Teaching and Teacher Education 125 (2023) 104049

Contents lists available at ScienceDirect

Teaching and Teacher Education

journal homepage: www.elsevier.com/locate/tate

Research paper

Ethical dilemmas and well-being in teachers' work: A three-wave, two-year longitudinal study

Mikko Heikkilä [a, *], Saija Mauno [a, b], Mari Herttalampi [a], Jaana Minkkinen [a], Joona Muotka [a], Taru Feldt [a]

[a] University of Jyväskylä, Department of Psychology, Finland
[b] Tampere University, Faculty of Social Sciences, Finland

ARTICLE INFO

Article history:
Received 7 February 2022
Received in revised form
19 January 2023
Accepted 28 January 2023
Available online xxx

Keywords:
Ethical dilemma
Teacher well-being
Burnout
Work engagement
Psychological detachment

ABSTRACT

The aim of the present longitudinal study was two-fold: First, to explore what kinds of ethical dilemma groups can be identified among Finnish teachers (n = 310) and second, to examine how these groups differ from each other with respect to occupational well-being and recovery from job strain over the two-year follow-up. Using Latent Profile Analysis, three ethical dilemma prevalence groups were identified: *rare* (27%), *occasional* (51%), and *frequent dilemmas* (22%). Teachers in *frequent dilemmas* group reported highest burnout, however, their recovery from job strain improved and their burnout (exhaustion) diminished over time. To reduce teachers' ethical dilemmas different approaches are proposed.

1. Introduction

Ethical issues in the teaching profession are a constant concern because teachers need to make ethically demanding choices in the school context (Levison & Fay, 2018; Santoro, 2018; Shapira-Lishchinsky, 2016). The choices and decisions teachers must make in complicated situations are not easy and may turn into ethical dilemmas (Colnerud, 2015; Levinson & Fay, 2018; Lindqvist, Thornberg, & Colnerud, 2020; Santoro, 2018; Shapira-Lishchinsky, 2011; Thunman & Persson, 2018). Some scholars have described teachers as working in a dilemmatic space, because their dilemmas seem to be omnipresent (Fransson & Grannäs, 2013). Ethical dilemma arises when an individual encounters an ethically challenging situation and must decide how to resolve it (Trevino, 1986). Earlier research has focused on investigating the specific content and contexts of teachers' ethical dilemmas (Colnerud, 2015; Levinson & Fay, 2018; Santoro, 2018). These valuable studies have shown that dilemmas may include teachers' intrapersonal dilemmas, such as assessing grades fairly (Colnerud, 2015; Levinson & Finefter-Rosenbluh, 2018), or treating pupils equally (Santoro, 2018). Moreover, teachers' ethical dilemmas may be connected to contextual factors: to different moral and legal norms or institutional constraints, such as grading systems (Colnerud, 2015), standardization of teaching (Santoro, 2011), and state-mandated tests (Santoro, 2018). Contextual constraints may override teachers' own moral compass and expose them to ethical challenges (Colnerud, 2015).

However, studies focusing on the specific content of ethical dilemmas or the predefined reasons behind certain ethical dilemmas can provide only a limited understanding of the ethical dilemmas experienced by teachers. These so-called "root cause reasons" leave out individual experiences and subjective judgements of what work situations may constitute ethical dilemmas (Manttari-van der Kuip, 2020). Therefore, we use a more generic definition for ethical dilemma that includes two types of conflicting situations that can be ethically challenging (Nash, 1993, see also Huhtala et al., 2011). The first of these is an acute dilemma, in which a person does not know the right action to take. The second is a rationalization dilemma, a situation in which a person knows the right action but cannot or does not act upon it, and then rationalizes the reasons for failing to do so. Such a generic definition also makes it possible to investigate ethical dilemmas across different types of teaching occupations (e.g., class teachers, kindergarten teachers) and

* Corresponding author.
E-mail address: mikko.r.heikkila@jyu.fi (M. Heikkilä).

https://doi.org/10.1016/j.tate.2023.104049

educational institutions (e.g., comprehensive school, upper secondary school). It is also less susceptible to potential changes in professional practices, contexts, and policies that might affect more specific measures of ethical dilemmas in teachers' work.

The added value of the present research is that we investigated ethical dilemmas in a relatively large sample of teachers (n = 310) in a two-year longitudinal study. The research so far has consisted of cross-sectional qualitative studies with significantly smaller samples (e.g., Colnerud, 2015; Levinson & Fay, 2018; Lindqvist et al., 2020; Santoro, 2018; Shapira-Lishchinsky, 2011; Thunman & Persson, 2018). Our larger sample enables a more reliable generalization of results. Moreover, a longitudinal setting reveals the development and variation in ethical dilemma prevalence over time, which has not been previously studied among teachers. Here we used a person-centered approach (Howard & Hoffman, 2018; Nylund, Asparouhov, & Muthén, 2007; Spurk, Hirschi, Wang, Valero, & Kauffeld, 2020) enabling us to identify typical (large) and atypical (small) groups of teachers with different prevalences of acute and rationalization dilemma experiences. In other words, by applying a person-centered approach, we can identify groups of teachers in which the prevalences of acute dilemma and rationalization dilemma, their stability, and possible changes over time are similar within a group of teachers but different from those observed in other groups of teachers. Thus, the advantage of a person-centered approach is that by profiling teachers according to the dilemmas they have experienced, we can make observations on how the two types of dilemmas vary among (within and between) groups of teachers in the long term. Indeed, this person-centered longitudinal analysis reveals whether dilemmas are prone to change or stable over time, e.g., by identifying teachers who constantly experience high levels of ethical dilemmas over time and their consequences.

The final contribution of the study is that we explored how teachers' ethical dilemma groups differed from each other regarding associations with occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment). These new findings regarding the associations of the teachers' different dilemma groups with well-being and recovery from job strain, produce valuable new information, for example, on workplace interventions intended to improve teachers' occupational well-being. To the best of our knowledge, the research so far on teachers' experiences of ethical dilemmas and the associations of these with their well-being has been exclusively cross-sectional, qualitative, and based on small samples (from 12 to 75 participants) (Colnerud, 2015; Finefter-Rosenbluh, 2016; Nakar, 2019; Santoro, 2011, 2018).

To sum up, our longitudinal study contributes to the research field by providing knowledge based on a large sample of teachers, profiling their experiences of ethical dilemmas on the basis of a more generic definition of ethical dilemma (Nash, 1993; Huhtala et al., 2011). More specifically, our first aim is to identify various groups of teachers with different experiences of ethical dilemmas (acute, rationalization). Our second aim is to compare teachers' occupational well-being and recovery from job strain between these groups over the follow-up period.

2. Theory

2.1. Ethical dilemmas

Ethical dilemmas are problems to do with ethics, more precisely, a question of what is right or wrong in a certain situation (Mahony, 2009). However, it is not always clear what is ethically right or wrong in teachers' work when they are faced with complicated situations at school (Bullough, 2011). According to Nash's (1993) empirical observations, ethical dilemmas involve a possibility for unethical behavior, which may harm the objects of the act and at the same time harm the actors' integrity and professionalism. Contextual constraints may also limit an individual's opportunity or chances to act ethically (Colnerud, 2015; Levinson & Fay, 2018; Nash, 1993; Santoro, 2018).

The content and contexts of teachers' ethical dilemmas can be multi-faceted. There exist intrapersonal dilemmas e.g., fairness dilemmas, protection against harm versus collegial loyalty (Colnerud, 2015) and dilemmas concerning the boundaries of personal privacy (Colnerud, 2015; Thunman & Persson, 2018) e.g., whether or not to disclose one's disability to pupils (Tal–Alon & Shapira–Lishchinsky, 2019). External moral and legal rules and institutional constraints generate contextual dilemmas connected, for example, to grading systems, school norms, rules of confidentiality, and lack of resources (Colnerud, 2015; Santoro, 2018). In addition, dilemmas may include both intrapersonal and external constraints when dealing, for example, with behavioral challenges (Lindqvist et al., 2020; Tegtmejer, 2019), grade inflation (Levinson & Fay, 2018), implementation of inclusive education (Moberg, Muta, Korenaga, Kuorelahti, & Savolainen, 2020; Nilsen, 2020; Tirri & Laine, 2017), and multicultural issues (Um & Cho, 2022). In some cases, dilemmas appear when parents endeavor to intervene in school rules on discipline (Finefter-Rosenbluh, 2022). In addition, increasing online teaching may cause dilemmas because learning assessment and integrity are more challenging (Bhattacharya, Murthy, & Bhattacharya, 2022). Further, teaching through digital platforms can lead to dilemmas related to privacy issues because apps collect data on student achievements, behavior, and work samples (Buchanan, 2019).

In addition, studies on teachers' dilemma experiences from different school contexts have shown that, in kindergartens, for example, dilemmas occur concerning competing interpretations of what is in 'the best interests of the child' (Tirri & Husu, 2002). Public and private schools have some differences in the ethical dilemmas faced, for instance, in private schools' teachers may be more exposed to students trying to persuade their teachers to raise their grades for no legitimate reason (Üztemur, İlgan, & Sevigen, 2022). Consequently, the range of teachers' ethical dilemmas is such that attempts have also been made to establish an ethical decision-making model for teachers to take into consideration the multiple facets of dilemmas (Ehrich, Kimber, Millwater, & Cranston, 2011). Therefore, when eliciting the prevalence of ethical dilemmas teachers encounter in the constantly changing world of teaching, it is not reasonable to concentrate solely on the content or context of a given dilemma, but to use a more generic approach to teachers' ethical dilemma experiences that captures the phenomenon as broadly as possible.

