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Research paper

Beyond traditional narratives about teacher professional development: A critical perspective on teachers' working life

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ABSTRACT

We argue that overlooking teacher professional development's (TPD) temporal and spatial situatedness neglects similarities and differences throughout teachers' career stages and organizational contexts. Using latent profile analyses for early-career (n = 383), mid-career (n = 355), and late-career (n = 296) teacher groups, we found four TPD profiles in each career phase. Results showed more heterogeneity of profiles within than between career phases; most early-career teachers shared common TPD patterns with other career phases. Throughout the phases, teachers need TPD addressing their work at both the classroom and organizational levels. Our research invites researchers to rethink reductionist narratives regarding TPD.

1. Introduction

As highlighted in the OECD report, *Teachers Matter*, teachers are considered to be the key to the quality of educational systems and school improvement (OECD, 2005). This crucial role assigned to teachers has stimulated a growing interest among educational researchers to study teacher professional development. More recently, researchers have argued that the rapid evolutions in today's society and societal challenges associated necessitate an ongoing process of professional development for teachers to adapt to these challenges (e.g., growing number of migrant students: Florian & Camedda, 2020; climate change education: Drewes, Henderson, & Mouza, 2018; Covid-19 pandemic: Klusmann et al., 2022; etc.) Extensive research has shown that opportunities for and good quality of teachers' professional development may yield positive consequences on student learning and achievement (see Kennedy, 2016 for a systematic review). Scholarship on teacher professional development has also emphasized that since professional development can make teachers more resilient and able to cope with the challenges of the teaching profession (Beltman, Mansfield, & Price, 2011; Gaikhorst, Beishuizen, Zijlstra, & Volman, 2015; Mansfield & Gu, 2019), it also facilitates teacher retention (Colognesi, van Nieuwenhoven, & Beausaert, 2020; Kohli, 2019; Latham & Vogt, 2007). It seems consensual that teacher professional development can be beneficial for both students and teachers themselves; consequently, it becomes self-evident that teacher professional development is regarded as "a good thing" (Kelchtermans, 2022, p. 3).

Despite the increase in research on teachers' professional development, a multitude of different conceptions regarding its nature coexist and, among these, two important elements are often overlooked. First, with regard to the teacher population, studies have largely overlooked the diversity of TPD needs across different career stages. When investigating teacher professional development, studies have mainly focused on one specific career phase (often the induction period) or considered teachers as a homogeneous population. This could be seen as surprising given that seminal works of Huberman (1989a, 1989b, 1995) was already advocating for recognizing that teachers' needs and how they experience the profession could highly differ between various moments of their work life. While ten years ago, Day (2012) re-emphasized the importance of this whole career perspective and strengthened Huberman's view, we are still lacking cross-career-phase perspectives (Raduan & Na, 2020) and there is very little knowledge about mid- and late-career teachers specifically (Booth, Coldwell, Müller, Perry, &

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Zuccollo, 2021; Bressman, Winter, & Efron, 2018) as much attention has been devoted to early-career teachers (Day, 2012; Kyndt, Gijbels, Grosemans, & Donche, 2016).

Second, with regard to the conceptual work on TPD, studies on teachers' professional development have conceptualized it mainly as a learning process that is focused on the instructional goal of enhancing students' learning (Evans, 2019). In a recently published book, Freeman (2023) coined the terms 'the conventional calculus' of professional development to describe the prevalent perception of TPD in research discourse. He described this conventional calculus by saying: "The underlying message of professional development is that teaching needs to be addressed and improved in some way, that teachers are the means of doing so, and that 'success' is measured in terms of measurable student learning." (Freeman, 2023, p. 3). Several researchers pointed out that in this functionalist interpretation, in which the content of teacher professional development is focused on teachers' instructional role within classrooms, an important part of being a teaching professional is left out: the fact that they are working as organizational actors within the school workplace which implies that they also have an organizational role (Kelchtermans & Ballet, 2002; Tang, Wong, & Cheng, 2016). While the school workplace has found its way into research on teacher professional development —already around 2000's with the idea that teachers mediated external professional development initiatives as a community of agents shaping the school (e.g., Coburn, 2001; Spillane, 1999); and more recently through the affordance the school workplace provides to teachers as opportunities to learn and develop (see Enthoven, März, & Dupriez, 2023 for a systematic review)— it is mainly through considering collective mechanisms acting in professional development processes or the role of the school organization in facilitating professional development processes and less through the consideration of what it implies for teachers to work in a school organization. In other words, the majority of research on teacher professional development —whether they consider teacher agency, collective mechanisms, or affordances from the school workplace or not— has focused on developing certain aspects of the teacher's role (i.e., classroom actor) and therefore ignoring others (i.e., organizational actor; März & Van Nieuwenhoven, 2021; Tang, Wong, & Cheng, 2016).

In this article, we argue that gaining more knowledge on teacher professional development requires situating teacher professional development in time and space, as underscored by Kelchtermans' (2022) recent insights. This, in turn, implies revising two reductionist trends in the existing research: first, the lack of a career perspective in studies on teacher professional development (no time dimension), and second, the lack of conceptualization of teacher professional development as a learning process that takes into account dimensions of the teaching profession that relate to being an organizational agent in the school organization (no space dimension).

By studying teacher professional development through time and space, this study has as its objective to show empirically that situating teachers' professional development throughout their career and within their workplace allows us to go beyond the common narratives and reductionist perspectives provided by the two aforementioned trends. It offers important insights to researchers and policymakers on situating teachers' professional development within their entire work life and their organizational workplace in order to give opportunities to our teachers to grow professionally.

2. Theoretical background

2.1. The time dimension of teacher professional development

In this section, we describe two shortcomings arising from the lack of consideration of the time dimension in the literature on teacher professional development: (1) the clear dominance of research on early-career teacher induction and (2) the lack of cross-career-phase perspectives with regard to teachers' professional development needs. Additionally, we show that these two shortcomings lead to deficit narrative rhetoric about teachers.

First, studies about teachers' professional development often treat teachers as a homogeneous group or focus on a specific teacher career phase, namely, the induction period, which is "the primary phase in a continuum of professional development" (Kearney, 2014, p. 5). Some, but far fewer, have focused on end-of-career teachers' professional development (Brouhier, März, van Waes, & Raemdonck, 2021; Day & Gu, 2009). In between early-career teachers and late-career teachers, mid-career teachers have received very little specific attention in teacher research (Booth et al., 2021). Because the induction period has attracted most of the research about teacher professional development (Kyndt et al., 2016), there is a lack of knowledge about mid- and late-career teachers. However, teachers face challenges and have needs and strengths throughout their entire career and not only the induction period (Flores, 2020; Lavigne & Bozack, 2014). More generally, supporting teachers' development should go beyond reflection on their induction; too little attention is given to professional development opportunities specifically dedicated to experienced teachers (Bressman et al., 2018).

