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Teacher coping profiles in relation to teacher well-being: A mixed method approach

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HIGHLIGHTS

- This mixed-method study investigated teachers' self-reported coping and well-being.
- 4 profiles emerged: Low-, Problem-focused-, High- and Emotion-focused-coping users.
- Teachers use mainly emotion-focused coping to cope with work-related stress.
- Low-coping-user teachers report less stress, depressive symptoms and sleep problems.
- Using few coping strategies and problem-focused coping may avail teacher well-being.

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ABSTRACT

The aim was to investigate teachers' coping profiles and their relations to teacher well-being. Questionnaire data was collected from 107 Finnish teachers. Theory-driven content analysis of teachers' responses revealed three coping categories: problem-focused, emotion-focused and mixed problem- and emotion-focused. Next, teachers were categorized into four coping profiles by using latent profile analysis: Low-coping users (21%), Problem-focused-coping users (15%), High-coping users (12%) and Emotion-focused-coping users (52%). Low-coping-user teachers reported less stress and fewer depressive symptoms and sleep problems compared to Emotion-focused-coping users. Using a compact amount of coping strategies and problem-focused strategies aside of emotion-focused might be beneficial for teacher well-being.

1. Introduction

According to recent studies and reports from U.S. (Herman, Prewitt, Eddy, Savale, & Reinke, 2020; Markow, Macia, & Lee, 2013), Canada (Duxbury & Higgins, 2013), UK (Education Support, 2019) and Finland (Länsikallio, Kinnunen, & Ilves, 2018) teachers' work-related stress is high. Recently, it has even increased in both Northern America (Froese-Germain, 2014; Markow et al., 2013) and some European countries (Education Support, 2019; Länsikallio et al., 2018), and at the same time, teachers' job satisfaction has decreased in US (Markow et al., 2013), Finland and Norway (Länsikallio et al., 2018; Taajamo & Puhakka, 2020). Stress is part of social acceleration of modern societies and thus internationally inevitable (Rosa, 2003). However, previous research has suggested that coping with stress may influence how it is experienced and may even reduce stress (Caesens, Stinglhamber, & Luypaert, 2014; Gluschkoff et al., 2016). Teacher coping is an important issue to tackle, as stress and burnout have a negative association with teachers' devotion to their profession (Buettner, Jeon, Hur, & Garcia, 2016) and teacher-student interactions (Virtanen, Vaaland, & Ertesvåg, 2019). Teachers working in particularly stressful environments have developed strategies to resiliently cope with the stressors (Howard & Johnson, 2004), and some coping strategies seem to be more effective than others (Austin, Shah, & Muncer, 2005). However, one limitation in the existing literature is that only a few recent studies to date have asked teachers themselves to describe their coping strategies in non-specified school settings (see Chaaban & Du, 2017 and Feltoe, Beamish, & Davies, 2016 as exceptions). Previous research on teachers' coping has also mainly

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utilized a variable-oriented approach (noted also by Herman, Hickmon-Rosa, & Reinke, 2018), which focuses on the universal associations between variables, whereas the person-oriented approach focuses on identifying groups of individuals who show different combinations, profiles, or patterns of values on different variables (Bergman, Magnusson, & El-Khouri, 2003). Thus, the present study, conducted among Finnish teachers, is among the few using a qualitative approach to analyse teachers' answers to an open-ended question concerning their coping strategies and then using person-oriented analyses, instead of a variable-oriented approach, to identify different coping profiles of teachers.

In addition, although teachers' coping has been investigated to a great extent, few studies have combined both qualitative and quantitative methods (see Alghaswyneh, 2012; Brackenreed, 2011; Chaaban & Du, 2017; Feltoe et al., 2016; Taylor et al., 2016 as exceptions). Still, mixed methods create an opportunity to expand the study's results in order to investigate different phenomena concerning the same cases (Greene, Caracelli, & Graham, 1989). It proffers a possibility to answer to completely different research questions, to set a context via qualitative findings and search for relationships via quantitative measures and thus makes the results easier to apply in practice (Bryman, 2006). Accordingly, information concerning teachers' self-reported coping strategies, the profiles deriving from these and the association between teachers' coping profiles and well-being can be studied within the same study (see also Howard & Hoffman, 2018), pioneering way for practical implementations, another strength of a mixed-method approach (Nastasi et al., 2007). Consequently, the aim of the current study is to identify teachers' coping profiles, based on their self-reports about coping with work-related demands, and to compare how teachers in different profiles differ in terms of their work-related well-being.

1.1. Coping with stress

According to Lazarus and Folkman's (1984) cognitive appraisal theory, stress is experienced in an interaction between individual and his or her surroundings when they find themselves running out of resources or find their health being put at risk. People differ in what they find stressful, how they react to a potentially stressful situation and the strategies they use for coping (Lazarus & Folkman, 1984). Coping with stress means the way in which a person handles agitating surroundings and the feelings evoked by these surroundings, either mentally and/or through action, using continuously altering methods (Lazarus & Folkman, 1984). The capability and methods of coping with stress vary between persons, for example based on their inheritable traits, growth before and after birth and other events in life (McEwen, 2007). The choice of a coping strategy also varies due to the source of the stress (Alghaswyneh, 2012; Green & Ross, 1996) and due to certain person-related matters, such as self-concept clarity (Smith, Wethington, & Zhan, 1996) and self-efficacy (Betoret & Artiga, 2010; Chwalisz, Altmaier, & Russell, 1992; Nizielski, Hallum, Schütz, & Lopes, 2013; Shen, 2009).