The acute and rationalization dilemmas investigated in the present study consisted of two generic types of ethical dilemmas, i.e., acute and rationalization dilemmas (Nash, 1993, see also Huhtala et al., 2011). Recently these dilemma experiences have been investigated among school psychologists (Huhtala et al., 2017) and managers (Huhtala et al., 2011; 2021), but not among teachers. *Acute dilemmas* are situations in which a person does not know which would be the right or wrong action to take (Nash, 1993). Hence, in an acute dilemma, teachers perceive that there is no obvious solution to the challenging dilemma (Lindqvist et al., 2020). Acute dilemmas therefore refer to moral uncertainty (Nash, 1993) and are consistent with teachers' ethics-related question 'What ought I or ought I not to do?' (Mahony, 2009). Following Nash's (1993) claim, acute dilemmas include the possibility of teachers failing to act with integrity and professionalism.

Rationalization dilemmas are situations in which an individual knows the right action to take but either cannot or does not act

upon this (Nash, 1993). Rationalization dilemmas are those in which people need to recognize that fundamental values are violated to make the dilemma visible to themselves (Nash, 1993). Hence, a rationalization dilemma requires a teacher to recognize it as such when it occurs. Therefore, a rationalization dilemma first needs time for reflection and a clear mindset about the boundaries of right and wrong. Second, a sense of moral capacity needs to be developed which can implement the ethically right action. However, it is characteristic of rationalization dilemmas that one may rationalize failure to act according to one's knowledge and, hence, produce an excuse for not acting with integrity (Nash, 1993). On the other hand, there may be such constraints upon taking the right action that one refuses to recognize the right action without paying it any more attention (Nash, 1993). Therefore, rationalization dilemmas are described, according to Nash (1993), as denial of moral mistakes by rationalizing them. For example, a teacher may be asked to engage in teaching practices which the teacher believe to be unethical and detrimental to pupils (Santoro & Morehouse, 2011). In such a situation, one possibility to stay true to oneself would be to resign for moral and ethical reasons (Santoro & Morehouse, 2011). However, the teacher may accept the practices demanded by rationalizing, for example, that objecting to them would not help or that one needs to do what is demanded.

We propose that teachers are a heterogenous group in experiencing both acute and rationalization dilemmas at school because they are individuals whose perceptions of certainty and uncertainty differ regarding how to tackle ethical issues in different situations and whose sensitivity in recognizing ethical dilemmas varies (see Nash, 1993). Teachers' uncertainty about ethical dilemmas may also vary over time as they may learn to cope with ethically challenging situations or depending on how ethical dilemmas are dealt in their schools or organizations (Caspersen & Raaen, 2014; Levinson & Fay, 2018; Lindqvist, Weurlander, Wernerson, & Thornberg, 2017; Santoro, 2018). However, in the meantime new unforeseeable situations and contextual factors causing dilemmas may appear.

Exploring the prevalence of acute dilemmas may help to understand if and how often teachers encounter situations where they do not know the right way to act. Knowing the prevalence of acute dilemmas reveals how much teachers need, for example, education or interventions to be prepared for ethically challenging situations. Exploring the prevalence of rationalization dilemmas serves to reveal how often teachers encounter contextual constraints that cause or perpetuate ethical dilemmas. Therefore, the prevalence of rationalization dilemmas reveals if contextual issues need to be addressed to help teachers manage ethical challenges. It is therefore meaningful to profile the prevalence of teachers' experiences of acute and rationalization dilemmas to determine how frequent their experiences of these are. Therefore, our first research question is.

1. What kinds of longitudinal acute dilemma and rationalization dilemma groups can be identified among Finnish teachers?

2.2. Teachers' occupational well-being and recovery from job strain

Our study also investigated how teachers' longitudinal ethical dilemma groups differed from each other as regards their well-being and recovery from job strain. Specifically, we investigated teachers' occupational well-being (burn out, work engagement) and recovery from job strain (psychological detachment). First, we investigated burnout as a negative indicator of well-being. According to Maslach, Schaufeli, and Leiter (2001), burnout is a psychological syndrome that results from "a prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach et al., 2001, p. 1). Burnout consists of emotional exhaustion, cynicism, and reduced professional efficacy (Maslach et al., 2001). In our study, we explored exhaustion and cynicism, which are the core dimensions of burnout (Schaufeli & Bakker, 2004). Exhaustion refers to the emotional component of burnout, which manifests as feelings of strain and chronic fatigue resulting from work overload (Maslach et al., 2001). Cynicism refers to the cognitive component of burnout, which includes a person's indifference to work and people associated with work and perceiving the job as insignificant and losing interest in it (Maslach et al., 2001).

Second, we focused on work engagement as a positive indicator of well-being (Bakker, Demerouti, & Sanz-Vergel, 2014; Schaufeli, Salanova, González-Romá, & Bakker, 2002). Work engagement consists of the components of vigor, dedication, and absorption (Schaufeli et al., 2002). Vigor describes a person's high level of activation and energy levels, keen involvement, and perseverance at work (Schaufeli & Bakker, 2004; Schaufeli et al., 2002). Dedication has to do with a person's high degree of identification with work, enthusiasm, and a fulfilling work-related state (Schaufeli & Bakker, 2004; Schaufeli et al., 2002). Absorption refers to a being engrossed in one's work as in a state of flow (Schaufeli & Bakker, 2004; Schaufeli et al., 2002).

We further explored how teachers' longitudinal ethical dilemma groups differed between each other as regards recovery from job strain, in terms of psychological detachment. Psychological detachment refers to a core recovery experience whereby one "switches off" from work, leaves work behind, and forgets work during non-work time (Sonnentag & Fritz, 2007). Psychological detachment serves to alleviate work-related strain between working days (Sonnentag, Venz, & Casper, 2017). According to a meta-analysis by Wendsche and Lohmann-Haislah (2017), psychological detachment has been regarded as a key recovery experience because of its positive correlations with self-reported mental and physical health, well-being, and task performance.

To the best of our knowledge, the relationship between the prevalence of ethical dilemmas and occupational well-being (burnout, engagement) and recovery from work has not previously been studied in quantitative longitudinal research. In this respect, our study presents valuable new information, for example, for use in workplace interventions targeted at improving teachers' occupational well-being and recovery from job strain.

2.3. Theoretical framework linking ethical dilemmas to occupational well-being and recovery from job strain

To investigate the associations between teachers' longitudinal ethical dilemma groups and occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment) we used the *stressor-detachment model,* which comprises 1) job stressors, 2) strain reactions and well-being, and 3) psychological detachment from work (Sonnentag & Fritz, 2015). According to the stressor-detachment model, we assumed that ethical dilemmas are job stressors because they cause stress, more specifically ethical strain (Huhtala et al., 2011; 2021). When a stressor (dilemma) persists for extended periods of time it may lead to long-term strain reactions. These reactions constitute a risk for burnout and work disengagement. A third component of the stressor-detachment model is psychological detachment, which is an important part of recovery from job strain (Sonnentag et al., 2017). Prolonged ethical dilemmas may impair teachers' psychological detachment from work-related issues in non-work time (Sonnentag & Fritz, 2015; Tuerktorun, Weiher, & Horz, 2020). Consequently, our second research question is.

2. Do teachers in different longitudinal ethical dilemma groups differ from each other regarding occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment) and if so, how?

3. Method

3.1. Procedure

Our longitudinal research was implemented at three measurement points at one-year intervals in 2018 (T1), 2019 (T2), and 2020 (T3). The baseline sample was collected by random sampling from the membership register of the Trade Union of Education (TUE) in Finland. In Finland trade union membership is very common (Ahtiainen, 2019) and approximately 90% of all teachers are members of the TUE (TUE, 2020), thus a representative sample of teachers could be collected from TUE members.

The original baseline sample consisted of 5000 TUE members. At the time of the baseline data collection, we first sent material to a TUE representative, who then distributed the survey to TUE members via email. The material included: a letter of invitation to participate in the study (including the direct link to the online survey), two reminder letters (including the projected schedule for sending them, one reminder every two weeks) and brief bulletins announcing the survey to the TUE members. All the material provided was to be copied as a text in the email sent by the TUE representative to the potential participants. A trade union representative was also asked to promote this research project on their TUE social media platforms and was provided with material for this.

3.2. Participants

Of the 5000 recipients of the email invitation, 2434 participated in the survey at T1. Their responses were delivered directly to the researchers via the online survey system. The response rate was 48.0% at T1. The respondents' median age group was 51–60 years and 79.2% were women. At T2, in 2019, the first follow-up survey was conducted by sending email invitations to those 895 of the 2434 participants who had agreed to participate in the follow-up survey and provided the researchers with their email addresses. Five hundred and four replied, giving a response rate of 56.3% and a response rate of 20.7% of the baseline sample (n = 2434). At T3, in 2020, the second follow-up survey was sent by email to the 392 participants who had agreed to participate in the first follow-up survey. At T3, 313 responded, yielding a response rate of 79.8% of the current sample and 12.9% (313/2434) of the baseline sample. Of the 313 participants who had responded to all three study waves and who had responded to the ethical dilemma questions, three participants were excluded from the final sample because they were not working as teachers (self-reported occupations were informatician, digital marketing coordinator, and planner).

3.3. The final sample of the study

The final sample of the present longitudinal study included 310 participants, of whom 79.5% were women. Participants' average age was 46.9 years (range 24–65, SD = 10.9 years) at T1. At T1 the majority (69%) of the participants had a higher university degree, almost a quarter (23%) had a lower university degree, the majority (78%) had permanent employment contracts, most of them (87%) had a full-time job, and 15 percent were in managerial positions. At T1, 43% (n = 135) of the participants were working in comprehensive schools, 25% (n = 76) in upper secondary schools, 21% (n = 58) in kindergartens, and 12% (n = 37) in higher education institutions. At T1, the participants represented several different types of teaching, which were divided into the following categories: 1) senior teachers, subject teachers and student counselors in schools (n = 131, 42%), 2) kindergarten teachers (n = 65, 21%), 3) class teachers in grades 1–6 (n = 52, 17%), 4) special education teachers (n = 33, 11%), 5) senior teachers and teachers at universities (n = 18, 6%), and 6) head teachers and heads of local education and culture departments (n = 11, 3%).