This focus on the induction period, besides neglecting the rest of the career, tends to frame a deficit rhetoric about early-career teachers (Ulvik & Langørgen, 2012). Indeed, Freeman (2023) noted that teacher professional development is commonly understood as an intervention to address a perceived deficit. The consensus in the literature is that many early-career teachers experience reality shock (Voss & Kunter, 2020), stress (Harmsen, Helms-Lorenz, Maulana, & van Veen, 2019), and are concerned about the demands of teaching and classroom management. Mainly, early-career teachers are characterized as novice teachers and their situation is almost exclusively framed in terms of trying to survive the first years of practice. They are described as struggling with becoming socialized into the teaching profession (Pogodzinski, 2012). In a recent critical analysis of the literature, Kelchtermans (2019) demonstrated that this deficit approach leads to negative rhetoric around issues related to early-career teachers, instead of also considering what goes well and the expertise they bring into schools. This means that this body of literature has created a narrative presenting early-career teachers as individuals we have to "repair, fix, or compensate for the deficits" (Kelchtermans, 2019, p. 86).

Second, studies on teachers' professional development do not often take a cross-phase perspective (Raduan & Na, 2020) —which has already been highlighted in the past (e.g., Teitel, 2001). There are examples of such studies (e.g., Bullough, Kauchak, Crow, Hobbs, & Stokes, 1997; Day, 2008; Masuda, Ebersole, & Barrett, 2013) but quite few. As a result, there is an empirical and theoretical lack of more complete pictures enabling comparison between teachers' career phases to highlight the continuities/discontinuities throughout their entire career with regard to their professional development (Raduan & Na, 2020). Studies have shown that taking this comparative approach can be informative regarding differences and similarities in teachers' professional development needs (Day, 1989b, 1995, 2012; Karlberg & Bezzina, 2020).

This lack also implies that research on a particular phase has little dialogue with research on other career phases. It has led to the creation of common rhetoric about teachers in each career phase, presenting different realities as if each career phase were a distinct and very different phase of working life. The common narrative about early-career teachers that we described in the previous paragraph is a good illustration of that. But deficit narratives also exist in the case of late-career teachers. They have been described as disengaged and exhausted (Rolls & Plauborg, 2009) and as being associated with negative clichés, such as not open to professional development and obstructing innovation (Gore and Rickards, 2021). A recent literature review on late-career teachers concluded that "A number of studies suggest that part of the group of experienced teachers with more than 20 years of experience perform didactically at a lower level than would be expected and are at a greater risk for attrition" (Torenbeek & Peters, 2017, p. 397).

Mid-career teachers, who are between the early- and late-career phases, are particularly neglected in the literature; the common discourse on them is that they are well-socialized, are doing fine, and do not have many needs (Booth et al., 2021).

These single points of view cannot grasp the complexity of teachers' working life and professional development needs. More than 10 years ago, Day et al. (2006) and Day and Gu (2010) suggested that different states of professional development are likely to co-exist within the same teaching career phase. Taking a whole-career perspective on teacher professional development —or said differently, situating teacher professional development in time— may highlight the differences as well as the similarities between teachers in different career phases, and enable research to go beyond these (often deficit) single points of view (Raduan & Na, 2020).

2.2. The space dimension of teacher professional development

Teacher professional development has as its fundamental objective to enhance teacher professionalism (Evans, 2019). This implies that, in teacher professional development efforts, teachers "are to be addressed as professionals" (Kelchtermans, 2022, p. 19), with everything that it entails to be a teacher (Tang, Wong, & Cheng, 2016). Following several recent studies (e.g., Kelchtermans, 2019; Tang, Cheng, & Wong, 2016; Tang, Wong, Li, & Cheng, 2021), this inherently includes a space dimension. More specifically, besides being classroom actors, teachers are professionals who negotiate their behaviors in relation to their workplace, the specific context of the school organization (Kelchtermans, 2022). According to Tang et al., "(…) competence to work in school is an under-researched aspect of teacher development" (2021, p. 154) and includes understanding the school organization, managing relationships with colleagues, and developing micro-political literacy. While these authors highlighted that scholarship on teacher professional development still overlooked these aspects, what they referred to was already approached by Kelchtermans and Ballet (2002) twenty years ago.

Research has identified a trend within current educational policies to shed light on the multidimensional nature of the teaching profession by emphasizing the organizational responsibilities of teachers, local accountability of the staff community, and the collective dimension of the teaching profession (i.e., collaboration, collective reflection on their school's functioning, schools as learning organizations, etc.; Tröhler, Meyer, Labaree, & Hutt, 2014). These policies make the organizational dimension of being a teacher even more explicit, as they describe and define teachers as organizational agents.

This means that treating teachers as professionals goes beyond the prevalent and narrow interpretation of teacher professional development as addressing teachers' role within classrooms, whereby it pursues the objective of instructing teachers for the benefit of their students' learning and success (Evans, 2014, 2019). Developing teachers' awareness about their workgroup and their organization is an important part of the teacher professional development process (Tang, Cheng, & Wong, 2016; Tang, Wong, & Cheng, 2016). This is in line with recent calls made by a number of researchers emphasizing that the teaching profession includes multiple aspects beyond those related to the students and the classroom, as teachers work with colleagues and in the school organization (e.g., März & Kelchtermans, 2020; Rots, Kelchtermans, & Aelterman, 2012; Tang, Cheng, & Wong, 2016; Tang, Wong, & Cheng, 2016).

Because studies have focused mainly on the benefits of professional development for classroom-related competencies, the space dimension is often invisible (Coppe et al., 2020), but also represents challenges for teachers that must be considered when investigating and trying to understand teacher professional development processes.

To take into consideration the space dimension of teachers' professional development, we use the teachers' work socialization construct (Coppe et al., 2020; Martineau, Portelance, & Presseau, 2009). *Teachers' work socialization* is a concept that refers to the process that begins upon entry into the school as a workplace and continues throughout the entire career (Coppe et al., 2020; Wanberg, 2012). Building on the work socialization concept allows us to operationalize the multidimensionality of the teaching profession. Specifically, in line with other studies (de Stercke et al., 2010; Leroux & Mukamurera, 2013; Mukamurera, 2010; Tang, Wong, & Cheng, 2016), the concept refers to four dimensions of the profession, namely, teaching task socialization, workgroup socialization, micropolitical climate socialization, and organization socialization (Coppe et al., 2020).

Teaching task socialization is about proficiency in the technical aspects of the profession, such as teaching practices, and pedagogical and didactic skills (Mukamurera, 2010). It ranges from being able to evaluate their students properly to knowing how to implement IT material in their lessons. *Workgroup socialization* is related to the collaborative dynamics of the teaching job. Teachers need to be integrated into the school community and be familiarized with how to get along with their colleagues in order to collaborate with them (de Stercke et al., 2010; Dupriez, 2010). *Micropolitical climate socialization* is about navigating the informal power dynamics in schools. Teachers have to learn how to "read" situations and make informed decisions with regard to their own interests and by understanding others' interests (Kelchtermans & Ballet, 2002). Finally, *organization socialization* refers to becoming familiar with the school's objectives, values, and culture as a particular organization (März & Van Nieuwenhoven, 2021). The school workplace is full of implicit routines. Each school is different with regard to its organizational culture (Feiman-Nemser, 2003).

