Special education teachers' experienced burnout and perceived fit with the professional community

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Special education teachers' experienced burnout and perceived fit with the professional community: A five year follow-up study

Abstract

In many countries, including in Finland, promoting inclusive school practices supporting pupils' equal rights for learning is at the foci of the school development. The special education teachers play a central intermediary role in developing inclusive school and classroom practices by providing support both for pupils and peer teachers. This may increase their risk for experiencing exhaustion, cynicism towards the teacher community and/or inadequacy in the pupil-teacher relationship. However, resources of the school's social working environment experienced as a functional teacher–working environment fit may buffer the special education teacher's risk for developing burnout. The study aims to gain a better understanding on interrelation between and development of special education teachers' experienced burnout symptoms and perceived teacher–working environment fit across time. The longitudinal study included two measurements (in year 2010 n=760 and 2016 n=485). The results showed that special education teachers' experienced inadequacy in the pupil-teacher relationship predicted teacher exhaustion, cynicism towards the teacher community and inadequacy in the pupil-teacher relationship five years later. Moreover, the perceived good teacher-working environment fit predicted lower cynicism towards the teacher community five years later.

Keywords: special education teacher; burnout; teacher-working environment fit

Introduction

Teachers' burnout has been recognized as a serious occupational problem in school systems worldwide (e.g. Borg and Riding 1991; Loonstra, Brouwers, and Tomic 2009; Rudow 1999). Several studies suggest that in comparison with other academic, client-related professions, teaching surpasses the average levels of stress, although there is significant contextual variation in teacher training and working conditions between countries (Akca and Yaman 2010; Schaufeli, Daamen, and Van Mierlo 1994; Smith et

al. 2000; Travers and Cooper 1993). In Finland about one third of the teachers are estimated to frequently experience high levels of work related stress with increased risk for developing burnout (Länsikallio and Ilves 2016); this is particularly true for special education teachers (Brunsting, Sreckovic, and Lane 2014; Kiel et al. 2016; Lazuras 2006). Previous studies have shown that special education teachers' experienced stress is related especially to working with children with emotional difficulties (Abelson, 1985; Brunsting, Sreckovic & Lane, 2014). They also frequently report experiencing inadequacy in helping their pupils (Ojala, 2017). Moreover, has been proposed that special education teacher burnout is often linked to the reforms in the educational system triggering development work and, eventually changes in teachers' working environment (Lavian 2012). In many countries, including Finland, promoting inclusive school practices to support pupils' equal rights for learning is the foci of school development. It has been suggested that inclusive practices promote the pupils' school engagement by generating positive school experiences and reasserting the strengths of the individual pupil in terms of the sense of equality and being acknowledged (e.g. Matzen, Ryndak, and Nakao 2010; Pitt and Curtin 2004). However, on the other hand, inclusive practices have been shown to decrease special education teachers' occupational well-being at least in the short term by increasing feelings of inadequacy and need for additional support (Boyle et al. 2012; Embich, 2001; Ojala 2017).

The special education teachers play a central intermediary role in developing inclusive school and classroom practices by providing support both for pupils and other teachers (Embich 2001; Eskelä-Haapanen, 2012; Enlund, Luokkanen, and Feldt 2013). This may increase their risk for experiencing exhaustion, cynicism towards the teacher community and/or inadequacy in the pupil-teacher relationship (e.g. Pietarinen, Pyhältö, Soini & Salmela-Aro 2013). Special education teacher's burdening in their intermediate

role weakens the potential of inclusive pedagogy and well-being in the school as a whole. However, the functional teacher–working environment fit (i.e. professional recognition and constructive work climate) may act as a buffer against the special education teachers' risk for developing burnout, and hence, contribute to the meaningful and sustainable pedagogical development of the school community (Pietarinen, Pyhältö & Soini 2016; Berkovich & Eyal 2018; Berry 2012; Conley and You 2016; Sutherland, Fogarty & Pithers, 1995). Even though the special education teachers have a crucial role in supporting inclusive learning environment in school, there is a dearth of literature about their experiences despite focus on strong inclusion policies in many countries (review study by Brunsting, Sreckovic, and Lane 2014). Moreover, even though studies show that burnout is a progressive condition, longitudinal studies aiming to capture the development of special education teacher burnout and factors affecting it over time are scarce. This study aims to fill the gap by exploring the Finnish special education teachers' experienced burnout symptoms and perceived working environment fit, and how their experiences evolve over time.