3.4. Dropout analysis

The dropout analysis performed at T1 showed that the participants (n = 2449) did not differ from the TUE membership in gender, but there were more participants from the two oldest age groups (51–60 years and 61+ years) than in the TUE membership as a whole. Between the final sample (n = 310) and those who responded only at baseline (n = 2139), there was no difference in the respondents' gender [$\chi^2(2) = 1.73$, ns] or age [$t(2240) = 2.68$, ns]. Nor were there any significant mean differences in the means of acute dilemmas [$t(1997) = 0.01$, ns], rationalization dilemmas [$t(1999) = 0.02$, ns], exhaustion [$t(1933) = 1.32$, ns], cynicism [$t(1933) = 0.34$, ns], work engagement [$t(1926) = 1.62$, ns] or psychological detachment [$t(1836) = 1.08$, ns] between the participants of the final sample and those who did not participate at follow-up. Thus, at least regarding these study variables, the respondents in the follow-up rounds represented the baseline respondents.

3.5. Measures

3.5.1. Ethical dilemmas

Ethical dilemmas were elicited with two questions (Nash, 1993; see also Huhtala et al., 2011; 2021). Acute dilemma was elicited by the question: "How often in your work have you encountered ethically challenging situations? In ethically challenging situations it is not always clear what you should do to do the right thing. In such situations you need to evaluate the rightfulness and goodness of your actions, choices, or decisions." Rationalization dilemmas were elicited by the question: "How often in your work do you encounter situations where you cannot act the way you think is right? In such situations you know what the right way action would be, but for some reason or other you cannot act accordingly." After the descriptions, the frequencies of both acute and rationalization dilemmas were rated on a scale from 1 (never) to 5 (almost every day).

3.5.2. Exhaustion and cynicism

Exhaustion and cynicism were measured by items from the 9-item Bergen Burnout Indicator (BBI-9; Salmela-Aro, Rantanen, Hyvönen, Tilleman, & Feldt, 2011; see also Feldt et al., 2014). Exhaustion was measured by three items (e.g., "I am snowed under with work") and cynicism by three items (e.g., "I feel that I have gradually less to give at work"). The respondents gave their responses to statements using a 6-point Likert-type scale ranging from 1 (completely disagree) to 6 (completely agree). Higher scores indicate more severe burnout.

3.5.3. Work engagement

Work engagement was measured using the ultra-short version of the Utrecht Work Engagement Scale (UWES-3, Schaufeli, Shimazu, Hakanen, Salanova, & De Witte, 2019). The UWES-3 is a shorter version of the longer well-established UWES-9 (Schaufeli et al., 2002; Shapira-Lishchinsky, 2019). The UWES-3 includes three dimensions that reflect the underlying dimensions of engagement: vigor ("At my job, I feel bursting with energy"),

dedication ("My job inspires me"), and absorption ("I am immersed in my work"). The respondents gave their reactions to statements using a 7-point frequency scale from 1 (never) to 7 (every day), higher mean scores indicating a higher level of work engagement.

3.5.4. Psychological detachment

Psychological detachment was measured using the Recovery Experience Questionnaire (REQ) (Sonnentag & Fritz, 2007), which has been validated in Finland by Kinnunen, Feldt, Siltaloppi, and Sonnentag (2011). These recovery experience statements were preceded by the statement: "Below are some potential thoughts and activities after the working day/work shift. Estimate to what extent they describe your leisure time." Psychological detachment was measured with three statements (e.g., "I forget about work."). The respondents gave their reactions to statements using a 5-point Likert-type scale ranging from 1 (completely disagree) to 5 (completely agree). Higher scores reflect greater psychological detachment.

Table 1 shows descriptive information on the study variables. Table 2 presents correlations between main study variables.

3.6. Statistical analysis

We first used latent profile analysis (LPA) to identify latent groups based on frequency and changes in frequency of acute and rationalization dilemmas in longitudinal patterns from three repeated measurements at Time 1, Time 2, and Time 3. LPA estimates parameters from the empirical data for these groups and identifies latent groups (Muthén & Muthén, 1998–2017). Our modeling was based on the assumption that the collected data could portray dilemma profiles according to acute and rationalization dilemmas, i.e., latent groups, which can be identified, and their parameters estimated (Asparouhov & Muthén, 2014). The estimation in the LPA was based on maximum likelihood (MLR) robust to non-normality. For the LPA analysis we used Mplus (version 8.4) (Muthén and Muthén, 1998–2017).

In LPA the number of groups is not known prior to the analysis as it is an inductive approach (Spurk et al., 2020). Therefore, we increased the number of latent groups until the model fit indices ceased to improve. To determine the appropriate number of latent groups we used multiple criteria (Nylund et al., 2007; Spurk et al., 2020): i) Log Likelihood (logL), ii) the Akaike Information Criterion (AIC), iii) the Bayesian Information Criterion (BIC), iv) entropy, v) Vuong-Lo-Mendel-Rubin likelihood (VLMR), vi) Lo-Mendel-Rubin adjusted test (LMR), vii) Bootstrap-Likelihood-Ratio Test (BLRT), and vii) Average Latent Class Probabilities (AveLCP). The model with the smallest AIC and BIC values is usually considered preferable. Entropy depicts the classification probability. The VLMR and LMR tests assess the number of groups. When VLMR and LMR p-values are significant ($p < .05$) they suggest that the number of groups in the model is sufficient. AveLCP appraises the accuracy of placing an observation in a particular group by applying posterior probabilities (Jung & Wickrama, 2008). Among the selection criteria we also included theoretical interpretability and ruled out redundant groups from the solution to arrive at a theoretically parsimonious solution. Wald test was used for repeated measures to analyze the statistical significance of mean frequency changes on each ethical dilemma group separately.

Second, after identifying the best solution, we used modified BHC method (later BHC) with an arbitrary secondary model to examine whether the latent ethical dilemma groups differed in occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment) over time. BHC is more accurate than earlier methods because it avoids shifts in latent group in the final stage, to which Lanza's and the 3-step method were formerly susceptible (Asparouhov & Muthén, 2014). BHC also takes into account the classification probabilities for each person belonging to a certain group (Asparouhov & Muthén, 2014). With the BHC method with the arbitrary secondary model we performed Wald tests to ascertain the well-being indicators interaction '3 group × 3 time effect', '3 time effect', and '3 group effect' significance in the groups for repeated measures. The BHC analysis was performed with Mplus (version 8.4) (Muthén and Muthén, 1998–2017). After the groups were identified, we used SPSS to explore descriptive statistics among participants and in different ethical dilemma groups.

4. Results

4.1. Longitudinal ethical dilemma groups

Table 3 shows the results of the alternative latent group solutions for acute dilemmas and rationalization dilemmas at three measurement points included simultaneously in the LPA. The one-group solution was not supported by the fit indices compared to multiple-group solutions. Further, when the fit indices of the two-group and three-group solutions were compared, the three-group solution had better log likelihood, AIC, and BIC. In the four-group solution, log likelihood, AIC, and BIC were better than in the three-group solution, but VLMR an LMR were not as significant as in the three-group solution. Hence, VLMR and LMR values showed that the three-group solution fitted the data better than the four- and five-group solutions. Nevertheless, BIC values supported the five-group solution. The six-group solution was not supported by the fit indices even though entropy values were good in all models. Seven- and higher group solutions were no longer identifiable, which may be a result of using too many groups in relation to the sample size, therefore we performed no further LPA group solutions.

After examining the fit indices, we inspected the alternative group solutions from the point of view of content, clarity, and usefulness (see, e.g., Spurk et al., 2020). We concluded that the two-group solution did not capture the more detailed ethical dilemma differences between teachers. Comparison of the various group solutions showed a recurring pattern in the two-to six-group solutions. The pattern was such that one group included those

Table 1
Descriptive statistics for study variables (N = 310).