These four dimensions represent the multidimensionality of the teaching profession, making them relevant for operationalizing teachers' professional development in space, that is, beyond the classroom (Coppe et al., 2020). However, it is important to note that using this construct to investigate teacher professional development somewhat conveys the idea that we should consider teachers being socialized to the profession a "good" thing. While, to a certain extent, this is certainly true, teachers challenging existing schools' culture, norms, and routines can also be seen as a "good" thing when it contributes to school improvement processes. Taking the example of early-career teachers, research has shown that newcomer teachers represent opportunities of changes. This means that they should not be viewed only as individuals who must adapt themselves to the school organization, but also as individuals who can influence it (Sullivan, Johnson, & Simons, 2018; Ulvik & Langørgen, 2012).

3. This study

3.1. Aims of the study

The study's objective is to demonstrate that situating teachers' professional development within the context of time and space is necessary for comprehending that the reality of teachers' work life is somewhat more complex than the realities described by common narratives widespread in the educational literature. To pursue this objective, we mapped teachers' professional development in each of the three main career phases (early-, mid-, and late-career; TPD's time dimension) by identifying profiles of teachers' states of professional development within each phase in relation to the multiple dimensions of the teaching profession, that is, the four dimensions of teachers' work socialization (teaching tasks, workgroup, micro-political climate, organizational; TPD's space dimension). On the one hand, identifying profiles within career phases will allow us to draw a precise picture of existing teachers' patterns of professional development for each main career phase (i.e., situating in time). On the other hand, considering these patterns of the four dimensions of teachers' work socialization allows us to consider the work of teaching in relation to its workplace (i.e., situating in space).

To pursue this objective, we adopted a person-centered approach using latent profile analysis (LPA; Nylund, Asparouhov, & Muthén,

2008). The person-centered approach allows considering individuals "based on their patterns of individual characteristics that are relevant for the problem under consideration" (Bergman & Magnusson, 1997, p. 293). That is, for this study, the patterns of teachers' state/level for the teachers' work socialization dimensions is an operationalization of their state of professional development. We considered two research questions.

- What profiles and associated patterns in the four dimensions of teachers' work socialization are present in each career phase?
- To what extent do these patterns show similarities and/or differences within and between the three main career phases?

3.2. Reflecting upon our concepts and methods[1]

The choices of method(s) and concept(s) in social sciences are performative in nature and do not allow for the investigation of phenomena completely freely, for it inherently carries underlying assumptions (Law, 2004). The 'assemblage' we have constructed using the two theoretical frameworks in relation to the 'time' or 'space' aspect and a deductive quantitative approach has an impact on creating a particular understanding of the phenomenon we investigate in this paper. With this section, we aim to make the readers aware of some of the consequences of the choices we made when designing this study.

First, behind our three categories of career stages lies the assumption that time on the job can be considered as teacher experience and, in some way, expertise. When we refer to late-career teachers, we mean "experienced teachers" who already have had the opportunity to learn a lot about the profession. This time-developmental perspective of teacher development has been introduced by Berliner (1986) and is widely used in research on teachers, but one could argue (as already acknowledged by Berliner) that experience does not always equal expertise. Nevertheless, our investigation of teachers' profiles within these three career stages provides a refined picture of the different states of professional development that coexist within each of these commonly used stages and a way to compare these states between the career stages.

Second, drawing on the work socialization concept and a quantitative design restricts our investigation to the four dimensions that this framework recognizes and to the way the framework defines them. While these four dimensions echo with several studies (e.g., de Stercke et al., 2010; Leroux & Mukamurera, 2013; Tang, Cheng, & Wong, 2016; Tang et al., 2021), they do not enable to look deeper within each of them (e.g., classroom related work is viewed as one dimension but could have been split into pedagogical practices, class management, subject content mastery, etc.) and our deductive approach prevents the emergence of other (potential) dimensions. However, this framework recognizes explicitly that teachers are also organizational actors (versus being only classroom actors) which makes it relevant and useful for the purpose of this study.

4. Method

4.1. Participants and data collection

Data collection was conducted via an online questionnaire distributed to teachers in primary and secondary schools in the French-speaking part of Belgium between November and December 2019, with the help of master's students in the context of a course from the educational science program of our university.[2] The questionnaire started with an information letter enabling participants to make an informed decision about whether to take part in the study or not. This was part of a project that has been approved by the university's ethics committee for social sciences [committee for social sciences – IACCHOS, UCLouvain]. A total of 1427 teachers returned the survey. Among them, 52.5% were secondary teachers, 38.5% were primary teachers, and 9% were preschool teachers; 16.5% were men, and 83.5% were women. These proportions correspond to the reality of the teaching workforce in French-speaking Belgium (FWB, 2018), where data were collected. Mean age was 36.73 years (SD = 10.29). Mean years of teaching experience was 12.72 (SD = 9.90, min = 1, max = 45). After classifying teachers into teachers' main career phases (see teachers' career phases – measures section), 1193 participants remained in our sample; 159 of these were missing all of the variables used in this study. Therefore, the final valid respondents for this study were 1034 teachers.[3]

This sample is specific to the context of French-speaking Belgium but is likely to share similarities with teachers from the rest of Belgium and countries where teacher education and career progression are organized in a similar manner. Indeed, the development of teachers is intrinsically linked to how countries or states regulate the teaching profession and their educational workforce (Dumay, Coppe, & Voisin, 2023). While in some countries, the career trajectory is mostly horizontal—as is the case in Belgium—in others, teachers have opportunities for vertical career advancement throughout their entire careers—as is the case in Japan, Singapore, Shanghai, and Korea, for example (Voisin & Dumay, 2020)—which can impact their professional lives.

4.2. Measures

All variables included in this study were measured using Likert scales ranging from 1 to 5 (1 = *strongly disagree*; 5 = *strongly agree*), except for teachers' career phases, which were computed based on the years of teaching experience.

4.2.1. Teachers' work socialization

We used the teachers' work socialization scale (ISaTE; Coppe et al., 2020) to measure teachers' work socialization. This scale includes 20 items addressing the four dimensions of the construct (SG: workgroup socialization; MP: micropolitical climate socialization; SO: organization socialization; ST: teaching tasks socialization). Examples of items for each dimension are given in Appendix A (Table A1). We used McDonald's ω to test the internal consistency of the dimensions, as this index takes into account the items' loadings, which makes it more precise than the usual Cronbach's α (Dunn, Baguley, & Brunsden, 2014). Each dimension showed satisfactory to good internal consistency (SG: ω = .75; MP: ω = 0.74; SO: ω = 0.85; ST: ω = 0.81). Results of confirmatory factor analysis and measurement invariance analysis are presented at the beginning of the results section.