Special education teacher burnout

Teacher burnout develops gradually as a result of extensive and prolonged work-related stress (Kokkinos 2007; Pietarinen et al. 2013; Skaalvik and Skaalvik 2009; see also seminal work of Freudenberger 1974). It has three distinct symptoms: *exhaustion*, characterized by a lack of emotional energy, and feeling strained and tired at work (Maslach, Schaufeli, and Leiter 2001); *cynicism* referring to indifference or aloofness towards work in general (Bakker et al. 2008; Maslach and Leiter 1999, 2005; Schaufeli and Buunk 2003), a disaffected or acerbic attitude towards pupils, parents or colleagues, and low organisational commitment (Schaufeli and Buunk 2003); and *professional inadequacy* comprising of feelings of insufficient competence, encompassing both

social and non-social aspects of occupational accomplishments (Brouwers and Tomic 2000; Hakanen, Bakker, and Schaufeli 2006; meta-analysis by Montgomery and Rupp 2005). It has been shown that special education teachers experience more burnout than teachers of mainstream classes (Lavian 2012; Brunsting, Sreckovic, and Lane 2014; Kiel et al. 2016). They are, for instance, frequently reported to experience inadequacy, including perceiving themselves to be unqualified and not doing enough (Ojala 2017) or feeling emotionally exhausted when working with children with emotional difficulties. Moreover, experienced emotional exhaustion is shown to predict attrition among special education teachers (Carlson and Thompson 1995; Leung and Lee 2006). The teachers of students in special education often express frustration (Stempien & Loeb, 2002). Some special educators may respond to this frustration by withdrawing their personal commitment to their jobs (Billingsley & Cross, 1992) while others may stay involved but become exhausted (Stempien & Loeb, 2002). Further, early career special education teachers have shown greater risk for burnout and attrition compared to their peers of mainstream classes at the same career phase (Smith and Ingersoll 2004; Stempien and Loeb 2002).

Burnout is not a single entity, but it develops gradually proceeding progressively towards more maladptive stages (Golembiewski 1989; Golembiewski et al. 1993; Golembiewski, Munzenrider, and Carter 1983), starting from emotional exhaustion as the initial component of burnout followed by cynicism as an ineffective coping strategy, which eventually cumulates in feelings of inadequacy (Leiter 1989). Moreover, several studies have shown a strong relationship between exhaustion and cynicism, whereas feelings of inadequacy appear to be a consequence of exhaustion or cynicism, or seem to develop independently (Leiter 1993; Maslach 2003; Maslach and Leiter 2008). Yet, there is the lack of evidence for a link between cynicism and feelings of inadequacy

(Maslach, Schaufeli, and Leiter 2001). There is, however, some cumulative evidence suggesting that emotional exhaustion has both direct and indirect effects on feelings of inadequacy while cynicism also directly predicts feelings of inadequacy (e.g. Taris et al. 2005). Our recent study comprising of 2310 Finnish class, subject and special education teachers, for instance, concluded that exhaustion has direct effect on both cynicism and inadequacy (Pietarinen et al. 2013). Yet, we know surprisingly little of how special education teacher burnout gradually develops over time, though it can be presumed that experienced inadequacy might play more central role in the development of burnout among special education teachers compared to their colleagues in mainstream classes.