Variable	Number of items (Range)	Mean (SD)			Cronbach's alpha		
		T1	T2	T3	T1	T2	T3
Acute dilemma	1 (1–5)	3.43 (.99)	3.44 (1.01)	3.33 (1.07)	–	–	–
Rationalization dilemma	1 (1–5)	2.65 (1.09)	2.70 (1.14)	2.60 (1.05)	–	–	–
Exhaustion	3 (1–6)	3.44 (1.23)	3.27 (1.17)	3.28 (1.16)	.78	.75	.73
Cynicism	3 (1–6)	2.44 (1.25)	2.44 (1.24)	2.64 (1.27)	.89	.88	.88
Work Engagement	3 (1–7)	5.74 (1.23)	5.86 (1.10)	5.76 (1.04)	.79	.82	.87
Psychological Detachment	3 (1–5)	2.61 (1.04)	2.60 (1.01)	2.76 (1.01)	.88	.89	.88

Table 2
Correlations between Study Variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Acute dilemma T1																			
2. Acute dilemma T2	.53***																		
3. Acute dilemma T3	.47***	.63***																	
4. Rationalization dilemma T1	.54***	.40***	.35***																
5. Rationalization dilemma T2	.40***	.61***	.50***	.60***															
6. Rationalization dilemma T3	.39***	.55***	.64***	.50***	.65***														
7. Exhaustion T1	.24***	.28***	.25***	.36***	.33***	.34***													
8. Exhaustion T2	.16***	.26***	.20**	.28***	.33***	.31***	.70***												
9. Exhaustion T3	.11	.23***	.21***	.21***	.20***	.33***	.68***	.69***											
10. Cynicism T1	.21***	.17***	.14*	.28***	.22***	.23***	.53***	.33***	.41***										
11. Cynicism T2	.18***	.19***	.16***	.21***	.29***	.25***	.43***	.54***	.39***	.60***									
12. Cynicism T3	.11	.19***	.19***	.11	.19***	.27***	.41***	.41***	.52***	.58***	.62***								
13. Work Engagement T1	−.03	.02	.02	−.08	−.10	−.06	−.31***	−.19***	−.23***	−.65***	−.43***	−.44***							
14. Work Engagement T2	−.02	.01	.01	−.02	−.09	−.02	−.20***	−.26***	−.18***	−.46***	−.60***	−.47***	.62***						
15. Work Engagement T3	.09	.03	.03	.12*	−.01	−.05	−.11	−.16***	−.18***	−.29***	−.39***	−.59***	.59***	.59***					
16. Psychological Det. T1	−.04	−.13*	−.09	−.19***	−.16***	−.17***	−.46***	−.43***	−.37***	−.11*	−.14*	−.16***	.11	.08	.05				
17. Psychological Det. T2	.00	−.15***	−.11	−.12*	−.18***	−.14*	−.40***	−.52***	−.40***	−.10	−.22***	−.19**	.07	.14*	.02	.60***			
18. Psychological Det. T3	.00	−.09	−.04	−.06	.00	−.08	−.32***	−.35***	−.48***	−.08	−.09	−.15*	.03	.05	.05	.59***	.63***		
19. Age T1	−.08	−.06	−.13*	−.01	−.06	.02	−.05	.00	.05	.01	.05	.07	.04	−.01	.02	.00	−.10	−.12*	
20. Male T1	−.12*	−.07	−.10	−.11	−.06	−.13*	−.20***	−.11	−.15***	.03	.04	−.01	−.15***	−.20***	−.17***	.03	.03	.07	.01

Psychological Det. = Psychological Detachment. *$p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed).

experiencing acute dilemmas frequently and rationalization dilemmas almost equally frequently, while other groups showed average or low frequency in both dilemma types. The three-group solution included the same pattern. Therefore, the four-group solution and above did not reveal more precise information about the frequency patterns of encountering dilemmas.

When we examined the three-group solution we found it to be meaningful with regard to content and that all three groups differed from each other. The difference between the three groups was the frequency of ethical dilemmas, which was rarest in group one (labeled the “rare dilemmas group”), average in group two (“occasional dilemmas group”) and most common in group three (“frequent dilemmas group”) in the longitudinal setting. Theoretically, we supposed that there were differences in the frequency of ethical dilemmas and that there might be differences in occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment) between the groups. In the three-group solution the average latent class probabilities were high (.862, .929, and 0.929) indicating good probability of belonging to one's designated group. Accordingly, because of meaningfulness regarding content and the fit indices, we chose the three-group solution for our further analysis. The three-group solution based on mean scores is shown in Fig. 1a. The same groups based on standardized means (z-scores) are seen in Fig. 1b.

In the *rare dilemmas* profile (n = 84, 27%, Fig. 1a and b), teachers reported encountering acute dilemmas (situations where they did not know the right way to act) on average several times a year and rationalization dilemmas (situations where they were unable to act as they deemed right) less than yearly. In the *rare dilemmas* group, acute dilemma frequency decreased between T1 and T2 and stayed at that level at T3. In the other groups, there was no variation in dilemma frequencies over time. In the *occasional dilemmas* group (n = 158, 51%, Fig. 1a and b), the participants reported encountering acute dilemmas on average a few times a month and rationalization dilemmas on average several times a year. In the *frequent dilemmas* group (n = 68, 22%, Fig. 1a and b), the participants reported encountering acute dilemmas on average several times a week and rationalization dilemmas on average a few times a week. The *rare dilemmas* and *occasional dilemmas* groups were similar in that in these acute dilemmas occurred distinctly more often than did rationalization dilemmas. In the *frequent ethical dilemmas* group both types of dilemmas were encountered weekly, although acute dilemmas were reported slightly more often than rationalization dilemmas.

Table 4 shows teachers' background information in the three ethical dilemma groups. Teachers working in kindergartens and comprehensive schools and special education teachers were overrepresented in the frequent dilemmas group while teachers working in upper secondary schools and higher education institutions were underrepresented, as also were senior teachers and subject teachers working in schools. Teachers working in upper secondary schools were overrepresented in the occasional dilemmas group while those working in comprehensive schools were underrepresented. Senior teachers, subject teachers, and student counselors were overrepresented in the rare dilemmas group while special education teachers were underrepresented. Gender and age showed no association with the ethical dilemma groups.

4.2. Differences in well-being between ethical dilemma groups

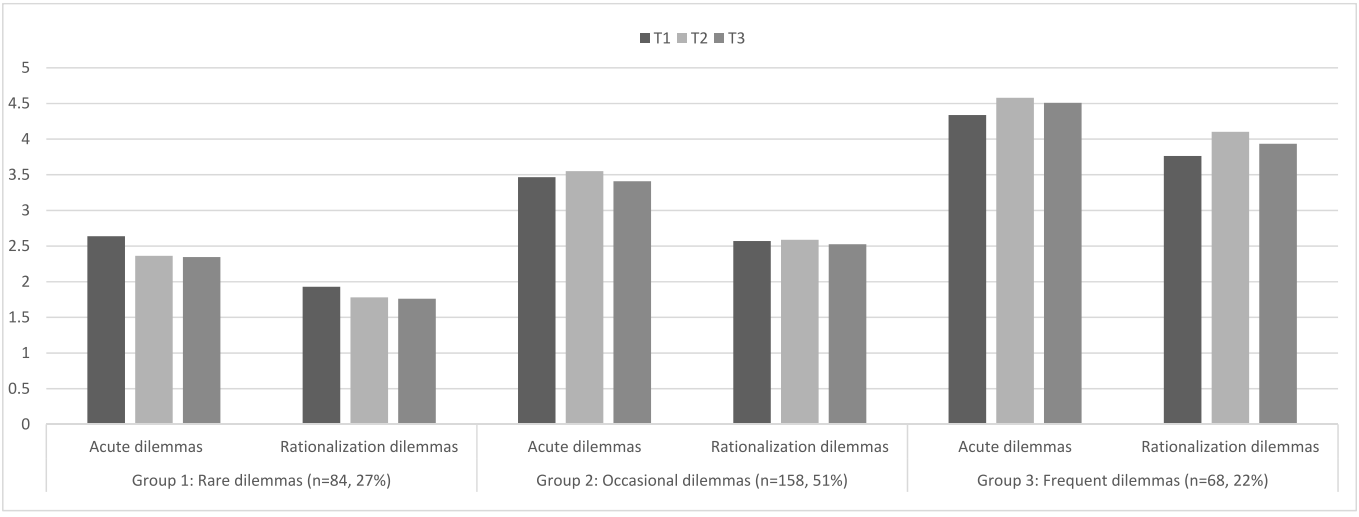
4.2.1. Interaction effects of group and time on well-being

The results of the modified BHC method with an arbitrary secondary model showed significant ‘3 group × 3 time’ interaction effects for exhaustion and psychological detachment, but not for cynicism and work engagement (Table 5). The results indicate that

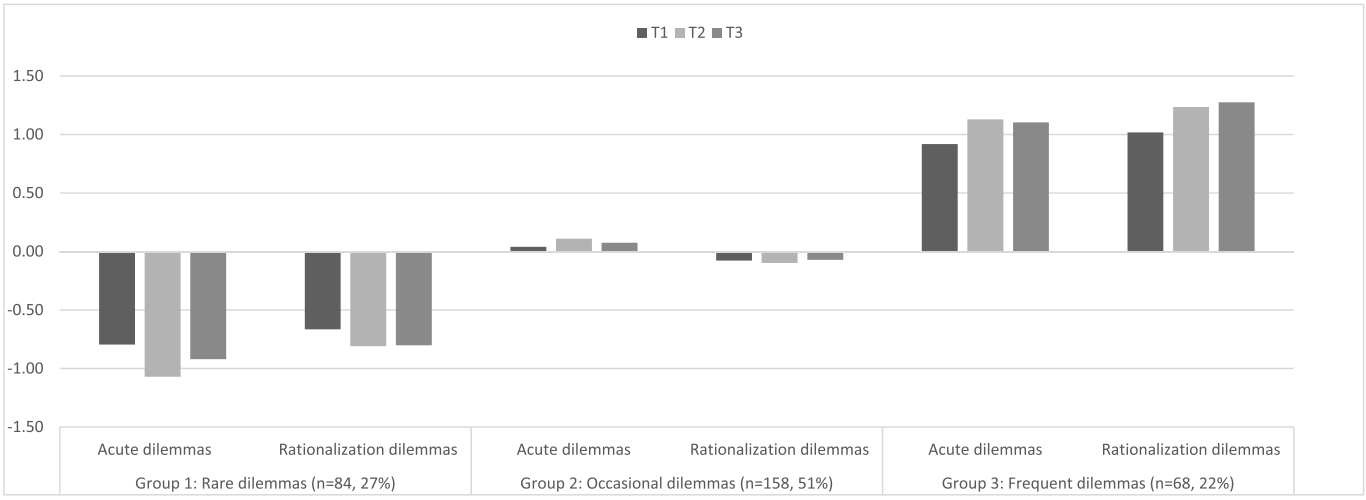
Table 3
Fit Indices for Alternative Latent Profile Analysis Models of Acute and Rationalization Dilemmas in a Sample of Teachers (n = 310).