4.2.2. Teachers' career phases

We created a three-modalities variable to classify our sample into early-, mid-, and late-career teachers, following the classification used most often in the literature (Huberman, 1989a, 1989b, 2001). Early-career teachers had 1–5 years of experience; mid-career teachers had 8–15 years of experience; late-career teachers had 20 or more years of experience. The decision to drop participants with 6, 7, and 16–19 years of experience was done to make a clear separation between the different career phases and avoid what could be considered a transition period. Latent profiles analysis is a powerful statistical method for identifying distinct subpopulations within one sample; however, it assumes that unobserved heterogeneity is present within the sample (Spurk, Hirschi, Wang, Valero, & Kauffeld, 2020). The decision to exclude parts of the sample that may be in a transition period was a

[1] We would like to express our gratitude to the anonymous reviewer who invited us to make this reflection

[2] Students were asked to disseminate the questionnaire within their own networks.

[3] These 1034 participants represent part of the data used in a previous study validating the ISaTE-scale (see Coppe et al., 2020).

cautious choice to maintain clearly defined a priori subpopulations for the three career stages, thereby facilitating the detection of this heterogeneity. As stated in Section 3.2, choices carry underlying assumptions, which in this case included the belief that including teachers in a transition period in the analysis could obscure the detection of heterogeneous subgroups. This classification gave us 383 early-career teachers, 355 mid-career teachers, and 296 late-career teachers.

4.3. Data analysis and procedure

All statistical analyses were conducted using *Mplus 8.4* software with the MLR estimator (robust maximum likelihood estimator, i.e., robust to non-normality). Several analytic steps were required to ensure the methodological validity of the results. These steps are detailed in the next paragraphs.

First, we conducted confirmatory factor analyses to assess the construct validity (teachers' work socialization) of our instrument. This means that we checked whether the items work well together and seem to measure the same underlying construct. Four fit indices were used to evaluate whether the measurement model fitted the data: the Tucker-Lewis index (TLI), the comparative fit index (CFI), the standardized root mean square residual (SRMR), and the root mean square residual (RMSEA). TLI and CFI should be greater than 0.90 to show an acceptable fit and greater than 0.95 to show a good fit. RMSEA and SRMR should be less than 0.08 to show an acceptable fit and less than 0.06 to show a good fit (Little, 2013). We did not interpret the chi-square model fit index, as it is well known that this index is sensitive to sample size, tending to reject good or acceptable models the larger the sample is (Alavi et al., 2020).

Second, we assessed the measurement invariance of our constructs across our three career phases (early-, mid-, and late-career teachers). This means that we investigated whether our constructs were understood similarly by our three groups of teachers, which is a required step to compare between-group results. We sequentially tested increasingly constrained models, namely, configural invariance (i.e., between-groups invariance in the pattern of relationships between items and related constructs), metric invariance (i.e, between-groups invariance in the factor loading of the items), scalar invariance (i.e., between-groups invariance in factor loading and intercepts of the items), and strict invariance models (i.e., between-groups invariance in factor loadings, intercepts, and measurement errors of the items), in succession. Each invariance step was taken when the current invariance model did not show a decrease in CFI greater than .01 together with an increase in RMSEA greater than 0.015 or an increase in SRMR greater than 0.03 when compared to the previous invariance model (e.g., metric vs configural; Chen, 2007). We used factor scores from our more restricted measurement invariance models to identify the best profile solution and to estimate the profiles. Using factor scores rather than observed scores is a more reliable approach to computing latent profiles because it partially controls for measurement error (Morin, Meyer, Creusier, & Biétry, 2016). These factor scores were centered on the sample mean (i.e., grand-mean-centered). Thus, they can be interpreted for comparisons within and between career phases, and the value 0 represents the entire sample mean.

Third, we performed LPA, extracting 1- to 8-profile solutions. LPA is a statistical technique used to identify different groups (i.e., "profiles") within a larger population on the basis of similar patterns of responses to multiple variables. Determining the best number of profiles is the core challenge in LPA (Morin et al., 2016). To evaluate profile solutions, we used the Akaike information criterion (AIC), Bayesian information criterion (BIC), sample-size adjusted BIC (SABIC), adjusted Lo-Mendell-Rubin likelihood ratio test (aLMR), bootstrap likelihood ratio test (BLRT), and entropy. Lower values on the AIC, BIC, and SABIC show a better solution. aLMR and BLRT indicate that a *k*-profile model must be preferred to a *k-1*-profile model if the *p*-value is non-significant (Nylund, Asparouhov, & Muthén, 2007). With a large sample size, AIC, BIC, and SABIC might not reach a minimum value. If so, the suggestion is to consider the "elbow" in their graphical representation (Morin et al., 2016). Entropy was also considered, with a cut-off of .70 or greater for a relevant profile solution (Nylund et al., 2007). In additional to these criteria, the choice of the best profile solution was also driven by the substantive meaning of the profiles (Marsh, Lüdtke, Trautwein, & Morin, 2009; Parmentier, Dangoisse, Zacher, Pirsoul, & Nils, 2021). Mean and variance were allowed to vary across profiles, which is the recommended method, as this routine is more realistic and avoids biased parameter estimates (Morin et al., 2011).

The choices to be made at the different stages of the analysis and the interpretations of the results were made in discussion between authors of this study. Some are experts in teachers' professional development and others in methodologies related to teacher-related research. This combination and the discussions within the team helped to strengthen the quality, reliability and integrity of the analysis and results.

5. Results

As they are important preliminary steps for the core analysis of this paper, we briefly present first the results of the confirmatory factor analyses and the results for the measurement invariance models. Second, we present the results of the latent profile analyses and provide an interpretation of these profiles regarding their patterns for the four dimensions of teachers' work socialization.

5.1. Preliminary analyses (CFA, invariance by career phases)

Results of the CFA showed that our theoretical models for teachers' work socialization with four first-order latent factors had good to excellent fit indices (Teachers' work socialization: CFI = 0.93, TLI = 0.91, RMSEA = 0.048, SRMR = 0.057). The comparison of the measurement invariance models showed measurement invariance up to scalar invariance for our model of teachers' work socialization (see Table 1). This implied that we could assume strong measurement invariance of our measurement model across the three teacher career stages, allowing mean comparisons between the groups.

5.2. Latent profile analysis

Table 2 presents the indices used to evaluate the best solutions (between 1 and 8 profiles) for our three groups of interest (i.e., early-, mid-, late-career teachers). According to the elbow of the decrease in CAIC and BIC, the minimum sample size and the aLMR, a solution with 4 profiles was to be preferred for the group of early-career teachers; 3 profiles for the group of mid-career teachers; and 3 profiles for the group of late-career teachers. A qualitative investigation of the profiles demonstrated that the solution with four profiles highlighted a new, qualitatively distinct, and relevant profile in both the mid- and late-career teacher groups. For that reason, we decided to keep a 4-4-4 profile solution. Entropy values for these profile solutions were high: 0.83, 0.81, and 0.85 for the early-, mid-, and late-career groups of teachers, respectively.