Social interactions play a central role in teachers' work, and hence in teacher burnout. Particularly, dysfunctional interactions, such as lack of support from the colleagues and principal (Boyle et al. 2012), and problems with pupils and parents, is found to increase risk for special education teacher burnout (Conley and You 2016; Kokkinos and Davazoglou 2009; Kaff 2004; Ojala 2017). Pietarinen, Pyhältö and Soini (2013) recently found that Finnish comprehensive school teachers, including special education teachers', experienced destructive friction and problematic encounters with pupils contributed to feelings of professional inadequacy, while destructive friction within the professional community was often reported to cause cynicism. On the other hand, social support has been identified as a central buffering resource in special education teacher burnout prevention (Berry 2012; Conley and You 2016). Overall, the literature on teacher burnout suggests that the sources of teacher burnout are highly embedded in the social interactions of the school community, and may vary not only between schools but also between the social working contexts (e.g. classrooms, teacher teams) within a single school (see also Fernet et al. 2012; Kokkinos 2007; Skaalvik and Skaalvik 2009) or teacher (teaching in class and working with colleagues) (Pietarinen et

al. 2013). Accordingly, various personal and environmental factors can contribute to special education teacher burnout (Brunsting, Sreckovic, and Lane 2014; Billingsley 2004).

Special educators are a particularly high-risk group for increased stress and burnout as their working conditions expose them, for instance, to contradictory or unclear role expectations, dealing with pupils' behavioral and emotional problems, and insufficient peer and administrative support (review study by Billingsley 2004). Although the central role played by social working environment in special education teachers' occupational well-being particularly with pupils (Berry 2012; Billingsley 2004) has been recognized, the complexity and dynamics of the social working environments provided by the school have often been neglected in studies on burnout among special education teachers (Devos, Dupriez, and Paquay 2012; Parker et al. 2012). Accordingly, the consequent gap in the literature needs to be addressed, particularly the role of the professional community support as a potential resource for decreasing special education teachers' risk for developing burnout.

Special education teachers' fit in teacher communities

The interplay between a teacher and their working environment contributing to the burnout experience can be explored in terms of teacher-working environment fit (e.g. Pietarinen 2013; Holland 1985; see also seminal work of Locke 1969, 316). The basic idea of a dynamic teacher-working environment fit is that a poor fit increases the risk for teacher burnout, while a good fit is likely to reduce it (Cable and Edwards 2004; Edwards and Cable 2009). Drawing on the Job Demands-Resources Model (Demerouti et al. 2001), special education teacher burnout can be explored in terms of the fit or misfit between the job demands such as unclear or conflicted role expectations

(Brunsting, Sreckovic, and Lane 2014) that require sustained effort from a teacher, and the resources such as good working climate (Billingsley 2004) that enable a special education teacher to overcome the challenges. The prolonged experience of low resources combined with high demands is likely to create special education teachers' risk for developing burnout. In practice, for instance, misfit in terms of lack of competence to deal with pupils' behavioral and emotional problems combined with a poor sense of community is shown to increase special education teachers' risk for burnout (Ojala 2017). Whereas a concordance, i.e. good fit, between job resources and demands, including encouragement and support from colleagues, and opportunity for professional development has been suggested to promote work engagement and reduce special education teachers' risk for burnout when dealing with pupils with special needs (Gehrke and McCoy 2007; Whitaker 2000).

Moreover, particularly the resources of the school's social working environment, such as opportunities to receive constructive feedback and professional recognition, is suggested to play a central role in reducing both special education teachers' and mainstream teachers' burnout, promoting their job satisfaction and good job performance (Billingsley et al. 2009; Boyle et al. 2012; Brunsting, Sreckovic, and Lane 2014; Hoy and Spero 2005; Kokkinos 2007; Peeters and Rutte 2005; Stoeber and Rennert 2008). However, rather than perceiving their social working environment as one unified entity, teachers often tend to perceive it as complex, dynamic and multicontextual (Brouwers and Tomic 2000; Pietarinen et al. 2013), each providing distinct resources and challenges to teachers. In terms of exploring teacher burnout this indicates that different resources and demands of schools' social working environment should not be summarised into a single measure, when exploring development of special education teachers' burnout.