No. of Groups	logL	AIC	BIC	Entropy	VLMR (p)	LMR (p)	BLRT (p)	Group proportions (n)	Average Latent Class Probabilities
1	−2676.1	5376.2	5421.0	–	–	–	–	310	1.000
2	−2386.0	4810.0	4881.0	0.86	0.000	0.000	0.000	200/110	.971/.936
3	−2309.1	4670.2	4767.3	0.80	0.015	0.016	0.000	84/158/68	.862/.929/.929
4	−2279.7	4625.5	4748.8	0.78	0.076	0.081	0.000	51/135/70/54	.858/.893/.818/.945
5	−2255.9	4591.8	4741.2	0.77	0.452	0.461	0.000	53/77/48/77/56	.881/.853/.786/.827/.960
6	−2238.2	4570.4	4746.1	0.76	0.530	0.534	0.000	43/38/87/51/42/49	.767/.853/.831/.950/.728/.840
7	−2224.1	4556.3	4758.0	0.79	–	–	–	29/75/35/36/35/45/55	.865/.864/.794/.742/.796/.863/.956

Note. logL = Log likelihood; AIC = Akaike Information Criterion; BIC =Bayesian Information Criterion; VLMR=Vuong-Lo-Mendel-Rubin likelihood; LMR = Lo-Mendel-Rubin adjusted test; BLRT = Bootstrap-Likelihood-Ratio Test.



a. *Ethical Dilemma Groups Based on Means (scale: 1=never, 2=yearly, 3=monthly, 4=weekly, 5=almost every day).*



b. *Ethical dilemma groups Based on Standardized Means (z-scores; value 0 indicates standardized mean of the total sample).*

Fig. 1. (a) Ethical Dilemma Groups Based on Means (scale: 1 = never, 2 = yearly, 3 = monthly, 4 = weekly, 5 = almost every day). (b) Ethical dilemma groups Based on Standardized Means (z-scores; value 0 indicates standardized mean of the total sample).

the emergence of exhaustion and psychological detachment did indeed vary in and between groups over time. Level of exhaustion and change therein varied within and between dilemma groups over time. Level of exhaustion was lowest and stable over time in the *rare dilemmas* group (Table 5, Fig. 2). In the *occasional dilemmas* group, level of exhaustion stayed at a medium level. The highest level of exhaustion was at T1 in the *frequent dilemmas* group, but it decreased between T1 and T3 until it reached the same level of

Table 4
Characteristics of Teachers in Three Ethical Dilemma Groups.

	1. Rare dilemmas n = 84	2. Occasional dilemmas n = 158	3. Frequent dilemmas n = 68	Estimate	df	*p*
N				χ^2		
Learning institution						
Kindergarten	11	30	19 *T*	18.91	6	0.004
Comprehensive school	37	60 *AT*	38 *T*			
Upper secondary school	22	47 *T*	8 *AT*			
Higher education institution	14	20	3 *AT*			
Type of teaching position						
Kindergarten teacher	12	33	20	26.83	10	0.003
Class teacher in grades 1–6	18	24	10			
Special education teacher	3 *AT*	15	15 *T*			
Senior teacher, subject teacher or student counselor	45 *T*	67	19 *AT*			
Senior teacher or teacher at a university	4	11	3			
Head teacher or equivalent	2	8	1			
Gender						
Female	61	127	57	3.56	2	0.167
Male	23	29	11			
				F		
Mean age	47.60	47.07	45.69	144.48	2	0.545

Ethical dilemma groups, *T* typical, *AT* atypical, adjusted residual >|2|.

Table 5
Latent Change Scores of Occupational Well-being and Recovery from Job Strain Within and Between the Three Ethical Dilemma Groups (G) at 2018 (T1), 2019 (T2) and 2020 (T3) Using the BCH Method with an Arbitrary Secondary Model[1] (n = 310).

Well-being indicators	1. Rare dilemmas n = 84 (27%)			2. Occasional dilemmas n = 158 (51%)			3. Frequent dilemmas n = 68 (22%)			Group × Time W	Time Effect W	Group Effect W
	M (S.E)	M (S.E.)	M (S.E.)	M (S.E.)	M (S.E.)	M (S.E.)	M (S.E.)	M (S.E.)	M (S.E.)			
	T1	T2	T3	T1	T2	T3	T1	T2	T3			
Exhaustion	2.79 (0.14)	2.86 (0.13)	2.85 (0.14)	3.56 (0.11)	3.27 (0.10)	3.39 (0.11)	4.02 (0.16)	3.80 (0.16)	3.65 (0.16)	13.27 *	G1: 0.74 ns G2: 0.05 ns G3: 12.72***T1>T3	T1 36.70***G1<G2, G3, G2<G3 T2 20.82***G1<G2, G3, G2<G3 T3 13.86***G1<G2, G3
Cynicism	1.64 (0.11)	1.88 (0.18)	2.03 (0.24)	2.76 (0.11)	2.58 (0.13)	2.89 (0.15)	2.72 (0.18)	2.85 (0.18)	2.91 (0.18)	3.11 ns	G1: 3.74 ns G2: 8.88 T2<T3*** G3: 0.57 ns	T1 16.23***G1<G2, G3 T2 13.31**G1<G2, G3 T3 12.39**G1<G2, G3
Work Engagement	5.69 (0.34)	6.35 (0.13)	6.19 (0.12)	6.00 (0.27)	5.29 (0.12)	5.32 (0.12)	5.78 (0.20)	6.13 (0.10)	6.12 (0.18)	6.65 ns	G1: 3.25 ns G2: 9.30***T1<T2 G3: 0.40 ns	T1 0.40 ns T2 6.53* G2<G1, G3 T3 1.30 ns
Psychological Detachment	2.81 (0.12)	2.79 (0.13)	2.98 (0.13)	2.59 (0.09)	2.59 (0.09)	2.62 (0.10)	2.37 (0.14)	2.40 (0.13)	2.79 (0.14)	12.23 *	G1: 3.58 ns G2: 0.05 ns G3: 17.76***T2<T3	T1 5.94 ns T2 5.14 ns T3 5.50 ns

*$p < .05$, ** $p < .01$, *** $p < .001$. W = Wald test was conducted with BCH method with an arbitrary secondary model. [1]For more on the BCH method see www.statmodel.com/download/asparouhov_muthen_2014.pdf. Pairwise comparison in group effect models p < .05.

exhaustion as in the *occasional dilemmas* group.

Level of psychological detachment and change therein varied between and within groups over time. Psychological detachment was close to average level and remained stable in the *rare dilemmas* group. In the *rare dilemmas* group psychological detachment was at a higher level than in the *frequent dilemmas* group at T1 and T2 (Table 5, Fig. 3). In the *occasional dilemmas* group, psychological detachment was at an average level and stable over time. At T3, psychological detachment was better in the *rare dilemmas* group than in the *occasional dilemmas* group. Between T2 and T3, teachers in the *frequent dilemmas* group reported an increase in their psychological detachment close to that of the *rare dilemmas* group at T3. The interaction results indicated that teachers' well-being in terms of exhaustion and psychological detachment remained stable in the *rare dilemmas* (good well-being) group and *occasional dilemmas* (average well-being) group, meanwhile, in the *frequent dilemmas* group teachers' well-being improved as exhaustion decreased and psychological detachment increased the time period studied.

4.2.2. Effects of group and time on well-being

The results showed significant effects of group and time on cynicism and work engagement (Table 5). Cynicism was lower in the *rare dilemmas* group than in the other groups. Change in cynicism, which increased between T2 and T3, was significant in the *occasional dilemmas* group. Work engagement was at a high level in all groups at T1 but decreased in the *occasional dilemmas* group at T2. In the *rare* and *frequent dilemmas* groups engagement remained stable over time. To conclude, although cynicism and work engagement did not show significant interaction effects, the main effects of time and group indicated that in the *rare dilemmas* group teachers' well-being was better and more stable than in the other groups.

5. Discussion

Our study contributed to the existing research in that it addressed a research gap by focusing on teachers' generic ethical dilemmas, which were categorized into acute and rationalization

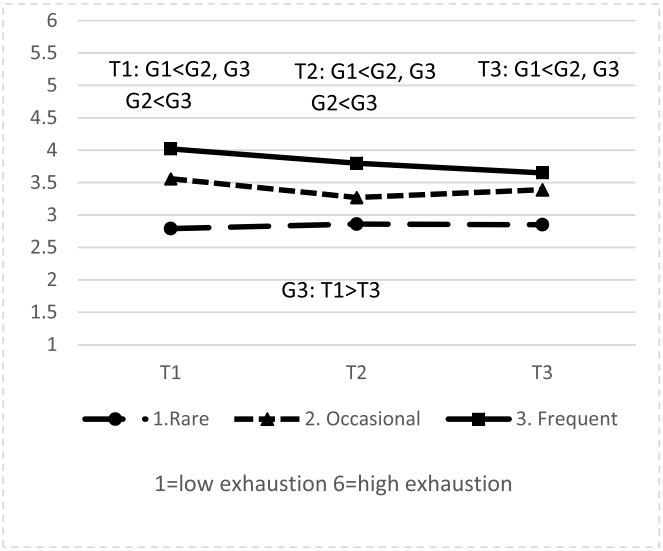


Fig. 2. Exhaustion Mean Scores Over Time in the Ethical Dilemma Groups (G = Group) (interaction effect significant at level $p < .05$).