We present the solutions with 4 profiles for our three groups of interest in Fig. 1. We offer representations with bars and with lines, as some readers may be more familiar with one way to represent the profiles graphically than the other. Table 3 shows the estimated parameters for each of these profiles.

5.3. Early-career teachers

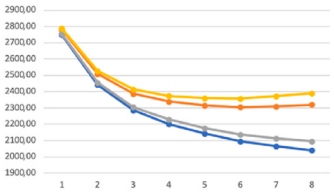
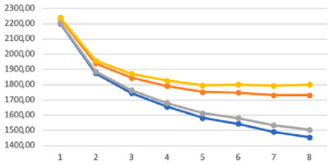
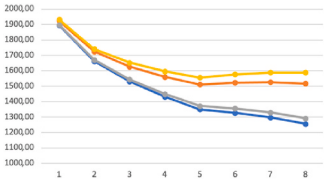
Profile 1. Twenty-three percent of the early-career teachers who participated in this study were classified within this profile. This profile showed the lowest scores for the four dimensions of teachers' work socialization across all profiles in the three career phases (SG = −0.77, MP = −0.60, SO = −0.72, ST = −0.64). Therefore, we labeled this profile

Table 1
Measurement invariance models.

Model	LL	#fp	χ^2	*df*	*p*-value	SCF	RMSEA	CI RMSEA	CFI	TLI	SRMR	ΔCFI	ΔRMSEA	ΔSRMR
Configural	−23215	198	884.94	492	<.01	1.14	.048	.043–.053	.926	.914	.057			
Metric	−23237	166	910.54	524	<.01	1.15	.046	.041–.051	.927	.92	.065	.001	−.002	.008
Scalar	**−23290**	**134**	**1011.22**	**556**	**<.01**	**1.15**	**.049**	**.044–.053**	**.914**	**.912**	**.068**	**−.013**	**.003**	**.003**
Strict	−23406	95	1152.59	595	<.01	1.21	.052	.048–.057	.894	.899	.116	−.020	.003	.048
Part. strict	−23394	97	1130.95	593	<.01	1.21	.051	.047–.056	.898	.902	.115	−.016	.002	.047

Note: **Bold**: the most constrained model reached.

Table 2
Fit indices of latent profile solutions (1–8 profiles) for each career phase.

	LL	fp	SC	AIC	BIC	SABIC	CAIC	aLMR	BLRT	Entropy	*N* min	Up to down: *CAIC, BIC, SABIC, AIC*
Early												
1	−1366.58	8	1.12	2749.16	2780.74	2755.36	2788.74	–	–	1	–	
2	−1204.28	17	1.32	2442.56	2509.68	2455.74	2526.68	.01	.00	.69	39%	
3	−1116.45	26	1.15	2284.91	2387.56	2305.06	2413.56	.00	.00	.79	17%	
4	**−1065.56**	**35**	**1.03**	**2201.12**	**2339.30**	**2228.25**	**2374.30**	**.00**	**.00**	**.83**	**10%**	
5	−1026.89	44	1.02	2141.78	2315.49	2175.89	2359.49	.07	.00	.79	5%	
6	−994.61	53	1.03	2095.22	2304.47	2136.30	2357.47	.01	.00	.82	5%	
7	−970.61	62	1.07	2065.61	2309.99	2113.27	2371.99	.15	.26	.81	2%	
8	−948.70	71	1.09	2039.41	2319.72	2094.45	2390.72	.29	.00	.80	2%	
Mid												
1	−1093.18	8	1.02	2202.35	2233.33	2207.95	2241.33	–	–	1	–	
2	−920.44	17	1.08	1874.88	1940.71	1886.78	1957.71	.00	.00	.90	26%	
3	−846.91	26	1.19	1745.83	1846.50	1764.02	1872.50	.02	.00	.86	12%	
4	**−793.11**	**35**	**1.02**	**1656.22**	**1791.75**	**1680.71**	**1826.75**	**.00**	**.00**	**.91**	**3%**	
5	−747.36	44	1.09	1582.72	1753.10	1613.51	1797.10	.07	.03	.86	1%	
6	−718.76	53	1.05	1543.53	1748.75	1580.61	1801.75	.01	.01	.84	2%	
7	−683.69	62	1.05	1491.37	1731.44	1534.75	1793.44	.01	.04	.86	1%	
8	−656.92	71	1.19	1455.84	1730.76	1505.52	1801.76	.25	.06	.84	1%	
Late												
1	−939.31	8	1.26	1894.62	1924.12	1898.75	1932.12	–	–	1	–	
2	−813.76	17	1.22	1661.52	1724.20	1670.29	1741.20	.00	.00	.88	27%	
3	−739.45	26	1.05	1530.90	1626.76	1544.31	1652.76	.00	.00	.92	5%	
4	**−681.03**	**35**	**1.07**	**1432.06**	**1561.10**	**1450.11**	**1596.10**	**.11**	**.00**	**.85**	**5%**	
5	−630.64	44	1.06	1349.28	1511.50	1371.97	1555.50	.07	.00	.83	5%	
6	−610.95	53	1.06	1327.89	1523.30	1355.22	1576.30	.39	.01	.82	5%	
7	−587.01	62	0.98	1298.02	1526.62	1330.00	1588.62	.07	.00	.87	2%	
8	−556.83	71	0.95	1255.65	1517.43	1292.26	1588.43	.05	.01	.87	2%	

Note: **Bold**: Selected profile solution.

"At risk," as it was made up of the least well-socialized within the profession.

Profile 2. Almost 54% of the early-career teachers from this study belonged in this profile, which was therefore the most prominent profile for this group of teachers. This profile was characterized by scores for group socialization and organization socialization that were close to the mean for the entire sample (SG = 0.062, SO = −0.064). The profile also showed marginally low scores for micropolitical socialization and task socialization (MP = −0.16, ST = −0.13). Therefore, we decided to call this profile "Moderately socialized."

Profile 3. Almost 13% of our early-career teacher participants were classified within this profile. It showed positive scores on each dimension, with a high score for group socialization (SG = 0.88), relatively high scores for micropolitical and organization socialization (MP = 0.48, SO = 0.37), and a marginally positive score for task socialization (ST = 0.23). We labeled this profile "Well-socialized with colleagues".

Profile 4. Approximately 10% of our early career teacher participants were in this profile. This profile was characterized by positive scores close to the sample mean for group and micropolitical socialization (SG = 0.05, MP = 0.11). It showed a particularly high score for organization socialization (SO = 0.79) and the highest score for task socialization across the early-career teacher profiles (ST = 0.30). We called this profile "Well-socialized within the organization".