Special education teachers have a distractive role in the professional community. There are usually few, sometimes just one, special education teacher in the school whom others rely on when facing overwhelming problems with pupils (Enlund, Luokkanen, and Feldt 2013). Moreover, special education teachers themselves are mostly trained to work with individual pupil's cognitive, behavioural and emotional problems (Emery and Vandenberg 2010). Yet, inclusive pedagogy is based on the idea that every learner is different and teachers should use strategies that match these individual learners' needs according to what they know about them. Teacher's responsibility is to enhance the participation and achievement. The emphasis is on aiming for high levels of engagement and motivation not predetermining the outcomes beforehand. Hence, developing inclusive pedagogy requires special education teachers to work with the teacher community rather than helping a single teacher or a pupil to deal with a specific problem. This requires developing collaborative skills, which can be facilitated by a sense of recognition and constructive work climate to be created by the professional community (Nislin 2016; Ojala 2017), i.e., good learning and working environment for teachers, along with pupils.

Aim

The study aims to gain a better understanding of the interrelation between, and development of, special education teachers' experienced burnout symptoms and perceived teacher–working environment fit across time. The following hypothesis were tested (see Figure 1):

1. Special education teachers' experienced burnout symptoms can be predicted over time (Kokkinos 2007; Pietarinen et al. 2013; Skaalvik and Skaalvik 2009). More specifically, high levels of burnout symptoms at time point one (T1), including exhaustion (EXH), inadequacy in teacher-pupil relationships (INAD) and cynicism

towards the teacher community (CYN) predict high experienced EXH, INAD and CYN at time point two (T2).

2. Perceived teacher-working environment fit can be predicted over time, and it buffers the burnout symptoms five years later (Cable and Edwards 2004; Edwards and Cable 2009; Ojala 2017). More specifically, perceived high teacher-working environment fit (FIT) at T1 predicts high perceived FIT at T2, and low experienced EXH, INAD and CYN at T2.

FIGURE 1. HERE

Method

Research context

The development of basic education of pupils with special needs in Finnish comprehensive school has been affected by the idea of "school for all" which is in line with the inclusive ideology. The educational equality in basic education has remained as the core value (Salonen-Hakomäki, Soini, Pietarinen & Pyhältö, 2016). Comprehensive school has developed towards inclusion through school integration; since 1997 the basic education for all children including those with the most severe disabilities is provided in same schools and, finally the amendments in legislation in year 2010 practically disbanded a separated traditional special education (amendment to Basic Education Act 642/2010). The Basic Education Act guarantees every pupil the opportunity to receive guidance, counselling and sufficient support in learning and schooling on school days directly as the need arises. The development is in line with inclusive policy, however, it undoubtedly holds some economic considerations; the law transferred the costs of special education from the state to the local municipalities responsible for basic

education and local communities' unwilling to pay extra costs segregated special education (Act on the Funding of Education and Culture, 2009; Saloviita & Schaffus, 2016).

Studies in special education are organized as part of university education. All Finnish comprehensive school teachers hold a Master's degree in educational sciences or another domain such as mathematics or biology, with compulsory additional teachers' pedagogical studies (60 ECTS). There are two different qualifications for special education teachers in Finland, one being special class teacher and another a part-time special education teacher. The former, special class teacher, needs an MA in education and an additional component of special education studies. They traditionally work mainly with special education classes of 6-10 pupils. The part-time special education teachers have Master's degree in some subjects and has to study teachers' pedagogical studies (60 ECTS) and an additional special education component. Part-time special education teachers traditionally work closely with class and subject teachers, and act as a broader resource for the school. However, the core content of special teacher education is quite similar; difficulties concerning learning to read, write and learning mathematics, socio-emotional and behavioural challenges and cooperation and the design of individualized education programs (Sarromaa, Hausstätter and Takala, 2008).

Prior research on Finnish special education teachers shows that the special education teacher's work is changing; it is not only the teaching of a special unit or group but more multi-faceted operation. The current core curriculum (NBE 2014) emphasizes collaboration among all comprehensive school teachers. It is based on inclusive principles and the intended pedagogy is flexible, phenomenon-based and emphasizes the collaboration among pupils as well. The idea is, that all special needs educator's understanding and knowledge should benefit the whole school. Some special

education teachers feel that they are unqualified, or not able to do enough and are left alone without pedagogic peer support (Ojala 2017). The feeling of the special teachers' inadequacy has increased due to the challenges of the work, including the experience of having to hurry (Pirttimaa and Kaikkonen 2010), and attitudes and expectations of others (Hirvonen and Pynnönen 2010).