When studying different styles of coping, it is noteworthy that coping can address either the issue creating the distress (problem-focused coping) or the feelings which arise because of the issue (emotion-focused coping) (Lazarus & Folkman, 1984). When encountering most stressors, both strategies are used (Folkman & Lazarus, 1980), and they can also support (Sharplin, O'Neill, & Chapman, 2011) or interfere with one another (Lazarus & Folkman, 1984). Active coping is needed to successfully solve problems, but both active and palliative strategies are successful in terms of calming oneself (Grebner, Elfering, Semmer, Kaiser-Probst, & Schlapbach, 2004). Park and Folkman (1997) also discuss the importance of meaningful coping, which refers to the perceived importance of the incident causing distress.

Problem-focused coping strategies are used when the problem is solvable or when further information on the problem can be obtained (Folkman & Lazarus, 1980). As Lazarus and Folkman (1984) state, problem-focused coping strategies concentrate either on one's surroundings or on oneself. Problem-focused coping strategies are characteristic to the field they are applied in, unlike their emotion-focused equivalents. Emotion-focused coping, in contrast, is used when the problem seems impossible to solve or when the circumstances cannot be changed. Emotion-focused coping can be either cognitive (reducing or extending distress, re-evaluating the situation, choosing what to pay attention to, refraining from the situation) or behavioural (exercising, relaxing). Further, Folkman and Lazarus (1985) separate a coping category called "mixed problem- and emotion-focused coping", which is characterized by looking for help from others and which could include characteristics of both problem- and emotion-focused coping.

Meaning-focused coping is sometimes regarded as a distinct coping style separate from its problem- and emotion-focused equivalents (Folkman & Moskowitz, 2004). However, like emotion-focused coping, it is used in circumstances where no solution to the problem exists (Park & Folkman, 1997) and thus is often included under emotion-focused coping (Folkman & Moskowitz, 2007). Meaning-focused coping means returning to one's values and convictions and deriving positivity (Folkman, 2010) from attempting to fit the situation to these values and convictions, sometimes by altering these (Park & Folkman, 1997). People might, for example, make an attempt to concentrate on the good side of the source of the stress, seeing it as an avenue for growth or as helpful for others, or they may try to bring positive occurrences into existence, for example via humour (Folkman & Moskowitz, 2000).

1.2. Teachers' coping and well-being

When it comes to teachers' use of coping strategies, contradictory evidence is found. According to some studies, teachers use more emotion-focused coping than problem-focused coping (Alghaswyneh, 2012; Blase, Blase, & Du, 2008; Wheeler, Reilly, & Donahue, 1983), whereas other studies show that problem-focused coping strategies are most widely used (Chan, 1994, 2008; Chwalisz et al., 1992; Salkovsky, Romi, & Lewis, 2015). Further, it is stated that problem- and emotion-focused coping also go hand in hand, supporting one another (Sharplin et al., 2011). And according to some studies, meaningful coping (Shen, 2009) and mixed problem- and emotion-focused coping (Lewis, 1999) are as similarly favoured as problem-focused coping among teachers (Antoniou, Polychroni, & Kotroni, 2009). Avoidance strategies are least used (Innes & Kitto, 1989), except among student teachers (Gustems-Carnicer, Calderon, Batalla-Flores, & Esteban-Bara, 2019; Gustems-Carnicer, Calderón, & Calderón-Garrido, 2019). There is also conflicting evidence on the effect of work experience; in some studies, more experienced teachers use less mixed problem-and emotion-focused coping and more internal strategies, such as escape (Carton & Fruchart, 2014), inner strength, problem-focused and emotion-focused strategies (Chaaban & Du, 2017), whereas other studies report that work experience has no influence on coping strategies (Cotton, 2012; Stoeber & Rennert, 2008).

There are also contradictory findings concerning the relation between stress and coping strategies; some studies find that the influence of stress on coping is positive (Chon, 2012), while other studies show that the relation between stress and coping is negative (Herman et al., 2020). However, when focusing on specific

coping strategies, differences are found between stress level and the coping strategy used. For example, the more a person is stressed, the more he or she uses emotion-focused coping (Mearns & Cain, 2003), and the more one uses emotion-focused coping, the more stressed he or she is (Griffith, Steptoe, & Cropley, 1999). On the other hand, teachers using a greater amount of problem-focused coping experience less stress (Verešová & Malá, 2012).

The relation between burnout and coping is negative; the more burned-out a person is, the less able to cope he or she feels (Eddy, Herman, & Reinke, 2019; Herman et al., 2020). When it comes to the different coping strategies, a great number of studies point out that teachers using emotion-focused strategies experience more burnout (Bermejo-Toro, Prieto-Ursúa, & Hernández, 2016; Betoret & Artiga, 2010; Carmona, Buunk, Peiró, Rodríguez, & Bravo, 2006; Chwalisz et al., 1992; Parker, Martin, Colmar, & Liem, 2012; Pascual, Perez-Jover, Mirambell, Ivañez, & Terol, 2003), whereas using problem-focused coping strategies has a negative relation with burnout (Bermejo-Toro et al., 2016; Betoret & Artiga, 2010; Carmona et al., 2006; Nizielski et al., 2013; Parker et al., 2012). However, according to Foley and Murphy (2015), both problem-focused and emotion-focused coping are associated with personal accomplishment.

A study by Herman et al. (2020) on teachers' joined stress and coping profiles is of particular interest from the point of view of the current study, as they investigate stress-coping profiles and the relationship between these coping profiles and teacher well-being. They notice that teachers experiencing high stress levels but feeling a low ability to cope experience more burnout than teachers who experience either high or low levels of stress but feel able to cope with them (Herman et al., 2020). However, stress and coping were measured by single items, and it is suggested that both stress and coping should also be studied by considering the multitude of potential stressors and coping strategies (Herman et al., 2020).

