meaningfulness, where preschool teachers had a higher sense of meaningfulness in their work than child carers. Although the difference is small, it is still meaningful and may have implications for everyday practice in preschools. The results regarding differences in the experience of

meaningfulness align with a Finnish study (Kumpulainen et al., 2023) and may highlight the importance of preschool teacher education in the work with CINSS. Increased knowledge of children's diverse needs through education can enhance the sense of meaningfulness when educators feel better equipped to meet and understand the demands of a given situation. According to the theory of Work-SoC, meaningfulness is the most important dimension because it is about motivation (Vogt et al., 2013). However, a higher sense of meaningfulness could also stem from salary disparities (Hall-Kenyon et al., 2014). At the same time, other research (Kwon et al., 2022) demonstrates that a higher salary to compensate for higher education is not enough to ensure well-being since teachers with a bachelor's degree had a lower sense of well-being (more headaches and symptoms of depression) compared with others. Therefore, it is important to continue to discuss the factors that can affect the sense of meaningfulness in preschool. Descriptive statistics of the variables included in this study show, for example, that SEGS is highly valued by preschool educators, which is consistent with previous research (Gäreskog & Lindqvist, 2022). In addition, 78% (see Table 2) of the participants reported not having enough reflection time when working with CINSS. This can be seen as an important indicator for preventive work in preschool. To reduce preschool educators' stress and increase their resilience, decision-makers and preschool management should ensure that there is sufficient opportunity for reflection in the workplace. Previous research emphasises the risk of perceived stress or workload when time for reflection and recovery is lacking (Persson & Tallberg Broman, 2019). With its focus on the work with CINSS, this study can contribute to previous research.

Associations between job demands, job resources and Work-SoC

It was hypothesised that job resources were positively associated with each other and with Work-SoC. Furthermore, it was expected that job demands would relate negatively to job resources and Work-SoC. The results confirmed the hypothesis. Social support and self-perceived control, for instance, showed a significantly positive association corresponding to a large effect size. This result suggests that the greater the social support in work with CINSS is perceived to be, the greater the sense of control. In addition, sense of control correlated significantly to the perception of growth and development in work with CINSS. For example, if a person feels they can influence the work with CINSS and can effect change in the workplace, they will find the work to be stimulating. The found association between job resources and job engagement is in line with previous research and with the JD-R theory (Demerouti & Bakker, 2011). Notably, the preschool educators in this study rated the growth/development variable and the job demands variable relatively highly. Other studies (e.g., Kumpulainen et al., 2023) show similar results with a committed preschool staff in a demanding and stressful job. This emphasises how important it is that preschool organisations ensure resources are visible and accessible, especially when educators experience high levels of stress (see also, e.g., Vogt et al., 2013).

Furthermore, the results reveal that job demands were significantly negatively associated with social support, self-perceived control, growth/development and Work-SoC. The correlation between job demands and resources aligns with previous research that emphasises the interactions between job demands and resources (e.g., Demerouti & Bakker, 2011). Despite the lack of correlation between perceived job demands and SEGS, it is possible that the educators perceive group supervision to be a valuable resource in other ways. Further exploration of how group supervision contributes to the development of preschool education and its impact on other aspects of work would be worthwhile. Prior research (Bakker et al., 2007; Gäreskog & Lindqvist, 2022), for example, highlights supervision to gain perspective on a situation. However, the current study adds to the literature by focusing specifically on *group* supervision, on which there is limited research (Näslund, 2004). Furthermore, the results of the present study show that job demands and all resources, apart from support from the SNE, were significantly associated with Work-SoC. In particular, social support and self-perceived control were associated with Work-SoC, albeit with moderate effect sizes. These results are comparable with a prior study showing significant associations between, for example, Work-SoC, job demands and self-perceived control among SNEs in Swedish preschools (Semelius Granevald, 2024). The result is also in line with research showing the importance of job resources for a strengthened perception of the job as comprehensive, manageable and meaningful (Broetje et al., 2020). Broetje et al. (2020) also show the reverse, namely that Work-SoC can strengthen and predict job resources. According to Antonovsky (1987/2005), the workgroup's social relationships (e.g., joint values) are important for perceived predictability.