Participants

Altogether 760 special education teachers completed the study survey at T1 in 2010. All respondents had MA degrees, and they were in various phases of their careers. The respondents worked as either special class teacher or part-time special education teacher in primary or secondary schools of varying sizes. The mean age of the respondents at T1 was 42 years (SD 9.7; Min/Max: 25/70 years). In terms of age, the sample was therefore representative of the Finnish special education teacher population (see also National Board of Education, 2010). The majority of respondents were women (n = 676, 89%) and the minority men (n = 83, 11%). The same teachers were followed up at T2 in 2016 (*n* = 485, women *n* = 435, 90% and men *n* = 49, 10%). Accordingly, female teachers were slightly over-represented in both samples.

Measures

Two scales for measuring a) socio-contextual burnout (9 items), and b) experienced teacher-working environment fit (6 items) have been developed and validated for teachers by the authors (Pietarinen et al. 2013a; Pietarinen, Pyhältö, Soini & Salmela-Aro 2013b). However, the hypothesized latent factor structures of the socio-contextual burnout and teacher-working environment fit scales were separately confirmed in the sample of special education teachers showing similar construct validity of the scales.

The Socio-contextual Teacher Burnout scale draws on both Maslach and Jackson's (1981) burnout scale and Elo, Leppänen, and Jahkola's (2003) single-item stress scale in terms of measuring teachers' perceived exhaustion. The scale was constructed by specifying the social working environment of experienced exhaustion, cynicism and inadequacy (Pietarinen et al. 2013a; 2013b). The scale consists of 9 items measuring factors of teacher burnout. First factor constitutes a more general factor, and two others are related to school's social working environment: a) exhaustion (3 items, e.g. *I feel burnt out*) b) cynicism towards the teacher community (3 items, e.g. *I'm disappointed in our teacher community's ways of handling our shared affairs*), and c) inadequacy in teacher-pupil interaction (3 items, e.g. *I often feel I have failed in my work with pupils*). All items were rated on a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree), excluding the stress item that was rated on a 10-point scale.

The Teacher-working environment fit scale consists of 6 items measuring two factors of experienced teacher-working environment fit: a) received professional recognition (3 items, e.g. *My colleagues provide me with encouragement and support*) and b) constructive and enabling work climate (3 items, e.g. *My workplace has a fine atmosphere*). The scale draws on Bakker et al.'s (2007) job resources components that were derived from the Healthy Organisation Barometer (Lindström 1997; Lindström, Hottinen, and Bredenberg 2000). Hence the experienced fit was measured from both the individual and professional community perspectives. The professional recognition factor measured the individual teacher's experienced appreciation as a member of a professional community (i.e. the person-centred approach to the perceived fit). The constructive and enabling work climate factor measured teachers' shared capacity to

contribute to the optimal fit within the professional community, as experienced by the respondent (i.e. the environment-centred approach to the perceived fit). All items were rated on a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree) (see Pietarinen et al. 2013b).

Analyses

The data were analyzed by using structural equation modeling (SEM). We applied a specific regression analysis strategy called cross-lagged path modeling (see hypothesized model in Figure 1). This SEM model allows to simultaneously control for the level measured at a previous time point (strong arrows in Figure 1) and test the reciprocal predictions across time between several variables (normal arrows). The cross-lagged model enables the identification of weak causal effects in a longitudinal design. That is, whether burnout dimensions are predictors of teacher-working environment fit or vice versa. The effects between teacher–working environment fit and burnout dimensions were hypothesized to be negative in direction. The hypothesized model was fit to the data using the Mplus software version 7.4 (Muthén and Muthén 1998–2015) and the robust maximum likelihood (MLR) estimator. The independent variables at T1 were allowed to correlate, and a covariance structure for the residuals of dependent variables (dashed lines) was applied if necessary for adequately modeling the data. In addition to including residual covariance structure if appropriate, the model was modified by removing the non-significant unidirectional paths over time one by one (paths omitted in Figure 2). The model fit was evaluated using primarily the following goodness-of-fit indices and criteria: root mean squared error of approximation (RMSEA) below .07, comparative fit index (CFI) above .95, Tucker-Lewis index (TLI) above .95, and standardized root mean square residual (SRMR) below .08 (see e.g., Hooper, Coughlan, & Mullen, 2008). Also, the chi-squared (χ^2) test of model fit was calculated. A non-significant χ^2 indicates good

fit but the test statistic is over-sensitive to large sample sizes and thus interpreted with caution here.