Coping strategies have also been linked with other symptoms, such as depressive symptoms and quality of sleep. First, the use of emotion-focused coping is positively related to depression (Faulk, Gloria, & Steinhardt, 2013), and it foresees somatic symptoms (Pascual et al., 2003) and increases the possibility of insomnia (Chan, 1994). Secondly, the use of meaning-focused strategies is negatively related to depression (Faulk et al., 2013) but has a positive association with psychological problems, such as worries concerning insomnia (Innes & Kitto, 1989). Finally, problem-focused coping is negatively related to depression (Chan, 1994; Faulk et al., 2013; Olff, Brosschot, & Godaert, 1993) and decreases the probability of insomnia (Chan, 1994).

Hence, according to previous research, we expect that teachers having a coping profile with high problem-focused coping will experience high well-being (low stress, burnout, depressive symptoms, sleep problems and insomnia) compared to a coping profile with more emotion-focused coping (Bermejo-Toro et al., 2016; Betoret & Artiga, 2010; Carmona et al., 2006; Parker et al., 2012). However, conflicting evidence can also be found (see Lazarus, 2006). For this reason, further evidence is called for regarding teachers' coping profiles and their relation to teacher well-being (see also Kyriacou, 2001).

1.3. Aim of the present study

The aim of this study was to identify teachers' coping profiles and their association with teacher well-being (stress, burnout, depression and sleep). As the use of coping strategies was assumed to affect teacher well-being (see Carmona et al., 2006; Shin et al., 2014), different profiles concerning teachers' use of coping strategies would provide an excellent tool for examining the variance in teacher well-being. The research questions were as follows:

1. What kind of content categories can be found from teachers' self-reported descriptions of their coping strategies?
2. What kind of latent profiles concerning coping strategies can be identified through teachers' self-reports?
3. How do the coping profiles differ according to teacher self-reported well-being (stress, burnout, depressive symptoms, sleep problems and insomnia)?

2. Method

2.1. Participants and procedure

The participants in the present study were 107 Finnish kindergarten (n = 56) and primary school (n = 53) teachers (two participants worked as both kindergarten and primary school teachers; 102 females, 4 males; $M_{age} = 44$, SD = 9.20 years) from 34 kindergarten units and 36 schools. The kindergartens and schools were located in five municipalities in Central Finland, including both urban and rural areas. The reported study is part of a larger project focusing on the role of teacher stress in teacher-child interactions ()(Lerkkanen & Pakarinen, 2016–2020). In fall 2016, kindergarten teachers were invited by phone call or email to participate in the larger study, as were first-grade teachers in spring 2017. Teachers provided written consent prior to data collection. The cross-sectional data was first collected from kindergarten teachers in September–December 2016 (time point 1) and in February–May 2017 (time point 2) and next year from primary school teachers in September–December 2017 (time point 3) and February–May 2018 (time point 4). Therefore, the collection lasted two years altogether. Teachers participated in the study at from one to four time points and were asked to fill in questionnaires, including an open-ended question on coping as well as structured questions on stress, burnout, depressive symptoms and sleep. From their written descriptions of coping strategies, different strategies from the three latest time points were included in the data, whereas from their answers to measures on stress, burnout, depressive symptoms, sleep problems and insomnia, only the latest time point was included in the data. There were some contextual differences between kindergarten teachers and primary school teachers when comparing the groups excluding the teachers working at both contexts. Of the participating kindergarten teachers, 20% hold MA degree in Education whereas 24% hold BA degree in Education and 56% other kind of qualification. In contrast, all of the participating Grade 1 teachers hold MA degree in Education. Kindergarten teachers' groups were smaller on average ($M = 16$, range 6–37 children) while Grade 1 teachers' classrooms had on average 19 students (range 7–25). Adult number average in Kindergarten was three (range 1–6) and in Grade 1 there were on average two adults (range 2–4). However, the results of t-tests showed that kindergarten and Grade 1 teachers did not differ statistically significantly neither regarding their use of coping strategies nor regarding their well-being-related outcome variables.

2.2. Measures

Background. For background information, teachers' work experience was determined. For kindergarten teachers, their work experience in kindergarten was taken into account, and for first-grade teachers, their work experience in school. If one had worked in both settings, the greater level of experience was considered. The kindergarten teachers answered on a scale from 0 (no experience at all) to 5 (more than 15 years), whereas the first-grade teachers stated the number of years working as a teacher. Later, the number of years was transformed to the same scale used with kindergarten teachers (from 0 to 5).

Coping strategies. The teachers were asked to report the strategies they use to cope with stress, with an open-ended question: *What are your means of coping with stress?* (kindergarten teachers) and *What are your means of coping with stress and strain deriving from work?* (Grade 1 teachers).

Stress. Teacher stress was measured with a question which is part of the Occupational Stress Questionnaire, where "Stress means a situation in which a person feels tense, restless, nervous or anxious or is unable to sleep at night because his/her mind is troubled all the time. Do you feel this kind of stress these days?" (Elo, Leppänen, & Jahkola, 2003). The single-item stress measure has been verified as acceptable for measuring variance in well-being between different groups (Elo et al., 2003). The teachers answered the question on a scale from 1 (not at all) to 6 (very much).

Burnout. Teacher burnout was measured with a shortened Finnish version of the Bergen Burnout Inventory (BBI 9; Salmela-Aro, Rantanen, Hyvönen, Tilleman, & Feldt, 2011), consisting of nine statements. The scale produces three subscales: exhaustion ($\alpha = 0.75$; e.g. "I am snowed under with work"), cynicism ($\alpha = 0.82$; e.g. "I feel dispirited at work and I think of leaving my job") and inadequacy ($\alpha = 0.76$; e.g. "I frequently question the value of my work"). The answers ranged from 1 (completely disagree) to 6 (strongly agree).