Predicting job demands: The role of Work-SoC and social support, self-perceived control, growth/development, child group size, and not enough reflection time

The linear regression analysis results show that Work-SoC had a significantly negative impact on perceived job demands in work with CINSS. This effect remained significant even after controlling for social support, self-perceived control, growth/development, child group size and not enough reflection time. These findings support our third hypothesis, which is that a higher level of Work-SoC predicts lower perceived job demands in work with CINSS. The results highlight Work-SoC as greatly affecting the perceived emotional, cognitive, and organisational job demands of those working with CINSS. Therefore, a high Work-SoC can be considered a vital resource. As previously mentioned, comprehensibility refers to the perception of structured and clear work, while manageability refers to the availability of adequate resources to cope with job demands. Meaningfulness, meanwhile, pertains to the extent to which individuals perceive work situations as worth engaging in (Vogt et al., 2013). Both individual characteristics and factors in the work environment, as well as the interaction between them, are important

for these dimensions (Cecon et al., 2022; Vogt et al., 2013). Therefore, workplaces should ideally allow for discussions about what contributes to comprehensibility, manageability and meaningfulness in the specific context of work with CINSS with the aim of increasing a sense of well-being. As reported by Antonovsky (1987/2005), the problem with overload is a question about perceived resources. What interferes with the feeling of manageability is often recurring acute overload without sufficient opportunities for recovery. Moreover, the results suggest that a high level of self-perceived control predicts lower perceived job demands, highlighting the importance of influence in the work with CINSS (cf. autonomy; Kumpulainen et al., 2023); thus, potential enhancements may arise from exploring factors associated with the sense of control. The correlation analyses suggest the importance of sufficient reflection time in the context of CINSS for the experience of lower job demands. Other studies have also indicated the significance of reflection time (Persson & Tallberg Broman, 2019). However, personal growth/development, social support, child group size and not having enough reflection time when working with CINSS did not predict perceived job demands in this sample when tested in a multiple model together with self-perceived control and Work-SoC. This illuminates the predictive overlap of these factors, where, for example, insufficient reflection time does not provide a significant unique contribution.

In summary, the findings highlight what can be preventive and promotional and thus what can contribute to increasing the well-being of preschool educators in their work with CINSS. The study demonstrates that Work-SoC influences the experience of emotional, cognitive, and organisational job demands regardless of social support, self-perceived control, growth/development, child group size, and perceived lack of reflection time, implying that integrating a sense of coherence in work environments is crucial for enhancing well-being and the ability to cope with job demands. This can be done by fostering meaningfulness, comprehensibility, and manageability. To enhance preschool educators' sense of meaningfulness, it is recommended that management provides clear communication and feedback, enabling educators to understand how their work with CINSS contributes to children's development and the preschool's goals and values. To improve comprehensibility, it is essential that tasks and expectations be clear, and that training and resources be available to help employees understand their roles. Finally, a strengthened sense of manageability can be achieved by offering support and resources that facilitate their work, such as concrete tools for handling challenging situations, while fostering a culture of openness that encourages employees to seek help when needed. Moreover, the results suggest that social support and self-perceived control facilitate work with CINSS. According to Antonovsky (1987/2005), the workgroup's social relationships (e.g., joint values) are important for perceived predictability. SEGS was rated highly by preschool educators and correlated with experiences of growth/development and self-perceived control. Therefore, it may be worth exploring further the experiences of preschool educators regarding the role of SEGS.

Limitations and future research

Using scales tailored to a specific group (preschool educators) limits comparability with previous findings and generalisability in terms of other professions. Additionally, variations in CINSS conditions between countries (Gäreskog & Lindqvist, 2022) can hinder international comparisons. However, the participants worked in different counties throughout Sweden, and results can therefore be seen as relevant for this specific professional group. While a sample size of 90 may limit representation and generalisability, valuable insights have been gained. It is important to acknowledge the limited statistical power of our study to detect small effects; however, the power analyses we carried out suggest that the sample size was sufficient for the number of variables we used. Increasing sample size would enhance reliability. Nonetheless, significant patterns and meaningful conclusions could be drawn from the available data. Previous research, however, suggests that using occupation-specific measures of job demands can lead to stronger associations between variables (Brough & Biggs, 2015). That said, a larger sample size would improve the generalisability and allow for more predictors in linear regression analyses. This could help determine which job resources and demands are most significant when it comes to the high levels of stress among preschool educators working with CINSS. Furthermore, using binary variables, like measuring reflection time, may limit the level of detail and nuance. Capturing complex or subtle differences may be challenging. Indeed, a more nuanced measurement or additional variables could provide a deeper understanding. Nevertheless, important observations have been made and important conclusions drawn using binary variables within the scope of our study. Another concern regarding measurement quality are reliability and validity of the scales used in the study. Items and scale structure were based on existing theory (Work-SoC and JD-R) and previous research. In that sense they have face validity. The scales did also show adequate internal consistency. The scale structure, however, still needs to be tested in further samples and contexts for validity and reliability to be fully established. Until this is done results must be interpreted with caution and within the proposed context.