Results

Descriptive statistics, Cronbach alpha reliabilities and inter-correlations of the study variables are provided in Table 1. The results showed that special education teachers' experienced moderate levels of exhaustion (T1: *M*=3.27, T2: *M*=3.28) and cynicism towards the teacher community (T1: *M*=3.12, T2: *M*=3.10) in five-year follow-up (i.e. at both time-points). However, the inadequacy in teacher-pupil relationships (T1: *M*=2.57, T2: *M*=2.37) was experienced to a significantly lesser extent in the follow-up period. This implies that special education teachers consistently perceived themselves rather well-equipped in building good relations with their pupils and in dealing with problems faced. In addition, the teacher-working environment fit was considered relatively high (T1: *M*=5.00, T2: *M*=5.13) suggesting that in general teachers perceived their colleagues as a resource, and the professional climate was considered supportive (see Table 1). The findings imply that on average the Finnish special education teachers were not at high risk of developing burnout.

TABLE 1 HERE

The tested theoretical model fitted the data very well after adequate modifications: $\chi^2(8, N=760) = 2.79$, $p=.95$, RMSEA=.00 (90% CI .00–.005), CFI= 1.00, TLI=1.02, SRMR=.01 (see Figure 2). The experienced exhaustion, inadequacy in teacher-pupil relationships and teacher-working environment fit remained relatively stable over the five-year period (autoregressive coefficients EXH=.38, INAD=.50 and FIT=.37, at p-level < .001). In turn, cynicism towards the teacher community showed weaker stability

(CYN=.14, $p < .01$), suggesting larger changes in the special education teachers' perceived alienation from the professional community over time.

FIGURE 2 HERE

As hypothesised (H1), the special education teachers' perceived burnout symptoms were partly predictable (see Figure 2). If the special education teachers experienced exhaustion, cynicism and inadequacy in their work at the beginning of the study (T1), they also had higher risk of experiencing them five years later in their career (T2). Particularly special education teachers' experienced inadequacy in the pupil-teacher relationship predicted teacher exhaustion (β=.12, $p < .05$), cynicism towards the teacher community (β=.10, $p < .01$) and inadequacy in the pupil-teacher relationship (β=.50, $p < .001$) five years later. This indicates that in the special education teacher's work, the inadequacy in the pupil-teacher relationship was the crucial determinant for increased risk for experiencing also other burnout symptoms five years later. This further implies that the dominant trigger for gradually developing burnout symptoms may vary due to the teachers' partly differentiated expertise in the professional community.

The results also showed that perceived teacher-working environment fit was stable but only tentatively predictable (H2). Perceived teacher-working environment fit, i.e. received recognition and constructive working climate, at the earlier career phase (T1) predicted favourable fit five years later (T2) (β=.37, $p < .001$). Furthermore, as an indicative finding, the perceived exhaustion earlier in the career (T1) predicted the perceived fit in the career later on (T2) almost statistically significantly (-.07, $p < .10$).

This suggests that an extensive and prolonged work-related stress may alienate special education teachers from their professional community.

Experienced cynicism and teacher-working environment fit are strongly correlated with each other at both time points (T1: r = -.75, T2: r = -.72, see Table 1). The cross-lagged analysis showed that the predictive effect was rather from the fit to cynicism: the higher level of experienced teacher – working environment fit in the earlier career phase predicted a lower level of experienced cynicism towards the teacher community later on (β=-.21, p < .001, see Figure 2). The perceived fit (T1) did not however predict experienced exhaustion or inadequacy five years later (T2).