Depressive symptoms. Depressive symptoms were measured using four statements, e.g. "I get tired more easily than I used to" from Beck, Ward, Mendelson, Mock and Erbaugh's (1961) depression inventory (see Kaltiala-Heino, Rimpelä, Rantanen, & Laippala, 1999 for the Finnish version; $\alpha = 0.74$). The item "I feel sad or blue" was slightly modified into "I have felt myself sad or blue lately." The respondents answered the questions on a scale from 1 (not true at all) to 5 (completely true).

Sleep. The sleep problems were inquired into with four items, e.g. "Problems falling asleep", and were answered on a scale from 1 (very seldom or never) to 5 (very often or always) (Jenkins, Stanton, Niemcryk, & Rose, 1988; Finnish version Gluschkoff, 2017; $\alpha = 0.74$). Insomnia was investigated with the Teacher Stress and Coping Strategy Survey (TSESS; Richards, 2012) statement, "I have insomnia because of school stress." The statement was answered on a scale from 1 (seldom or never) to 5 (often or always).

2.3. Analysis strategy

Qualitative analysis. The data analysis was conducted using a mixed-methods approach (Creswell & Plano Clark, 2018). First, theory-driven content analysis led to a deductive approach to the data (Potter & Levine-Donnerstein, 1999). Lazarus' and Folkman's theory (1984) on problem- and emotion-focused coping strategies was chosen as the basis of the qualitative content analysis of teachers' responses to an open-ended question as it has been widely used in previous research regarding teacher coping and because it suited our data well as was noticed after initial familiarization with the data. In addition, meaning-focused strategies were included under emotion-focused coping (see also Folkman & Moskowitz, 2007). Further, some social coping strategies could be either problem- or emotion-focused, which was why a category called "mixed problem- and emotion-focused coping" was included as a separate category (see also Folkman & Lazarus, 1985).

Teacher-reported coping strategies were included in the analysis according to the following criteria: 1) the coping strategy mentioned by the teacher differed from other coping strategies described by the same teacher, and 2) the answer was from one of the three latest time points. Data was divided into three theory-based coping categories: problem-focused, emotion-focused, and mixed problem- and emotion-focused coping. Each coping category was divided into smaller subcategories (14) based on the observed patterns (Potter & Levine-Donnerstein, 1999; See Table 1 for the coping subcategories, descriptions of contents and examples of coping strategies). The number of mentions in different coping categories and subcategories was counted for each participant. The data was later transferred into a scale of 0–5 to decrease the skewness of the data. The mention–no mention aspect was also double-coded by two coders for second and fourth time-point data for intercoder reliability, which was high (96.64%) and which increased the coding accuracy (Potter & Levine-Donnerstein, 1999). Some changes were made based on the discussion between the coders after accounting for the intercoder reliability, for example one answer was first categorized as both *rest and relaxation* and *exercise and well-being* by one of the coders but after the discussion it was only categorized as *exercise and well-being*. After adding coping data from the first and third time points, the coping subcategory *emotions* was added. The social coping strategies were further divided between problem-focused, emotion-focused and mixed problem-and emotion-focused coping categories at this phase of the data analysis. The number of mentions was used in the further analysis, because of the bigger variance they provided in terms of teachers' use of coping strategies; it has been noted that people vary in their use of coping strategies in different coping episodes (Folkman & Lazarus, 1980). The profile analysis was based on the number of mentions belonging to each theory-driven coping category instead of the number belonging to a subcategory, as these would give a more general perspective concerning teachers' use of coping strategies, and they have also been used in previous research (Folkman & Lazarus, 1980).

Quantitative analysis. Next, latent profile analysis (LPA) was used to find concealed subgroups in which the means and covariances of the three coping strategies would differ (Lubke & Muthén, 2005). The aim was to find a solution where the profiles would be coherent but separate enough compared to one another. LPA was executed with Mplus 7.4 (Muthén & Muthén, 1998–2012). Up to five different profile solutions were experimented with to find the soundest solution based on different information criteria and based on the instructiveness of the profiles (see also Lubke & Muthén, 2005). Two different information criteria groups were used to ensure the model's goodness of fit: maximum likelihood criteria (Akaike information criterion and Bayesian information criterion (BIC)) and LR statistic tests (the bootstrapped likelihood ratio test (BLRT) and the Vuong-Lo-Mendell-Rubin likelihood ratio test) (Tein, Coxe, & Cham, 2013; See Table 2 for the fit indices and profile sizes for the alternative coping profiles). The z-scores of the chosen profile solution were drawn in order to compare the different profiles to one another according to teacher well-being.

Finally, variations in teacher well-being were analysed according to the participants' strongest likelihood of belonging to the coping profiles, controlling for teachers' work experience (see also Lubke & Muthén, 2005). This was executed using ANCOVA on the IBM SPSS 26 statistical package (See Table 4 for the results of ANCOVA analyses) and using Bonferroni post-hoc tests.

3. Results

3.1. Categorizing teachers' coping strategies

The first aim was to find content categories from teachers' self-reported descriptions of coping strategies. As can be seen in Table 1, more than 50% of the teachers reported mixed problem- and emotion-focused coping strategies involving colleagues and relationships outside work in general. Similarly, more than half the teachers mentioned exercise and well-being, rest and relaxation, and hobbies (emotion-focused coping). Over 40% of the teachers

Table 1
The categorization of the coping strategies: frequencies, description of contents and examples.