In terms of the purpose of the study, the questionnaire did not include inquiries about migration background, ethnicity or socioeconomic status (except for education). These factors were excluded for ethical reasons. Future research could consider including such questions as they may allow for a better understanding of their potential impact on results. Furthermore, the low response rate (16%) is a limitation. It may have resulted from the specific inclusion criteria stating that respondents had to receive SEGS, not individual supervision. Additionally previous research suggests that working in preschool can mean a high workload, which may limit the time respondents have to complete web surveys. In other words, the response rate 'may reflect the nature of the topic under

investigation' (Mark & Smith, 2012, p. 75). Additionally, similar response rates to this study can be found in other studies examining occupational job demands and resources (e.g., 20% in Brough & Biggs, 2013; 11% in Mark & Smith, 2012; 16% in Lang et al., 2017). Finally, the use of self-report questionnaires is a common method in studying organisational behaviour (Spector, 1994). The assumptions of the JD-R theory apply to self-reports (Bakker & Demerouti, 2007), and the method is commonly used in connection to JD-R studies (Bakker & Demerouti, 2017); however, self-reports carry an increased risk for common method bias. Future research may consider adding other sources of data or applying intervention and control groups to the study design.

Acknowledgements

We want to express our gratitude to Gunilla Lindqvist, Uppsala University, and Stefan Johansson, University of Gothenburg, for their invaluable comments and support in connection with the writing of the article.

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Appendix

TABLE A1 Descriptive statistics of the included variables

VARIABLE	*INDICATOR/STATEMENT*	*N*	*MIN*	*MAX*	*M*	*SD*
Job demands (α = .91)	Nine items related to demands and difficulties when working with CINSS: *The work with CINSS:*	**89**	**2**	**6**	**3.91**	**1.08**
DEMAND1	(1) … stresses me out a lot	89	1	6	3.82	1.43
DEMAND2	(2) … I often find it difficult	89	1	6	3.46	1.26
DEMAND3	(3) … often makes me feel insufficient	89	1	6	4.42	1.49
DEMAND4	(4) … is difficult to overview	88	1	6	3.42	1.35
DEMAND5	(5) … makes me exhausted at the end of the day	89	1	6	3.94	1.47
DEMAND6	(6) … I can't bear to "keep going" for a longer period	86	1	6	3.36	1.52
DEMAND7	(7) … I don't have time to participate as much as I would like	89	1	6	4.33	1.46
DEMAND8	(8) … means a high workload for me	88	1	6	4.26	1.36
DEMAND9	(9) … there are not enough organizational conditions (e.g., personnel or time) to be able to implement	85	1	6	4.15	1.52
Job resources						
Personal growth/ development (α = .85)	Five items related to how the work with CINSS can be experienced as developing: *The work with CINSS:*	**90**	**3**	**6**	**5.17**	**0.82**
DVLPM1	(1) … means that there is always something new to learn	90	3	6	5.52	0.85
DVLPM2	(2) … is a fun challenge that I'm happy to take on	89	1	6	4.88	1.26
DVLPM3	(3) … almost always involves varying tasks	87	1	6	4.91	1.12
DVLPM4	(4) … makes me develop my abilities	90	3	6	5.30	0.88
DVLPM5	(5) … inspires me to take my own initiative to change the preschool's operations, for example, my own way of working	90	2	6	5.31	0.90
Self-perceived Control (α = .88)	Eight items related to self-perceived control when working with CINSS: *The work with support [to CINSS]:*	**90**	**2**	**6**	**3.76**	**0.94**
CNTRL1	(1) … I can carry it out at my own pace	88	1	6	3.25	1.29
CNTRL2	(2) … I myself can influence it to a great extent	89	1	6	3.62	1.33
CNTRL3	(3) … I can predict it to a great extent	81	1	6	3.57	1.19
CNTRL4	(4) … I have enough skills to be able to perform	89	1	6	4.03	1.21
CNTRL5	(5) … I can balance it in a good way with the department's other work	88	1	6	3.18	1.26
CNTRL6	(6) … is there a clear workflow at the workplace	88	1	6	3.94	1.43
CNTRL7	(7) … it involves duties known to me; I know what I have to do, compared to what other professions have to do	86	1	6	4.34	1.22
CNTRL8	(8) … I have clear goals that are obvious to me	87	1	6	4.25	1.31