Across profiles. Only 23% of our sample seemed to experience difficulties regarding their socialization in the teaching profession. The rest of our early-career teachers were either moderately socialized or (more rarely) highly socialized across the four dimensions.

5.4. Mid-career teachers

Profile 1. This profile included almost 61% of the mid-career teachers participating in our study, the largest share seen across the

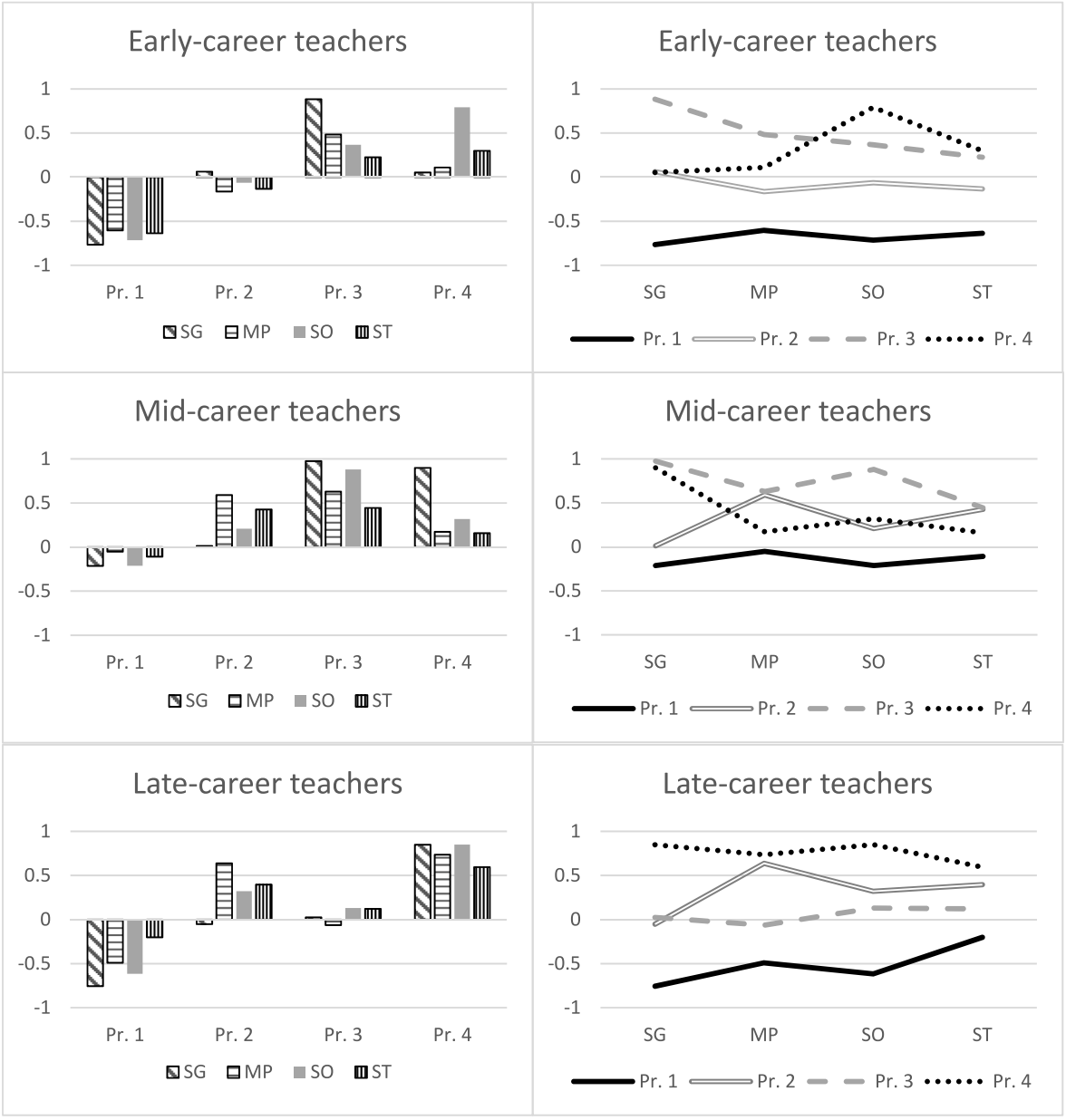


Fig. 1. Patterns for the four profiles, per career phase.

Table 3
Estimated parameters for the four profiles, per career phase.

	Early-career teachers				Mid-career teachers				Late-career teachers			
	1	2	3	4	1	2	3	4	1	2	3	4
SG	−0.765	0.062	0.884	0.053	−0.213	0.012	0.975	0.899	−0.757	−0.053	0.024	0.848
MP	−0.604	−0.164	0.483	0.109	−0.052	0.591	0.629	0.172	−0.491	0.637	−0.064	0.735
SO	−0.715	−0.064	0.367	0.792	−0.212	0.209	0.881	0.319	−0.616	0.321	0.13	0.849
ST	−0.637	−0.134	0.226	0.298	−0.108	0,427	0.445	0.159	−0.202	0.395	0.131	0.594
Profile size (%)	23.24	53.53	12.79	10.44	60.85	12.39	3.1	23.66	10.17	25.42	59.66	4.75

Note: SG = workgroup socialization; MP = micropolitical climate socialization; SO = organization socialization; ST = teaching task socialization. Numbers on the top of each column refer to the profiles.

profiles and career phases. This profile showed a negative score for each dimension. For micropolitical and task socialization, scores were close to the sample mean (MP = −0.52, ST = −0.11). For group and organization socialization, scores were lower (SG = −0.21, SO = −0.21). We labeled this profile "Moderately socialized," as with Profile 2 for the early-career teachers.

Profile 2. This profile included approximately 12% of the teachers from the mid-career phase. It was characterized by a score very close to the sample mean for group socialization (SG = 0.01), high scores for micropolitical and task socialization (MP = 0.59, ST = 0.43), and a

Table 4
Profiles membership across career phases.

	Early-career	Mid-career	Late-career
At risk	23.24 %	–	10.17 %
Moderatly socialized	53.53 %	60.85 %	59.66 %
Well-socialized with colleagues	12.79 %	23.66 %	–
Well-socialized within the organization	10.44 %	–	–
The micropolitical- and task-comfortable teacher	–	12.39 %	25.42 %
Highly socialized	–	3.1 %	4.75 %

positive score for organization socialization (SO = 0.209). We called this profile "The micro-political- and task-comfortable teacher."

Profile 3. This profile included 3% of the participants from the mid-career phase, the smallest profile size across all the profiles. This profile showed high scores for each dimension of socialization (SG = 0.98, MP = 0.63, SO = 0.88, ST = 0.45). We called this profile "Highly socialized."

Profile 4. Profile 4 represented almost 24% of our sample of mid-career teachers. It was characterized by a high score for group socialization (SG = 0.90) and positive scores for the three other dimensions (MP = 0.17, SO = 0.31, ST = 0.16). We labeled this profile "Well-socialized with colleagues," as we did for the third profile for early-career teachers.