Teacher coping main and subcategories	Mentioned % (n)	Not mentioned % (n)	Descriptions of contents	Examples of teacher coping strategies
Problem-focused coping				
Organizing work	20.6 (22)	79.4 (85)	Planning, preparing, organizing, listing, timing	*Listing things "undone" helps to conceptualize*
Translating strategy to action	14.0 (15)	86.0 (92)	Staying calm, working on things at hand, solving problems, finishing up work, working longer hours	*Finishing up work as efficiently as possible*
Setting limits	40.2 (43)	59.8 (64)	Not working at home or during free time, prioritizing, simplifying, delaying and delegating tasks, understanding and keeping one's boundaries, not thinking about work undone, leaving some things undone, focusing on one task at a time	*Trying to keep things at home and things at work completely separate from one another*
Social problem-focused	22.4 (24)	77.6 (83)	Sharing work, planning and working together, asking for advice, receiving help, bringing out concerns, talking to an authority or mentor	*I bring out concerns in shared meetings, and sometimes I take the message directly to the supervisor*
Emotion-focused coping				
Emotions	3.7 (4)	96.3 (103)	Expressing emotions	*Mourning, crying*
Exercise and well-being	64.5 (69)	35.5 (38)	Different kinds of exercise, eating healthy food, taking care of one's own health and well-being	*Taking care of one's own health and well-being*
Rest and relaxation	53.3 (57)	46.7 (50)	Resting, sleeping, relaxing, pampering oneself, mindfulness, spending time in quiet/alone, at home/cottage, leisure time	*Lying on the sofa peacefully by oneself*
Hobbies	51.4 (55)	48.6 (52)	Leisure/holiday activities, other hobbies except sports, entertainment, household jobs, pet, trips, cultural or civil activities, studies, thinking about and doing other things than work	*Doing things one finds pleasurable during free time*
Nature and outdoors	27.1 (29)	72.9 (78)	Spending time outdoors/in nature, working in the yard/garden	*Spending time outdoors; I literally go into the forest*
Social emotion-focused	34.6 (37)	65.4 (70)	Spending time with family and friends and close colleagues, closeness, understanding, praying, unburdening oneself to someone	*Of course, sometimes one needs to reset one's mind, and for that, seeing friends works the best*
Self-reflection	6.5 (7)	93.5 (100)	Reflecting on one's work, writing down one's thoughts and feelings	*Writing down on the paper things/things that make one sad/things to remember/dreams*
Focus on quintessence	4.7 (5)	95.3 (102)	Child-centeredness, focusing on what one finds important in one's work, focusing on the students	*Thinking what is the essence in my work (i.e. the children)*
Positive attitude	16.8 (18)	83.2 (89)	Positive attitude, humour, lenience, doing work in an enjoyable way, trusting in the future, focusing on and memorizing the good moments, enjoying life	*One's own positive attitude, being content*
Mixed problem- and emotion-focused coping				
Mixed problem- and emotion-focused	69.2 (74)	30.8 (33)	Social relationships, colleagues, friends, family and other close ones in general, peer support, support and talking in general, health care services	*Talking with friends/colleagues/family members*

Table 2
The fit indices and profile sizes for the alternative coping profiles.

No. Of profiles	AIC	BIC	aBIC	BLRT (*p*- value)	VLMR (*p*- value)	Profile sizes
1	1167.31	1183.35	1164.39			107
2	1111.69	1138.42	1106.82	0.00	0.00	78, 29
3	1101.48	1138.90	1094.67	0.00	0.03	18, 21, 68
4	1087.83	1135.94	1079.07	0.00	0.06	22, 16, 13, 56
5	1083.10	1141.90	1072.39	0.19	0.46	10, 22, 15, 47, 13

Note. AIC = Akaike information criterion; BIC = Bayesian information criterion; aBIC = sample size adjusted BIC; BLRT = bootstrapped likelihood ratio test; VLMR = Vuong-Lo-Mendell-Rubin likelihood ratio test.

also mentioned setting limits for their work (problem-focused coping).

3.2. Identifying teachers' coping profiles

Having categorized teachers' self-reported coping strategies, the aim was to investigate what kinds of groups of teachers can be identified based on their self-reported use of coping strategies (problem-focused, emotion-focused and mixed problem- and emotion-focused coping). After investigating the goodness of fit for the different profile solutions and their ability to separate teachers based on their use of coping strategies, the four-profile solution was chosen as the best (See Table 2 for the fit indices and profile sizes for the alternative coping profiles).

Of the maximum likelihood criteria, according to Tein et al. (2013), BIC is the most popular information criterion. In the current study, BIC was smaller in the four-profile solution than in the three-profile solution, which indicated an accurate yet sparing solution compared to the earlier solutions. When it comes to the LR statistic tests, BLRT has been proven the best criterion (Muthén, 2006). In the present study, the BLRT *p*-value was smaller than 0.05, indicating the superiority of the four-profile solution compared to the three-profile solution.