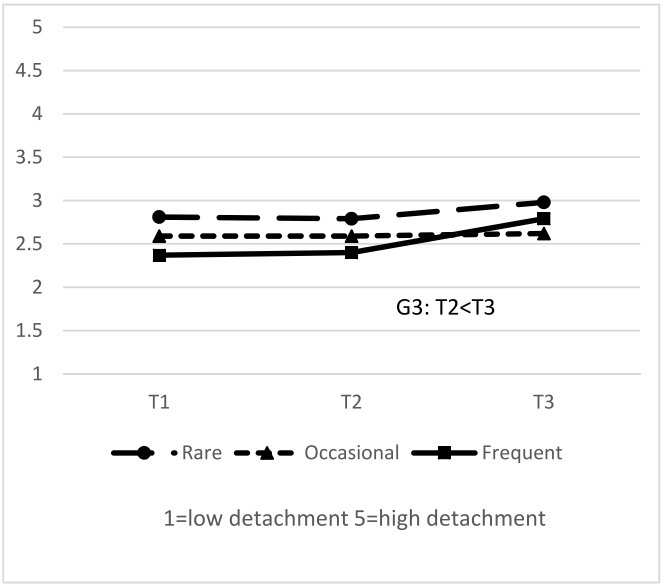


Fig. 3. Psychological Detachment Mean Scores Over Time in the Ethical Dilemma Groups (G = Group) (interaction effect significant at level $p < .05$).

dilemmas. This approach is valuable because it is not tied to any specific dilemma content or context. Thus, the viewpoint is also valid despite changes in professional practices, contexts, and policies (Manttari-van der Kuip, 2020). Therefore, the study introduced a new research perspective on teachers' ethical dilemmas that can be used to explore and compare prevalence of ethical dilemmas in all types of teaching and at all educational levels worldwide. The approach is well grounded in today's school environment and dilemmatic spaces with increasing challenges to do with the expansion of online teaching (Bhattacharya et al., 2022; Kaup, Jain, Shivalli, Pandey, & Kaup, 2020), digital learning (Buchanan, 2019), cyber-learning (Dennis & Harrison, 2021) and the use of artificial intelligence in teaching (Akgun & Greenhow, 2022). A further strength of the study was a large longitudinal data with three measurement points, utilization of a person-centered approach, and an identification of groups of teachers according to the acute and rationalization dilemmas they encountered.

When profiling teachers according to their acute and rationalization dilemmas, three long-term groups were identified: those reporting *rare dilemmas, occasional dilemmas,* and *frequent dilemmas*. Other groups were stable, but in the *rare dilemmas* group the frequency of acute dilemmas decreased between T1 and T2. Hence, teachers were a heterogenous group in experiencing acute and rationalization dilemmas as the frequency of these varied significantly between groups. The findings may be used to target interventions and develop teacher education for those teachers reporting ethical dilemmas most frequently and repeatedly. This way we may alleviate the number of teachers' ethical dilemmas as well as the association of these with adverse effects on well-being and recovery.

The second aim of the study was to explore if teachers in the long-term ethical dilemma groups differed from each other regarding occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment) and if so, what the nature of these differences was. The results showed that teachers' occupational well-being and recovery varied between different longitudinal dilemma groups. Earlier cross-sectional qualitative studies (Nakar, 2019; Santoro, 2018) have shown that teachers' ethical dilemmas are part of deteriorating well-being. Ethical dilemmas are also a constant and permanent part of teachers' work in schools (Colnerud, 2015; Levinson & Fay, 2018; Lindqvist et al., 2020; Santoro, 2018; Shapira-Lishchinsky, 2011; Thunman & Persson, 2018). To the best of our knowledge, the association of acute and rationalization dilemmas with teachers' occupational well-being and recovery from job strain has not been addressed in quantitative longitudinal studies, and our study presents important new findings on this. Next, the dilemma groups and their associations with burnout, work engagement and psychological detachment are discussed in detail.

5.1. Frequent dilemmas linked to risk for burnout

Every fifth (22%) teacher belonged to the *frequent dilemmas* group. They experienced acute dilemmas on an almost daily or weekly basis and rationalization dilemmas approximately weekly. Noteworthy is that they also reported high prevalence of dilemmas repeatedly (over time, across the three measurement points). Teachers working in kindergartens and comprehensive schools were overrepresented in this group. The findings are in line with those of Husu and Tirri (2001), who concluded that in early childhood education many ethical dilemmas arise causing situations having to do with competing interpretations of the best interests of the child between teachers, parents, and others involved. Of the different types teaching positions, teachers working in special education were overrepresented in the *frequent dilemmas* group. These teachers may encounter more ethically demanding situations due to the nature of their work as pupils in special education have learning difficulties, challenging behavior, and disabilities and special education teachers need to address all these issues in the classroom (Nilsen, 2020; Ruppar, Roberts, & Olson, 2017, 2018). Moreover, Pepe and Addimando (2013) found that special education teachers experienced more stress from pupils' challenging behavior than did teachers of mainstream classes, which concurs with our findings regarding teachers' well-being in the *frequent dilemmas* group. Certain types of teachers (those working in kindergartens, comprehensive schools, and special education in particular), should be considered in interventions targeted at reducing ethical dilemmas in teaching.

Our results also showed that teachers in the *frequent dilemmas*

group initially reported the highest levels of exhaustion although this decreased over time, reaching the same level as among the teachers in the *occasional dilemmas* group. Consequently, according to the stressor-detachment model (Sonnentag & Fritz, 2015) we reasoned that ethical dilemmas are stressors that are related to burnout, because it has been found that recurring ethical dilemmas correlated with higher burnout (see Huhtala et al., 2021). Therefore, long-term frequent experiencing of ethical dilemmas may be a higher risk predisposing teachers to burnout. Our findings are in line with the study by Mullen, Morris, and Lord (2017), which showed that ethical dilemmas are associated with burnout among practicing counselors. The results also concur with the cross-sectional qualitative findings of Nakar (2019), namely that teachers' ethical dilemmas are connected to their anxiety and distress.

However, a decrease in exhaustion among teachers in the *frequent dilemmas* group was simultaneous with an increase in psychological detachment, which is interesting. Such a simultaneous change in these levels may be a result of teachers learning over time to cope with the uncertainty of not knowing what to do (acute dilemmas), for example, with support from colleagues and superiors (Caspersen & Raaen, 2014; Munthe, 2003). On the other hand, the change may have to do with teachers learning to cope with the conflict between knowing the right action to take and external restrictions (rationalization dilemmas), for example, by accepting them by lowering their professional ideals (Lindqvist et al., 2017). Thus, teachers' better coping with ethical dilemmas may then affect these job stressors and teachers can therefore have less marked strain reactions, i.e., decreased exhaustion and increased psychological detachment.

Unexpectedly, teachers in the *frequent dilemmas* group scored very high on work engagement. It seems that long-term ethical dilemmas, although related to exhaustion, do not impair teachers' vigor, effectiveness, keen involvement, and fulfilling work-related state, that is, work engagement. As far as we know, this relationship has not so far been studied and may need further investigation. However, a contrasting explanation may be that because teachers in the *frequent dilemmas* group have high work engagement, they may also invest in thinking through ethical issues at their work, and therefore identify more of them. Hence, teachers in the *frequent dilemmas* group may, because of their high level of dedication, be more ethically sensitive. Ethical sensitivity in this case, according to Nash (1993), requires one to think about the wider implications of possible consequences (acute dilemmas) and to have a heightened sense of right and wrong (rationalization dilemmas). Nevertheless, it is a positive outcome that teachers in the *frequent dilemmas* group maintained their work engagement in the long term despite facing frequent ethical dilemmas.

5.2. Occasional dilemmas linked to moderate burnout and recovery

Half (51%) of the teachers belonged to the *occasional dilemmas* group. They experienced acute dilemmas monthly or weekly and rationalization dilemmas yearly or monthly. Teachers at upper secondary schools were overrepresented in this group. Teachers in the *occasional dilemmas* group reported stable moderate levels of exhaustion, cynicism, and psychological detachment. Their work engagement was initially very high but at the second measurement point work engagement decreased slightly and stayed at that level at the third measurement point. In other groups, work engagement remained very high.

We do not know precisely why in the *occasional dilemmas* group teachers' work engagement declined while work engagement remained at a stable and high level in the other groups. A mechanism possibly explaining decline in work engagement may be related to ethical dilemmas in such a way that, if dilemmas were faced more often, teachers would develop coping strategies (Caspersen & Raaen, 2014; Lindqvist et al., 2017). Hence, when teachers encounter dilemmas only occasionally, these may, due to their rarity, be job stressors and possibly reflected in teachers' lower work engagement in the long term. On the other hand, lower work engagement may explain lower perception of ethical dilemmas than in the *frequent dilemmas* group because if a person is not so deeply involved in their work, it may, according to Nash (1993), lead to failure to recognize some situations constituting an ethical dilemma due to lower ethical sensitivity.

5.3. Rare dilemmas linked to higher occupational well-being

Twenty-seven per cent of the teachers belonged to the *rare dilemmas* group. They initially experienced acute dilemmas less than monthly and this then decreased to close to yearly, remaining at that level across all measurement points. Rationalization dilemmas were experienced approximately yearly. A decrease in acute dilemmas may be due to less uncertainty in dealing with ethical dilemmas as experience may enhance a teacher's capability to know what to do in ethically complex situations in the school context (Caspersen & Raaen, 2014; Lindqvist et al., 2017). In this group, senior teachers at universities, subject teachers, and student counselors were overrepresented.