All in all, the R^2 statistics indicate that autoregressive and cross-lagged paths (from T1 to T2) together accounted for 13–25% of the total variance in dependent variables (see Figure 2). More specifically, the teacher-working environment fit does not sustain without the intentional efforts of all members of the inclusive school community. Moreover, the burnout symptoms can be partly predicted and hence it is worthwhile to monitor them in everyday life of schools.

Discussion

The results showed that Finnish special education teachers' overall levels of experienced burnout symptoms are not over excessive; particularly experienced sense of inadequacy was low. Concerning, however, is that burnout levels stayed stable at the five-year follow-up even though teachers were gaining more experience during the time period. Moreover, all the burnout symptoms predicted themselves over time; for instance experienced exhaustion earlier at the career predicted such experience later on. A reason for this may be that no effective interventions to reduce feelings of inadequacy, exhaustion and cynicism were carried out; allowing special education teachers and professional communities to develop functional strategies to deal with

work stressors. It may also reflect the state of affairs in the field of special education teachers; to certain extent burnout symptoms are occupational hazard and hard to get rid of.

Prior research has suggested that burnout develops gradually; usually exhaustion being the first symptom followed by feelings of inadequacy and cynicism towards the work. Contrary to previous studies (Maslach, Schaufeli, and Leiter 2001; Taris et al. 2005), our results showed that special education teachers' experienced inadequacy in the pupil-teacher relationship predicted teacher exhaustion, cynicism towards the teacher community five years later. This implies that the development of burnout among special education teachers may be initiated by inadequacy in teacher-pupil relationship rather than exhaustion. In other words, experienced success or failure with pupils seems to play a key role in special education teachers' occupational well-being. Traditionally in Finland special education teachers have provided individualized support for pupils with special needs in small group. Therefore, feeling competent in providing such support is crucial to special education teacher's work. Accordingly, experienced inadequacy in this domain is likely to trigger exhaustion and cynicism towards professional community, particularly if adequate collegial support is not provided. In fact it can be assumed that special education teachers are at a greater risk for not receiving collegial support from the professional community since they are typically considered 'experts' of teacher-pupil relationships by other teachers who would be looking for support from them rather than the other way around. Combination of experienced inadequacy with high demand on their expertise could thus more easily lead to exhaustion and cynicism (Pietarinen et al. 2013a).

Based on our results, the perceived good teacher-working environment fit predicted the lower cynicism towards the teacher community later on in the teacher's

career. Hence, good person-environment fit seems to buffer cynicism among the special education teachers; however, this is not the case with other burnout dimensions, exhaustion and inadequacy in pupil-teacher relationship. Interestingly teacher-environment fit predicted cynicism but not vice versa. Cynicism towards the professional community did not resonate with the experienced fit with the community. This implies that feeling professionally isolated and experiencing low organizational commitment i.e. cynicism does not necessarily result in experiencing reduced levels of professional recognition and poor climate (Schaufeli and Buunk 2003). In Finland, special education teacher's work has changed from individual rehabilitation towards collaborative teaching. However, the strategies and skills of working together may still be weak causing tensions and even conflicts in professional community.

Methodological reflections

Teacher burnout is strongly context dependent, affected by many social and cultural factors as well as structures of work. Therefore, the results should be understood as coming from a certain educational context and their application to other contexts must be carefully considered. Moreover, burnout may develop over long periods of time in dynamic interaction with the surrounding context, hence more longitudinal studies embedded in real life contexts are needed to understand these complex processes. However, the results showed that the special education teachers' burnout symptoms and the perceived fit can be partly predicted over time. Due to the sufficient and consistent reliability of the developed burnout and teacher-working environment fit scales in both time points, the findings also contribute to further development of those measurements in special education teacher population. The cynicism subscale of the socio-contextual teacher burnout is strongly related to the experienced teacher-environment fit in special education teachers (correlation greater

than -.70). This emphasizes the social embeddedness of teacher burnout but also presents challenges for measuring these two constructs separately in terms of discriminant validity.