Secondly, in the four-profile solution, the profiles differed not only according to the level of problem-focused coping but also according to the level of emotion-focused coping (see also Lubke & Muthén, 2005). Further, when exploring the different profile solutions in the analysis of variance, the four profiles were better than the three profiles in explaining variance in teachers' well-being. Consequently, four profiles emerged concerning teachers' reported use of different coping strategies: Low-coping users, Problem-focused-coping users, High-coping users and Emotion-focused-coping users (see Fig. 1 for the profiles based on teachers' self-reported use of coping strategies and Table 3 for the means and

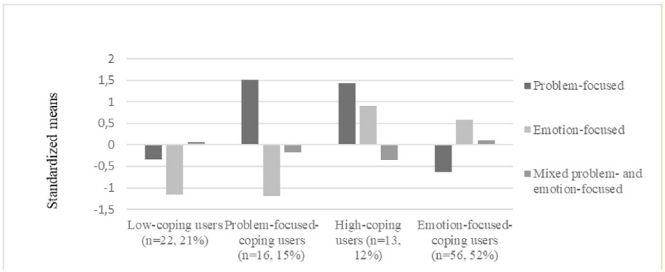

Fig. 1. Profiles based on teachers' self-reported use of coping strategies.

profile and the *Emotion-focused-coping users profile* in the mean values of stress, depressive symptoms, sleep problems and insomnia, even after controlling for teachers' work experience (see Table 4). Teachers in the *Emotion-focused-coping users profile* experienced higher levels of stress, depressive symptoms, sleep problems and insomnia compared to teachers in the *Low-coping users profile*. There were no statistically significant differences between the profiles in terms of burnout. Neither were there statistically significant differences between other profiles than the *Low-coping users profile* and the *Emotion-focused-coping users profile* when accounting for teachers' work experience.

Table 3
The exploration of the means and standard deviations for the four profile solution.

Profile	Low-coping users (n = 22, 21%)		Problem-focused-coping users (n = 16, 15%)		High-coping users (n = 13, 12%)		Emotion-focused-coping users (n = 56, 52%)				
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	F	*p*	Pairwise comparison
Problem- focused coping	0.95	0.84	4.06	0.77	3.92	0.76	0.48	0.60	166.16	.00	1,4 < 2, 3
Emotion- focused coping	1.55	0.86	1.50	0.97	4.85	0.38	4.34	0.75	116.87	.00	1,2 < 3,4
Mixed problem- and emotion- focused coping	1.36	1.00	1.06	1.06	0.85	0.99	1.39	1.32	0.96	.41	

Table 4
The exploration of the results of ANCOVA analyses for stress, burnout, depressive symptoms and sleep (controlled for teachers' work experience).

Well-being variables	Low-coping users (n = 22, 21%)		Problem-focused- coping users (n = 16, 15%)		High-coping users (n = 13, 12%)		Emotion-focused- coping users (n = 56, 52%)		Total		*F-test*	Pairwise comparison[a]	Partial η^2
	n	*M(S.E.)*	*n*	*M(S.E.)*	*n*	*M(S.E.)*	*n*	*M(S.E.)*	*n*	*M(SD)*			
Stress	19	2.17 (.30)	16	3.02 (.32)	13	2.82 (.35)	52	3.17 (.18)	100	2.91 (1.33)	2.83*	1 < 4	.08
Exhaustion	21	2.57 (.23)	16	3.02 (.26)	13	3.05 (.29)	55	3.15 (.14)	105	3.00 (1.06)	1.54		.04
Cynicism	19	1.66 (.21)	16	1.82 (.23)	13	1.87 (.26)	52	1.98 (.13)	100	1.88 (.93)	.56		.02
Inadequacy	19	2.06 (.27)	16	2.54 (.30)	13	2.36 (.33)	52	2.43 (.16)	100	2.37 (1.16)	.58		.02
Depressive symptoms	19	1.69 (.18)	16	2.30 (.19)	13	1.86 (.21)	52	2.30 (.11)	100	2.13 (.79)	3.54*	1 < 4	.10
Sleep problems	19	2.01 (.20)	16	2.50 (.21)	13	2.31 (.23)	52	2.67 (.12)	100	2.47 (.86)	2.95*	1 < 4	.09
Insomnia	21	1.38 (.26)	16	2.09 (.30)	13	1.67 (.33)	55	2.30 (.16)	105	2.00 (1.22)	3.39*	1 < 4	.09

Note. *$p < .05$; [a]Bonferroni comparisons; Range for Stress, Exhaustion, Cynicism, Inadequacy 1–6; range for Depressive symptoms, Sleep problems, Insomnia 1-5.

standard deviations for the four-profile solution).

Teachers in the *Low-coping users profile* had the tendency to use a low level of both problem-focused and emotion-focused coping strategies. Teachers in the *Problem-focused-coping users profile* were inclined to use a high level of problem-focused coping strategies but a low level of emotion-focused coping strategies. Teachers in the *High-coping users profile*, then, tended to use a high level of both problem-focused and emotion-focused coping strategies. Finally, teachers in the *Emotion-focused-coping users profile* used a high level of emotion-focused coping strategies but a low level of problem-focused coping strategies. More than half the teachers (52%) had the highest tendency to belong to the *Emotion-focused-coping users profile* whereas 15% of the teachers were most probable to be in the *Problem-focused-coping users profile*. Moreover, 21% of the teachers were most likely to belong to the *Low-coping users profile*, while 12% of the teachers had the highest tendency to be in the *High-coping users profile*.

3.3. Relations between the coping profiles and teacher well-being

The third aim was to investigate the relations between teachers' coping profiles and their self-reported well-being. A statistically significant difference was found between the *Low-coping users*

4. Discussion

4.1. General discussion

The current study contributed to the existing literature by investigating coping strategies the teachers themselves described and the relations between the self-reported coping profiles and teacher well-being, using a study design not used before among teachers, at least to our knowledge. The aim of the present study was to investigate the latent profiles identified among teachers according to their coping strategies and these profiles' relationship with teacher well-being. Hence, the present study increases our understanding, using the person-oriented approach to study teachers' experiences of well-being and their use of coping strategies (focus also emphasized by Gmelch, 1984; Lazarus, 2006).