In the *rare dilemmas* group, teachers' exhaustion was slightly below medium, cynicism low, work engagement very high, and psychological detachment average. All well-being outcomes were longitudinally stable. Teachers' exhaustion and cynicism in the *rare dilemmas* group were constantly lower than among teachers in the other two groups. Therefore, teachers' lower perceptions of ethical dilemmas seem to be connected to lesser burnout. Further, the nature of the work of senior teachers at universities, subject teachers, and student counselors may be a protective element against ethical dilemmas and carry a lower risk for adverse effects on well-being. This may be attributable to these teachers' job descriptions being more restricted and specialized than the job descriptions of teachers working in kindergartens and comprehensive schools. Further, their students are older so fewer ethical dilemmas may arise, for instance, because of misbehavior (Davies & Heyward, 2019; Husu & Tirri, 2001; Lindqvist et al., 2020; Tegtmejer, 2019) and in relation to students' parents as they are not so much involved in the work of upbringing (Husu & Tirri, 2001).

5.4. Implications

Because frequency of ethical dilemmas showed significant associations with teachers' occupational well-being, some suggestions are made here to reduce the frequency of ethical dilemmas and thus attenuate adverse well-being associations (Ehrich et al., 2011; Erdoğan & Sezgin, 2020). Allowing time and opportunities for reflection and dialogue would help teachers to learn to better recognize and address acute ethical dilemmas and those involving rationalization (Ehrich et al., 2011; Erdoğan & Sezgin, 2020). Hence, this would reduce the recurring experiences of burdensome dilemmas and the related overall strain reactions, while also possibly improving teachers' well-being and psychological detachment in the long run.

Teachers in the *frequent dilemmas* group consisting mostly of teachers working in kindergartens and comprehensive schools and of special education teachers would need support in encountering both acute and rationalization dilemmas. One way to deal with this issue comprehensively would be to include in their teacher education team-based simulations (TBS), which have been found to be a helpful procedure for encountering and managing ethical dilemmas (Shapira-Lishchinsky, 2013). TBS helps teachers to adapt

different kinds of solutions to ethically demanding situations (Shapira-Lishchinsky, 2013). If possible, TBS might also be conducted as an in-service intervention for teachers to learn to deal with ethical dilemmas and prevent adverse well-being and recovery outcomes in the long term. Another possibility to achieve the same outcome would be to teach teachers about ethical reasoning via authentic case studies, which has been found effective in dealing with ethical dilemmas (Ehrich et al., 2011). Shapira-Lishchinsky (2016) goes even further by arguing that teachers' education should move from teaching ethical reasoning to teaching social justice, which would integrate justice and care. We suggest that by learning social justice teachers may cope and develop skills to deal with ethical dilemmas even better, thereby reducing the occurrence of ethical dilemmas and their associations with adverse effects.

Because teachers in the *frequent dilemmas* group reported improvement in recovery from job strain (via psychological detachment) over time, one aspect to consider would be to cultivate teachers' psychological detachment skills. According to the systematic review (Tuerktorun et al., 202), interventions to promote teachers' psychological detachment to enhance recovery from job strain have been found effective. These interventions have included psychoeducation modules on recovery (Tuerktorun et al., 2020). We suggest that such interventions for teachers might help in dealing with stressors related to ethical dilemmas in the long term.

However, rationalization dilemmas often have to do with contextual restrictions. Many contextual factors, such as education policies and state mandated tests which teachers find unethical for students, have been found to impair teachers' integrity (Santoro, 2013, 2018), and acting against personal moral obligations turns into ethical dilemmas (Santoro, 2018; Santoro & Morehouse, 2011). Therefore, it seems important to develop education practices together with teachers and to take their moral standpoints into consideration. This can increase their personal and professional integrity and thus lead to fewer rationalization dilemmas and to better well-being at work.

5.5. Limitations and suggestions for further research

The first limitation in our study was that it was conducted using self-report questionnaires, which may have affected the validity of the study because of common method variance. For example, the ethical dilemmas measures may be susceptible to such bias because teachers had to think and remember how often they on average encountered dilemmas over the course of a year, because the response options available were never, yearly, monthly, weekly, and almost every day. A more accurate way to register the frequency of ethical dilemmas would be to have participants complete a questionnaire weekly or monthly over a specific period. To make well-being indicators more comprehensive, teachers' actual sick leave records would provide a better understanding of teachers' well-being. Further, measuring sleep quality as one recovery indicator would also have given more validity. Thus, sick leave records and sleep quality measures should be considered in future research. However, the self-report measures we used to assess well-being and recovery from job strain have been found to have good validity (Bakker et al., 2014; Maslach et al., 2001; Schaufeli et al., 2002; Sonnentag & Fritz, 2015; Tuerktorun et al., 2020).

Second, we supposed according to the stressor-detachment model (Sonnentag & Fritz, 2015) that ethical dilemmas are associated with occupational well-being and recovery from job strain. However, we could not verify causality between these measurements, which is one shortcoming in our study. Third, the sample had a slight bias compared to the TUE membership as there were more participants from the two oldest age-groups. However, it must be remembered that the teachers who participated in our longitudinal study did not differ regarding our study variables from those teachers who participated only at baseline. Furthermore, the sample was also decidedly female-dominated, and it would be important to replicate the results in more gender-diverse samples. However, it must be kept in mind that in Finland the teaching profession is heavily dominated by women in Finland (TUE, 2020) and gender did not play any significant role in the present results.

Fourth, the present study investigated teachers' ethical dilemmas over a two-year period. Future research using an even longer time period would be needed to ascertain and verify the relationship of teachers' ethical dilemmas to well-being and recovery from job strain. Additional research would be needed to explain why the associations appear to change over time, e.g., whether teachers learn to resolve issues or if their sensitivity to dilemmas diminishes. Teachers' coping with ethical dilemmas over time also needs research attention in future to determine the most effective ways to deal with dilemmas.

6. Conclusions

Our three-wave, two-year longitudinal study revealed different kinds of fairly stable ethical dilemma frequency groups among teachers. The groups were associated with teachers' occupational well-being and recovery from job strain over time. Teachers in the *frequent dilemmas* and *occasional dilemmas* groups were significantly more prone to burnout. The results confirmed that teaching as an occupation is ethically charged and that teachers may be exposed to ethical dilemmas over time. The results concerned teachers of both genders and of all ages. These findings are significant for present and future generations of teachers as their well-being is a key element in alleviating teachers' attrition, reducing intentions of leaving the profession and keeping the teaching profession attractive (Madigan & Kim, 2021; Viac & Fraser, 2020).

Declaration of competing interest

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

Data availability

The authors do not have permission to share data.

Acknowledgement

The study was part of the IJDFIN research project funded by Academy of Finland (308334 PI Saija Mauno; 308336 PI Taru Feldt).

References

Ahtiainen, L. (2019). *Palkansaajien järjestäytyminen vuonna 2017* [Wage earners' organization in 2017.] Retrieved from http://urn.fi/URN:ISBN:978-952-327-398-6 Accessed June 5, 2021.

Akgun, S., & Greenhow, C. (2022). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics, 2*(3), 431–440.

Asparouhov, T., & Muthén, B. (2014). Auxiliary variables in mixture modeling: Using the BCH method in Mplus to estimate a distal outcome model and an arbitrary secondary model. Retrieved from https://www.statmodel.com/download/asparouhov_muthen_2014.pdf. (Accessed 5 April 2021) Accessed.

Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and work engagement: The JD-R approach. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 389–411.

Bhattacharya, S., Murthy, V., & Bhattacharya, S. (2022). The social and ethical issues of online learning during the pandemic and beyond. *Asian Journal of Business Ethics*, 1–19.