TABLE A1 continued

SNE support (α = .96)	Six items related to contact with the special needs educator:	**88**	**1**	**6**	**4.81**	**1.22**
SNE_SUPP1	(1) The special needs educator provides extra help, for example, booking an extra appointment or offering another type of help when needed	88	1	6	4.94	1.24
SNE_SUPP2	(2) The special needs educator helps me, when necessary, with how to understand the situation/case	88	1	6	5.02	1.24
SNE_SUPP3	(3) The special needs educator tries different ways of working with me until I have received the help I need	85	1	6	4.40	1.47
SNE_SUPP4	(4) The special needs educator makes me express my own opinions	86	1	6	4.80	1.34
SNE_SUPP5	(5) The special needs educator gives encouraging or supportive feedback on my work	86	1	6	4.91	1.37
SNE_SUPP6	(6) It is easy to establish a collaboration (with the special needs educator)	88	1	6	4.78	1.43
SEGS support (α = .92)	Nine items related to what special educational group supervision (SEGS) can contribute:	**90**	**3**	**6**	**5.25**	**0.76**
SEGS1	(1) SEGS is needed to develop the work of preschool with CINSS	90	3	6	5.66	0.69
SEGS2	(2) SEGS is really a resource for me personally in my professional role	88	1	6	5.36	1.11
SEGS3	(3) SEGS can give me tools to deal with a specific perceived problem that may arise in the future	89	2	6	5.21	0.89
SEGS4	(4) SEGS can give me tools to deal with unexpected situations	88	2	6	5.07	0.99
SEGS5	(5) SEGS can give me tools to better communicate children's needs to others, for example, to guardians or principals	87	1	6	5.26	1.01
SEGS6	(6) SEGS can contribute to changing my way of thinking about a perceived problem	90	1	6	5.10	1.08
SEGS7	(7) SEGS can contribute to me acting differently towards others, for example, a child in need of special support	90	1	6	5.16	0.99
SEGS8	(8) SEGS can increase my knowledge regarding children in need of special support	90	2	6	5.30	0.98
SEGS9	(9) SEGS can strengthen me in my profession in general	90	2	6	5.19	1.08
Social support (total): (α .92)	Seven items related to social support at the workplace. *In the work with CINSS:*	**90**	**1**	**6**	**4.28**	**1.22**
	Colleague support (items 1 – 4) (α = .94):	89	1	6	4.50	1.31
SCL_SUPP1	(1) … my closest colleagues show an interest in the work I do, for example, by asking me questions	88	1	6	4.28	1.52
SCL_SUPP2	(2) … my colleagues help me concretely in the actual situation if the job becomes difficult	88	1	6	4.57	1.42
SCL_SUPP3	(3) … I receive supportive or encouraging feedback from my immediate colleagues in my efforts to do the work	89	1	6	4.44	1.46
SCL_SUPP4	(4) … there is a functioning collaboration with my closest colleagues	89	1	6	4.73	1.35

TABLE A1 continued.						
	Manager support (items 5 – 7) (α. 97):	90	1	6	4.01	1.47
SCL_SUPP5	(5) … I receive supportive or encouraging feedback from my immediate manager in my efforts to perform the work	90	1	6	3.97	1.57
SCL_SUPP6	(6) … my immediate manager shows an interest in the work I do, for example, by asking me questions	90	1	6	3.81	1.54
SCL_SUPP7	(7) … There is a working collaboration with my manager	90	1	6	4.27	1.44
Work-SoC (total scale) r = recoded items	How do you personally find your current job resp. work situation in general? (Put a cross in each row at the point which best correspond with your feelings (7-point scale).	**90**	**1**	**7**	**5.37**	**1.12**
W_SOC1_r	manageable – unmanageable	90	1	7	5.27	1.58
W_SOC2	meaningless – meaningful	90	2	7	6.03	1.30
W_SOC3_r	structured – unstructured	90	1	7	5.29	1.55
W_SOC4_r	easy to influence – impossible to influence	90	1	7	5.23	1.54
W_SOC5	insignificant – significant	90	1	7	5.98	1.32
W_SOC6_r	clear – unclear	90	1	7	5.11	1.44
W_SOC7_r	controllable – uncontrollable	90	1	7	5.19	1.45
W_SOC8	unrewarding – rewarding	90	1	7	5.82	1.35
W_SOC9_r	predictable – unpredictable	90	1	7	4.39	1.53

Note. Items related to some of the used scales have been used in a previous study aimed at special needs educators in preschool (Semelius Granevald, 2024)[4]. The difference that exists is that the participants answer the questions based on their own specific profession. This applies to the following scales: job demands, self-perceived control, social support, and growth/development.

[4] Semelius Granevald, V. (2024). Exploring factors related to special needs educators' work-related well-being in preschool settings. *European Journal of Special Needs Education*. https://doi.org/10.1080/08856257.2024.2421111