The longitudinal study's response rates were moderate; however, the representativeness of the special education teacher sample in both time points was acceptable. More specifically, the sample was not biased in terms of the respondents' age, gender or their perceived degree of burnout symptoms during the follow-up. One limitation of the present study is that there are no data available on special education teachers' specific work role as being either special class teacher or part-time special education teacher in the professional community. Special education teachers working in these different positions may differ in their experiences of social working environment and thus burnout and teacher-working environment fit. This should be addressed in future studies.

This study followed a variable-centred approach by showing how the experienced cynicism and inadequacy related to special education teachers social working environment were connected to each other, and further, to the perceived teacher-working environment fit during a five-year period. Accordingly, in the future studies, a person-centred approach that would reveal different special education teachers' trajectories in terms of gradually proceeding to burnout symptoms should be adopted. To our knowledge, the predictability of the special education teacher burnout symptoms has not been studied widely, even though their perceived workload has increased in many ways and widely in educational systems. Hence, the novel results have potential to contribute to future research in this field.

Implications for policy and practice

Our findings can be considered alarming in terms of successful inclusive reforms, since they suggest that experienced inadequacy in teacher-pupil relationship increase special education teachers' risk for developing burnout, and hence compromise their ability to engage in developing inclusive classroom and school practices. On the other hand, perceived good working environment fit provides a central resource for buffering cynicism towards colleagues and may thus increase collaborative efforts in building inclusive school practices. Hence, it is imperative to improve the teacher-environment fit to provide a buffer for feelings of inadequacy, exhaustion and cynicism. Both special teachers' and their community's ability to recognize feelings of inadequacy early on is highly important. Adopting communal practices, for example, simply discussing one's work and feelings related to it helps in recognizing early signs of inadequacy. Professional community may also intentionally develop proactive strategies, such as monitoring workload and supporting help-seeking in dealing with stressors and build better person-work environment fit. However, the development of the professional community is dependent on the leadership strategies and, in the end reflects the way teaching profession is understood by the school community; leadership facilitating collaboration is required for teachers to be positive about and effective in being more inclusive (Boyle, Topping, and Jindal-Snape 2012; Boyle, Topping & Jindal-Snape & Norwich 2012).

Changes in the society have also changed schooling of children and adolescents and the teacher education has not been necessarily able to respond to these new challenges yet. Special teachers' work as collaborative practice with other teachers as well as networking with other professionals requires approaches and skills of teaching that may be rather different from the training they receive in initial teacher education. To build inclusive pedagogical culture requires that other teachers also learn to work in

collaboration, otherwise special they collectively may work in a way that does not help to construct inclusive learning environment despite being well equipped to teach in their classes and fields. For example, in the same class they may either work as a team, aiming to ensure that no one is marginalized, or they can split their responsibilities and therefore inadvertently isolate pupils from each other (Florian and Linklater 2010). Moreover, inclusive pedagogy requires that the class or subject teachers are not seen as unqualified to work with learners with special needs.

In recent years, the Finnish special education teachers' work has undergone many changes (Ministry of Education 2007; FNBE 2016). However, some frameworks of the work have stayed the same. For example, the payroll system of the teachers that is based on the number of the hours to be taught, is not well aligned with changed situation where work demands joint teaching including planning together and taking collaborative responsibility of pupils beyond the individual teaching hours. This can potentially further increase the experience of inadequacy; the working hours are not enough to achieve the new goals of the work. When introducing a new policy, government should ensure continuing professional development but also be mindful of structures of the work to enable teachers to be able to implement policy in practice. Otherwise it will further burden the already burdened teachers, lead to burnout and high attrition – all of this will then have a negative impact on the inclusion policy and practice.

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Appendices

Table 1. Reliabilities and Descriptive Statistics of Burnout and Teacher-Working Environment Fit Scales

Figure 1. The full model of autoregressive and cross-lagged paths between dimensions of socio-contextual burnout and teacher – working environment fit over time.

Figure 2. The estimated model of autoregressive and cross-lagged paths between dimensions of socio-contextual burnout and teacher – working environment fit over time. The standardized estimates shown are statistically significant at the $p < .001$ level if not indicated otherwise. ** $p < .01$, * $p < .05$