Buchanan, R. (2019). *Digital ethical dilemmas in teaching. Encyclopedia of teacher education*. Singapore: Springer.
Bullough, R. V., Jr. (2011). Ethical and moral matters in teaching and teacher education. *Teaching and Teacher Education, 27*(1), 21–28.
Caspersen, J., & Raaen, F. D. (2014). Novice teachers and how they cope. *Teachers and Teaching, 20*(2), 189–211.
Colnerud, G. (2015). Moral stress in teaching practice. *Teachers and Teaching, 21*(3), 346–360.
Davies, M., & Heyward, P. (2019). Between a hard place and a hard place: A study of ethical dilemmas experienced by student teachers while on practicum. *British Educational Research Journal, 45*(2), 372–387.
Dennis, M., & Harrison, T. (2021). Unique ethical challenges for the 21st century: Online technology and virtue education. *Journal of Moral Education, 50*(3), 251–266.
Ehrich, L. C., Kimber, M., Millwater, J., & Cranston, N. (2011). Ethical dilemmas: A model to understand teacher practice. *Teachers and Teaching: Theory and Practice, 17*(2), 173–185.
Erdoğan, O., & Sezgin, F. (2020). Ethical dilemmas that school administrators and teachers experience: Reasons and coping strategies. *Pegem Journal of Education and Instruction, 10*(2), 593–634.
Feldt, T., Rantanen, J., Hyvönen, K., Mäkikangas, A., Huhtala, M., Pihlajasaari, P., et al. (2014). The 9-item bergen burnout inventory: Factorial validity across organizations and measurements of longitudinal data. *Industrial Health, 52*(2), 102–112.
Finefter-Rosenbluh, I. (2016). Behind the scenes of reflective practice in professional development: A glance into the ethical predicaments of secondary school teachers. *Teaching and Teacher Education, 60*, 1–11.
Finefter-Rosenbluh, I. (2022). Discipline lessons from American faith-based autonomous schools: A narrative of power and 'mini-public' ideology. *Journal of Education Policy, 37*(2), 308–333.
Fransson, G., & Grannäs, J. (2013). Dilemmatic spaces in educational contexts–towards a conceptual framework for dilemmas in teachers' work. *Teachers and Teaching, 19*(1), 4–17.
Howard, M. C., & Hoffman, M. E. (2018). Variable-centered, person-centered, and person-specific approaches: Where theory meets the method. *Organizational Research Methods, 21*(4), 846–876.
Huhtala, M., Feldt, T., Lämsä, A.-M., Mauno, S., & Kinnunen, U. (2011). Does the ethical culture of organisations promote managers' occupational well-being? Investigating indirect links via ethical strain. *Journal of Business Ethics, 101*(2), 231–247.
Huhtala, M., Kaptein, M., Muotka, J., & Feldt, T. (2021). Longitudinal patterns of ethical organisational culture as a context for leaders' well-being: cumulative effects over 6 years. *Journal of Business Ethics*, 1–22.
Huhtala, M., Kinnunen, U., & Feldt, T. (2017). Scholl psychologists' ethical strain and rumination: individual profiles and their associations with weekly well-being. *Psychology in the Schools, 54*(2), 127–141.
Husu, J., & Tirri, K. (2001). Teachers' ethical choices in sociomoral settings. *Journal of Moral Education, 30*(4), 361–375.
Jung, T., & Wickrama, K. A. (2008). An introduction to latent class growth analysis and growth mixture modeling. *Social and Personality Psychology Compass, 2*(1), 302–317.
Kaup, S., Jain, R., Shivalli, S., Pandey, S., & Kaup, S. (2020). Sustaining academics during COVID-19 pandemic: The role of online teaching-learning. *Indian Journal of Ophthalmology, 68*(6), 1220.
Kinnunen, U., Feldt, T., Siltaloppi, M., & Sonnentag, S. (2011). Job demands–resources model in the context of recovery: Testing recovery experiences as mediators. *European Journal of Work & Organizational Psychology, 20*(6), 805–832.
Levinson & Finefter-Rosenbluh. (2018). Inflated expectations: How should teachers assign grades? In M. Levinson, & J. Fay (Eds.), *Dilemmas of educational ethics: Cases and commentaries* (2nd ed., pp. 107–113). Harvard Education Press.
Levinson, M., & Fay, J. (Eds.). (2018). *Dilemmas of educational ethics: Cases and commentaries*. Harvard Education Press.
Lindqvist, H., Thornberg, R., & Colnerud, G. (2020). Ethical dilemmas at work placements in teacher education. *Teaching Education, 32*(4), 403–419.
Lindqvist, H., Weurlander, M., Wernerson, A., & Thornberg, R. (2017). Resolving feelings of professional inadequacy: Student teachers' coping with distressful situations. *Teaching and Teacher Education, 64*, 270–279.
Madigan, D. J., & Kim, L. E. (2021). Towards an understanding of teacher attrition: A meta-analysis of burnout, job satisfaction, and teachers' intentions to quit. *Teaching and Teacher Education, 105*, Article 103425.
Mahony, P. (2009). Should 'ought' be taught? *Teaching and Teacher Education, 25*(7), 983–989.
Manttari-van der Kuip, M. (2020). Conceptualising work-related moral suffering—exploring and refining the concept of moral distress in the context of social work. *British Journal of Social Work, 50*(3), 741–757. https://doi.org/10.1093/bjsw/bcz034
Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*(1), 397–422.
Moberg, S., Muta, E., Korenaga, K., Kuorelahti, M., & Savolainen, H. (2020). Struggling for inclusive education in Japan and Finland: Teachers' attitudes towards inclusive education. *European Journal of Special Needs Education, 35*(1), 100–114.
Mullen, P. R., Morris, C., & Lord, M. (2017). The experience of ethical dilemmas, burnout, and stress among practicing counselors. *Counseling and Values, 62*(1), 37–56.
Munthe, E. (2003). Teachers' workplace and professional certainty. *Teaching and Teacher Education, 19*(8), 801–813.
Muthén, L. K., & Muthén, B. O. (1998–2017). Mplus user's guide. Retrieved from https://www.statmodel.com/download/usersguide/MplusUserGuideVer_8.pdf Accessed June 3, 2021.
Nakar, S. (2019). Impact of ethical dilemmas on well-being of teachers in vocational education and training in Queensland, Australia. *International Journal of Training Research, 17*(1), 35–49.
Nash, L. L. (1993). *Good intentions aside. A manager's guide to resolving ethical problems*. Boston: Harvard Business School Press.
Nilsen, S. (2020). Inside but still on the outside? Teachers' experiences with the inclusion of pupils with special educational needs in general education. *International Journal Of Inclusive Education, 24*(9), 980–996.
Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal, 14*(4), 535–569.
Pepe, A., & Addimando, L. (2013). Comparison of occupational stress in response to challenging behaviours between general and special education primary teachers in Northern Italy. *International Journal of Special Education, 28*(1), 14–26.
Ruppar, A. L., Roberts, C. A., & Olson, A. J. (2017). Perceptions about expert teaching for students with severe disabilities among teachers identified as experts. *Research and Practice for Persons with Severe Disabilities, 42*(2), 121–135.
Ruppar, A. L., Roberts, C. A., & Olson, A. J. (2018). Is it all about loving the kids? Perceptions about expertise in special education. *Teaching and Teacher Education, 71*, 319–328.
Salmela-Aro, K., Rantanen, J., Hyvönen, K., Tilleman, K., & Feldt, T. (2011). Bergen burnout inventory: Reliability and validity among Finnish and Estonian managers. *International Archives of Occupational and Environmental Health, 84*(6), 635–645.
Santoro, D. A. (2011). Good teaching in difficult times: Demoralization in the pursuit of good work. *American Journal of Education, 118*(1), 1–23.
Santoro, D. A. (2013). I was becoming increasingly uneasy about the profession and what was being asked of me": Preserving integrity in teaching. *Curriculum Inquiry, 43*(5), 563–587.
Santoro, D. A. (2018). *Demoralized: Why teachers leave the profession they love and how they can stay*. Harvard Education Press.
Santoro, D. A., & Morehouse, L. (2011). Teaching's conscientious objectors: Principled leavers of high-poverty schools. *Teachers College Record, 113*(12), 2670–2704.
Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 25*(3), 293–315.
Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*(1), 71–92.
Schaufeli, W. B., Shimazu, A., Hakanen, J., Salanova, M., & De Witte, H. (2019). An ultra-short measure for work engagement: The UWES-3 validation across five countries. *European Journal of Psychological Assessment, 35*(4), 577–591.
Shapira-Lishchinsky, O. (2011). Teachers' critical incidents: Ethical dilemmas in teaching practice. *Teaching and Teacher Education, 27*(3), 648–656.
Shapira-Lishchinsky, O. (2013). Team-based simulations: Learning ethical conduct in teacher trainee programs. *Teaching and Teacher Education, 33*, 1–12.
Shapira-Lishchinsky, O. (2016). From ethical reasoning to teacher education for social justice. *Teaching and Teacher Education, 60*, 245–255.
Shapira-Lishchinsky, O. (2019). The implicit meaning of TIMSS: Exploring ethics in teachers' practice. *Teaching and Teacher Education, 79*, 188–197.
Sonnentag, S., & Fritz, C. (2007). The Recovery Experience Questionnaire: Development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology, 12*(3), 204–221.
Sonnentag, S., & Fritz, C. (2015). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior, 36*(S1), S72–S103.
Sonnentag, S., Venz, L., & Casper, A. (2017). *Advances in recovery research: What have we learned? What should be done next? Journal of Occupational Health Psychology, 22*(3), 365–380.
Spurk, D., Hirschi, A., Wang, M., Valero, D., & Kauffeld, S. (2020). Latent profile analysis: A review and "how to" guide of its application within vocational behavior research. *Journal of Vocational Behavior, 120*, Article 103445.
Tal–Alon, N., & Shapira–Lishchinsky, O. (2019). Ethical dilemmas among teachers with disabilities: A multifaceted approach. *Teaching and Teacher Education, 86*, Article 102881.
Tegtmejer, T. (2019). ADHD as a classroom diagnosis. An exploratory study of teachers' strategies for addressing 'ADHD classroom behaviour. *Journal of Emotional and Behavioral Disorders, 24*(3), 239–253.
Thunman, E., & Persson, M. (2018). Ethical dilemmas on social media: Swedish secondary teachers' boundary management on facebook. *Teacher Development, 22*(2), 175–190.
Tirri, K., & Husu, J. (2002). Care and responsibility in 'the best interest of the child': Relational voices of ethical dilemmas in teaching. *Teachers and Teaching, 8*(1), 65–80.
Tirri, K., & Laine, S. (2017). *Teacher education in inclusive education*. The Sage handbook of research on teacher education.

Trevino, L. K. (1986). Ethical decision making in organizations: A person-situation interactionist model. *Academy of Management Review, 11*(3), 601–617.
TUE. (2020). Trade union of education in Finland. Member's guide. Retrieved from https://www.oaj.fi/en/news/publications/20212/member-guide/. April 12, 2021.
Tuerktorun, Y. Z., Weiher, G., & Horz, H. (2020). Psychological detachment and work-related rumination in teachers: A systematic review. *Educational Research Review, 31*, Article 100354.
Um, S. J., & Cho, H. (2022). Creating the space of possibility: The dynamics of multiculturalism, neoliberalism, and nationalism in South Korean prospective teachers learning to teach for social justice. *Teaching and Teacher Education, 110*, Article 103605.
Üztemur, S., İlgan, A., & Sevigen, E. (2022). Teaching at private schools: A phenomenological study on ethical dilemmas. *Journal of Pedagogy, 13*(1), 49–70.
Viac, C., & Fraser, P. (2020). Teachers' well-being: A framework for data collection and analysis. OECD education working papers. Retrieved from https://www.oecd-ilibrary.org/education/teachers-well-being_c36fc9d3-en. June 17, 2021.
Wendsche, J., & Lohmann-Haislah, A. (2017). A meta-analysis on antecedents and outcomes of detachment from work. *Frontiers in Psychology, 7*, 2072.