First, teachers' descriptions of their coping strategies when feeling stressed were classified into three different coping categories: problem-focused, emotion-focused, and mixed problem- and emotion-focused coping. These are typical coping strategies, according to theory (Folkman & Lazarus, 1985; Lazarus & Folkman, 1984) and empirical research (Blase et al., 2008; Lewis, 1999; Salkovsky et al., 2015; Sharplin et al., 2011). Second, following a person-oriented approach, four coping profiles based on these

three different coping categories were identified: *Low-coping users*, *Problem-focused-coping users*, *High-coping users*, and *Emotion-focused-coping users*. The profiles differed in teachers' use of problem-focused coping and emotion-focused coping but not in teachers' use of mixed problem- and emotion-focused coping (see Table 3). It is difficult to compare these findings to other studies, as profile analyses in teacher well-being studies are rare, and also because in theory and previous research, mixed problem- and emotion-focused coping is not as common a category as its problem- and emotion-focused equivalents. However, similar to the few earlier findings (Antoniou et al., 2009; Lewis, 1999), mixed problem- and emotion-focused coping was a coping strategy considerably used by teachers in this study. Third, differences were found concerning teacher well-being between the *Low-coping users profile* and the *Emotion-focused-coping users profile* in terms of their levels of stress, depressive symptoms, sleep problems and insomnia. Teachers in the *Low-coping users profile* experienced less stress, fewer depressive symptoms and sleep problems and less insomnia compared to the *Emotion-focused-coping users profile*.

4.2. The most beneficial profile

The lower the value of a coping category (problem-focused, emotion-focused, mixed problem- and emotion-focused), the less different kinds of coping strategies belonging to that certain coping category the teacher uses. Hence, the twenty-one percent of the teachers belonging to the *Low-coping users profile* reported using only a few kinds of both problem-focused and emotion-focused coping strategies. Moreover, teachers in this profile also had the highest well-being in terms of stress, depressive symptoms, sleep problems and insomnia. Consequently, it appears most beneficial for teachers' well-being not to use many different kinds of coping strategies belonging to a particular coping category (problem-focused or emotion-focused), but to use the few coping strategies, which give the best results regarding one's own well-being.

The teachers using few different sorts of coping strategies under a specific coping category may have a clear self-concept, which allows them to know which coping strategy best helps them in a certain kind of stressful situation (Smith et al., 1996). Thus, a teacher using a smaller number of different types of coping strategies and hence having a lower value of problem-focused and emotion-focused coping might still feel that he or she is able to cope well with the stress which again might be a protective factor concerning his or her well-being (cf. Herman et al., 2020). Of course, another possible reason for teachers using few kinds of coping strategies and still staying well could be the influence of stress on coping (see also Chon, 2012); if the teachers do not experience much stress, they might not need to use as many diverse coping strategies as teachers who experience more stress. This might be due to certain personality factors (von Känel, Bellingrath, & Kudielka, 2009; Stoeber & Rennert, 2008) or perhaps due to working in educational environments where organizational factors such as communication and community are supportive, and hence, the teachers would not need to use as many varied individual coping strategies (Sharplin et al., 2011).

4.3. Potential risk profile

More than half the teachers belonged to the *Emotion-focused-coping users profile*. In this profile, teachers used a high level of emotion-focused coping strategies but a low level of problem-focused coping strategies. This result is in line with previous studies, which have reported that teachers use more emotion-focused coping strategies than problem-focused coping strategies (e.g. Alghaswyneh, 2012; Blase et al., 2008; Wheeler et al., 1983). However, contradictory findings compared to the current results have also been reported (e.g. Chan, 1994, 2008; Chwalisz et al., 1992; Salkovsky et al., 2015), stating that teachers use mostly problem-focused coping strategies. Nevertheless, this might have been due to differences in measures. For example, in Chwalisz et al. (1992), teachers went through a list of stressful situations, and in Salkovsky et al. (2015), teachers were asked to consider coping regarding classroom management. Hence, a particular situation at work, for example involving other people and appearing solvable, might more readily be coped with using problem-focused coping strategies (Folkman & Lazarus, 1980). This could be because in a specific situation, a teacher might be accustomed to having a certain repertoire of problem-focused coping strategies to choose from, whereas when considering coping strategies in general, these strategies might not come to mind. Teachers' work is also versatile, and they have a multitude of situations to cope with each day. In situations which teachers find stressful, it is also probable that they have already tried all possible problem-focused coping strategies, and thus, emotion-focused coping is the only possibility for dealing with the stress (cf. Folkman & Lazarus, 1980).

Considering the relations between coping and well-being, the well-being which teachers experienced was lowest in terms of stress, sleep problems and insomnia in the *Emotion-focused-coping users profile*. This implies that having the need to cope but almost only using emotion-focused coping instead of problem-focused coping has negative consequences for teachers' well-being (see also Innes & Kitto, 1989). Similar results have also been found in earlier studies, where emotion-focused coping has been positively linked to stress (Griffith et al., 1999; Mearns & Cain, 2003), sleep problems (Pascual et al., 2003) and insomnia (Chan, 1994). In previous studies, a positive relation has also been found between emotion-focused coping and burnout (Bermejo-Toro et al., 2016; Betoret & Artiga, 2010; Carmona et al., 2006), but this relation was not found in the present study. This might be due to the small sample size (see also Olff et al., 1993). The teaching profession in Finland is also very popular and attracts many times more applicants compared to the number of student teachers accepted (Malinen, Väisänen, & Savolainen, 2012). Hence, the student teachers who have been selected might also possess certain characteristics which help them with the stress they might encounter in their future profession (cf. Lanas & Kelchtermans, 2015).