Across profiles. The vast majority (60%) of our mid-career teachers were moderately socialized; only 3.1% were highly socialized across the four dimensions. The two other profiles showed heterogeneous scores across the different dimensions, with a high score in either micro-political climate socialization (profile 2) or group socialization (profile 4).

5.5. Late-career teachers

Profile 1. Ten percent of the late-career teachers who participated in this study were classified within this profile. This profile showed highly negative scores for the four dimensions of teachers' work socialization (SG = −0.76, MP = −0.49, SO = −0.62, ST = −0.20). We labeled this profile "At risk" as we did for Profile 1 for early-career teachers. Interestingly though, this profile exhibited a higher level of task socialization compared to early-career teachers in the "At risk" profile.

Profile 2. A quarter of the teacher in the late-career phase were included in this profile. It showed positive score for three dimensions (MP = 0.64, SO = 0.32, ST = 0.40) and a marginally negative score for group socialization (SG = −0.05). We labeled this profile "The micro-political- and task-comfortable teacher" as we did for the second profile for the mid-career group.

Profile 3. The majority (60%) of the late-career teachers were in this profile. This profile showed scores very close to the sample mean for each dimension of socialization (SG = 0.02, MP = −0.06, SO = 0.13, ST = 0.13). We labeled this profile "Moderately socialized." as with Profile 2 for the early-career teachers and Profile 1 for the mid-career teachers.

Profile 4. A minority of this group's teachers (5%) were included in this profile. Results for this profile showed high values for each dimension of teachers' work socialization. We labeled this profile "Highly socialized," as we did for Profile 3 for the mid-career teachers.

Across profiles. Here again, only a minority of the teachers were highly socialized, while the moderately socialized and at-risk profiles together represented 70% of the teachers within the late-career phase group of teachers. Additionally, only one profile showed a positive high score for group socialization. In contrast, the three other profiles had scores for group socialization that were either very close to the sample mean or negative.

5.6. Across profiles and career phases

Here, we highlight the most significant results that were visible when taking a bird's-eye view of the profiles across the career phases.

First, At-risk teachers were clearly defined within the group of early-career teachers and late-career teachers, while they did not emerge in the group of mid-career teachers. Second, at the opposite end, the Highly socialized profile appeared only in the mid- and late-career groups, and represented a minority of teachers in these two career phases. Third, scores differed highly between the dimensions, which means that having a high or low score for one of the dimensions did not imply that the other dimensions would show the same trend. Finally, while there was significant heterogeneity within each career phase, we found similar profiles occurring between the career phases (At risk, Moderately socialized, Micro-political and task-comfortable, Highly socialized) as detailed in Table 4.

6. Discussion

In this article, we investigated teacher professional development examining three career phases, linking them, and considering the different dimensions of socialization into the teaching profession. Doing so, we showed that situating teacher professional development in time and space provides additional and refined evidence on the complexity of teachers' work life. We highlight and discuss below four key messages that have emerged from this.

First, ***the way in which early-career teachers experience their work lives is in many respects very similar to the experiences of their senior colleagues in later career phases***. While we found, as many have before us, that some early-career teachers can be viewed as at risk, because entering the teaching profession is a complex process that requires familiarization with a lot of aspects (Fantilli & McDougall, 2009; Girinshuti, 2020; Leroux & Mukamurera, 2013; Mukamurera, 2010; Pogodzinski, 2012), they represented less than the quarter of our early-career teachers. Additionally, at-risk teachers also appeared in our group of late-career teachers. It is also worth mentioning that even though we did not find at-risk teachers in the mid-career group, more than 60% of them were classified as only moderately socialized, showing that lot of mid-career teachers appeared to have particular professional development needs, too. Moreover, while we did not find a true highly socialized profile within the early-career group, this profile represented a small minority within the mid- and late-career groups. When leaving aside this minority, most teachers seemed to experience the same realities regardless of their career phase. Indeed, two of the early-career teachers' profiles had an equivalent in the other career phases. That invites us to reconsider the deficit story around early-career teachers, as other researchers have concluded before us. In fact, our findings align with authors who have contested the deficit perspective surrounding "beginning" teachers (Correa, Martínez-Arbelaiz, & Aberasturi-Apraiz, 2015; März & Van Nieuwenhoven, 2021; März & Kelchtermans, 2020;

Schaefer, Long, & Clandinin, 2012; Ulvik, Smith, & Helleve, 2009). Being new to a profession does not imply being unsocialized per se. Although our results showed some homogeneity between career stages, this should not be an argument for considering teachers as a homogeneous population. Our results also highlighted some specificities related to each career phase, for which a qualitative refinement of our understanding of the profile (see also the limitations section) would likely have revealed other particularities.

Second, ***the need for support and opportunities to develop professionally is not restricted to the early-career stage, but may be experienced as well by mid- and late-career teachers***. As briefly mentioned in the preceding point, the fact that more than 60% of the mid-career teachers were moderately socialized and almost 70% of the late-career teachers were either moderately socialized or at risk should get our attention. While most of the research agenda and support policies are dedicated to early-career teachers, our results tell us that some mid- and late-career teachers could benefit from support and development, too. These results are in line with recent research (e.g., Gore & Rickards, 2020; Karlberg & Bezzina, 2020). Educational systems are losing their teachers worlwide, and societal crises such as the COVID-19 pandemic have increased this phenomenon of attrition (García & Weiss, 2020). Therefore, tapping into each career phase to give teachers opportunities to develop and find themselves in their right place in the teaching profession is of extra importance (Santoro, 2011). This result also challenges or refines the idea that greater seniority within the profession inherently equates to increased experience or expertise among teachers, which was also highlighted in the conclusion of a recent systematic review on the topic (Podolsky, Kini, & Darling-Hammond, 2019). As an illustrative example, it's worth noting that 23% of our early-career teachers (i.e., profile 3 + profile 4) exhibit higher scores across the four dimensions compared to 61% of our mid-career teachers (i.e., profile 1). This presents evidence that, in the realm of the teaching profession, more time on the job does not equal more expertise per se. This result aligns with Berliner's call when he wrote "(…) the terms 'experienced' and 'expert' are used throughout this discussion as if they are interchangeable. We know they are not, but cannot yet untangle them, so we must ask for patience in resolving this situation" (1986, p. 9). Furthermore, this result serves as additional evidence that the decision to classify our teachers into three career phases that relate theoretically to their expertise, is a choice that cannot fully represent the intricate reality of teachers' working life (see section 3.2 for a brief discussion about this aspect).