4.4. Average profiles in terms of well-being

Finally, two average profiles regarding teachers' work-related well-being were found in the current study. Twelve percent of the teachers had the highest tendency to belong to the *High-coping users profile,* in which teachers use a high level of both problem- and emotion-focused coping strategies. The *Problem-focused-coping users profile* constituted of 15% of teachers having the highest probability of belonging to the profile. The *Problem-focused-coping users* used a high number of problem-focused coping strategies but a low number of emotion-focused coping strategies. However, these two profiles are neither beneficial nor risky with respect to teacher well-being. Neither *High-coping users* nor *Problem-focused-coping users* experience either more or less stress, burnout, depression, sleep problems or insomnia in comparison with the other profiles. Considering the use of problem- and emotion-focused coping strategies, Sharplin et al. (2011) noted that these strategies support one another, which could imply that a high use of both could result in better coping. On the other hand, according to previous research, it could also be assumed that teachers using many coping strategies might also experience considerable stress, as a positive relation has been found between stress and coping (see also Chon, 2012). Our expectation was also that teachers in the

Problem-focused-coping users profile would experience the most well-being. This was because a negative association was earlier found between problem-focused coping and stress (Verešová & Malá, 2012), burnout (Bermejo-Toro et al., 2016; Betoret & Artiga, 2010; Carmona et al., 2006; Nizielski et al., 2013; Parker et al., 2012), depressive symptoms (Chan, 1994; Faulk et al., 2013; Olff et al., 1993) and insomnia (Chan, 1994). Nevertheless, these notions were not supported by the current study. Although the well-being outcomes regarding teacher stress, exhaustion, cynicism, sleep and insomnia of *Problem-focused-coping users* were in a more preferable direction compared to those of *Emotion-focused-coping users*, these differences were not statistically significant. This could be due to the fact that these average profiles in terms of teacher well-being (*High-coping users* and *Problem-focused-coping users*) were also the smallest profiles according to profile probability. Hence, there is naturally more statistical power in the bigger profiles, *Emotion-focused-coping users* (52%) and *Low-coping users* (21%) to provide statistically significant differences in well-being outcomes, than in the smaller profiles, *High-coping users* (12%) and *Problem-focused-coping users* (15%).

4.5. Practical implications

Because having the highest tendency to belong to the *Low-coping users profile* seemed most beneficial for teachers' well-being according to our study, it would be important for the teachers to get to know themselves and thus develop clear self-concepts to know which coping strategy helps them best in a certain kind of situation. As teachers in the *Emotion-focused-coping users profile* reported the lowest well-being in the current study regarding most of the well-being indicators, it could be suggested that using problem-focused coping strategies aside of emotion-focused coping strategies may be beneficial for teacher well-being. Despite the absence of statistically significant positive relations between the *Problem-focused-coping users profile* and teacher well-being in the present study, the well-being of *Problem-focused-coping users* was in a more preferable direction than that of the *Emotion-focused-coping users profile* regarding all other well-being indicators except for inadequacy and depressive symptoms. In addition, previous research supports this view. The problem-focused coping strategies, according to teachers' self-reports, would include setting limits to one's work (not working at home or during free time, prioritizing tasks etc.), working together with others (sharing work, asking for advice, receiving help, bringing out concerns), organizing one's work (planning, preparing etc.) and translating strategy to action (staying calm, working on things at hand etc.).

Thus, the results of the current study also have implications for both teacher preservice and in-service training. First, during pre-service training, teacher practices are very important as venues for trying and learning different coping strategies. In addition, different opportunities for discussing these experiences with other people appreciated by pre-service teachers are meaningful in order for pre-service teachers to find the coping strategies that best suit them in different situations. This is because self-concepts develop both through experiences and through the feedback given by the environment and by other people that one looks up to (cf. Shavelson, Hubner, & Stanton, 1976). Second, during preservice training, learning problem-focused coping strategies could possibly enhance student teachers' well-being, not only during their studies but also in their future career (Hultell, Melin, & Gustavsson, 2013). Finally, teachers' in-service training can focus on building teachers' coping repertoires in their current situation to prevent teacher stress and burnout. This will preferably be done through sharing between colleagues (Woloshyn & Savage, 2018) and with the help of mentoring (Richter et al., 2013). This is because adjusting ones' ideals and leaning on the help and support of colleagues are mentioned as avenues for acquiring the necessary coping skills for the teaching profession (Lindqvist, Weurlander, Wernerson, & Thornberg, 2017).

4.6. Limitations

The present study is not without limitations. First, the small sample size and focus only on kindergarten and Grade 1 limits the generalization of the results as does the small difference between the open-ended questions posed at kindergarten and Grade 1 teachers regarding their use of coping strategies. Second, the study was cross-sectional, and no causal inferences can be made. Further studies might consider adding a longitudinal aspect in order to study causal relations. Third, coping strategies were measured by teachers' self-reports, which creates the potential problem of common method bias (Richardson, Simmering, & Sturman, 2009). Teacher interview could be an alternative research method in the future studies to gain more in-depth understanding regarding teacher coping. However, the use of a mixed-methods approach in the present study supported the obtaining of detailed information concerning teachers' reports on their coping strategies (Creswell & Plano Clark, 2018; Reio, 2010; Richardson, Simmering, & Sturman. 2009). Finally, it should be noted that the present study was conducted in Finland, where the educational system and teacher education is different from that of many other countries. Therefore, caution is warranted when generalizing the findings, and the study could be replicated in other countries to see if similar results are obtained also there.

4.7. Conclusions

The present study shows that teachers use versatile strategies, especially emotion-focused coping strategies, to cope with the stress and strain deriving from work. However, when it comes to teacher well-being, the importance of finding the most suitable coping strategies for one-self in different situations and also adding problem-focused coping strategies to one's coping repertoire should be acknowledged to possibly decrease teachers' stress and to ameliorate their sleep. This has practical implications for both preservice and in-service teacher training as places for learning these strategies.

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