Third, ***the majority of the profiles are socialized with the workgroup or the micropolitical climate or not socialized at all, but are not socialized within both*** (except for the two highly socialized profiles representing a small minority of the teachers). This specific result got our attention. Several studies have highlighted that being able to navigate within the microplitical climate of the school organization can help teachers to properly integrate the workgroup (Tang, Cheng, & Wong, 2016). In the context of French-speaking Belgium, which has been previously described as having little collegiality within the schools (Dupriez, 2010), what if understanding how people negotiate informal power dynamics has as a consequence disengaging from involvement in the work group? Some studies from this context have reported that when teachers see their colleagues' little power games, they prefer to stay out of interactions with the group (e.g., Coppe, März, & Raemdonck, 2023). This could imply that some teachers deliberately opt not to allocate energy in their socialization within the workgroup or the micropolitical culture, or even the organization as emphasized by Schaefer, Hennig, and Clandinin (2021). In this sense, they exercise their own agency to decide what is worth the effort in relation to how they experience their organizational role.

Fourth, ***teacher development does not follow a linear process***. Indeed, looking at the different profiles throughout the career phases, it is very difficult to agree with the idea that teachers' development follows a linear process. Instead, teachers' working life is complex, does not follow the same pattern in differents aspects of the job, is marked by interplay between teachers and they organizational context, and is likely to be marked by cyclic processes of development (Rinke, 2008) depending on the students, new colleagues, changes in school culture, educational reform, priorities in their own lives, and so on. Put differently, the metaphor of an arabesque does more justice to the development of teachers' work lives (Kelchtermans et al., 2022). This non-linearity is visible in the four dimensions. While it could be expected that, at least for the dimension related to teaching in the classroom, teacher professional development follows a linear process, meaning that spending more time on the job would lead to becoming more expert, as argued by Podolsky et al. (2019), our results showed that even for this dimension, this is not necessarily the case and nuance is needed. It is also important to stress that our results showed more diversity *within* the career phases than *between* the career phases. This means that a given career phase cannot be characterized by a single common rhetoric, and that research can work on both the differences and similarities across different phases of the career to nourish our knowledge about teachers' working life.

Following these fourth key messages, let us pinpoint two more thoughts for research in the field. First, it is obvious that proficiency and familiarization with one dimension of the profession does not imply proficiency and familiarization with the others. We therefore reiterate the importance of considering the different aspects of the teaching profession when studying teachers' development, and not sticking to one dimension, such as the work related to the classroom (Coppe et al., 2020; Kearney, 2015; Tang, Cheng, & Wong, 2016; Tang, Wong, & Cheng, 2016). Nevertheless, the endeavor to facilitate the professional growth of teachers across different dimensions of the profession should avoid adopting a normative stance. As we discussed earlier, some teachers might exercise their agency by considering they do not fit within their organizational role or put differently, how they are asked to behave does not align to what they think would be good for the school on the basis of their professional judgement. If so, it is possible that they are trying to be initiators of changes which can be something to support. Thus, we could argue that in some cases, and for some teachers, not being socialized within certain organizational dimensions of the job is actually an evidence of professionalism when they have effectively pointed out something that can be improved in their school.

Second, on a methodological level, we think it is important to be cautious about variable-centered and large-scale quantitative approaches that aim to highlight trends for a given sample of teachers. As the teacher's work life is complex, combining these approaches with a person-centered approach is a promising avenue for highlighting not only the general trends, but also the heterogeneities of the stories. In the same vein, using a qualitative approach to study teachers' work lives has much to offer for research, as it provide a way to grasp as best as possible the complexity of what they experience (Kelchtermans & Ballet, 2002). In Appendix B, we provide graphs showing the overall relationships between the different dimensions of teachers' socialization and years of teaching experience for the same data set used in our analyses. Readers will see that these graphs, following a variable-centered approach, hide the complexity of the reality we have tried to highlight using a person-centered approach. Indeed, these graphs show a low level of socialization at the beginning of the career, which increases until reaching a maximum at the middle of the career, and decreases at the end.

Limitation. We have tried to outline the limitations of our study

while presenting our approach (see section 3.2), our selection of concepts (see theoretical framework and section 3.2), and our method (see section 4). Here, we introduce additional limitations not previously acknowledged.

First, our study used only a quantitative design. This prevents us from having an in-depth understanding of the lived experiences of the teachers within the different profiles. Combining the quantitative results with qualitative results coming directly from the voice of the teachers, from their own narratives (Kelchtermans & Ballet, 2002), would provide a richer descriptions of the realities behind the profiles. Furthermore, qualitative designs would allow building in-depth understanding of the interactions between teachers and their workplace and show how they negotiate being professionnal organizational actors.

Second, this study used cross-sectional data. It would have been interesting to follow the development of workplace socialization in a sample of teachers. Nevertheless, even though it would have been ideal, it would still be a bit unrealistic to draw conclusions from longitudinal data following teachers during their whole career, as the teaching profession has changed a lot these past two decades. However this kind of longitudinal design could inform us about the evolution of the teaching profession and of the conception of teachers' professional development, following other research objectives that ours.

Third, we operationalized our reflection by considering teachers' status on the four dimensions of the teachers' work socialization construct. While this allowed us to show the complexity of teachers' working life and similarities and differences between career stages, we could have focused directly on their needs instead of their states, as Karlberg and Bezzina did in a recent exploratory study (2020).

Fourth, we did not examine or compare differences related to teachers' discipline or level of teaching. Some studies would argue that studying teachers' professional development implies taking a discipline-specific approach, as professional development should be content-focused, while others would argue for a professional development approach that is pedagogy-focused, as it allows addressing the needs of all teachers, regardless of their discipline or level of teaching (Gore & Rosser, 2022). As our studies aimed at investigating the multiple dimensions of the teaching profession, we did not address this aspect, because it would have meant opening up the classroom-related dimension in particular and paying less attention to the other three dimensions.

7. Conclusion

This paper situated teacher professional development in time and space to show that teachers' development is complex and cannot be grasped either by common narratives on early-, mid-, and late-career teachers or by studies that overlook the organizational dimension of being a teacher. Rather, the teaching profession is multidimensional and does not follow a linear path. We invite researchers studying teacher professional development to turn to comprehensive approaches that give credit to the complexity and the cyclic path of their working life. While most current research focuses on early-career teachers and the classroom-related aspects of teaching, the findings of this study contribute to emphasize that we should move beyond these two narrow focuses to consider the whole working life of teachers and the multidimensional aspect of their work. Being a teacher is much more than being an early-career teacher and working with students in a classroom. In addition, the study of teacher professional development, as advocated by Evans (2023), should also be aimed at the growth of teachers themselves, not just the growth of their students.

CRediT authorship contribution statement

Thibault Coppe: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Validation, Writing - original draft, Writing - review & editing. **Michaël Parmentier:** Formal analysis, Methodology, Writing - review & editing. **Geert Kelchtermans:** Conceptualization, Writing - review & editing. **Isabel Raemdonck:** Data curation, Funding acquisition, Writing - review & editing. **Virginie März:** Funding acquisition, Writing - review & editing. **Stéphane Colognesi:** Data curation, Writing - original draft, Writing - review & editing.

Declaration of competing interest

None.

Data availability

Data will be made available on request.

Acknowledgements

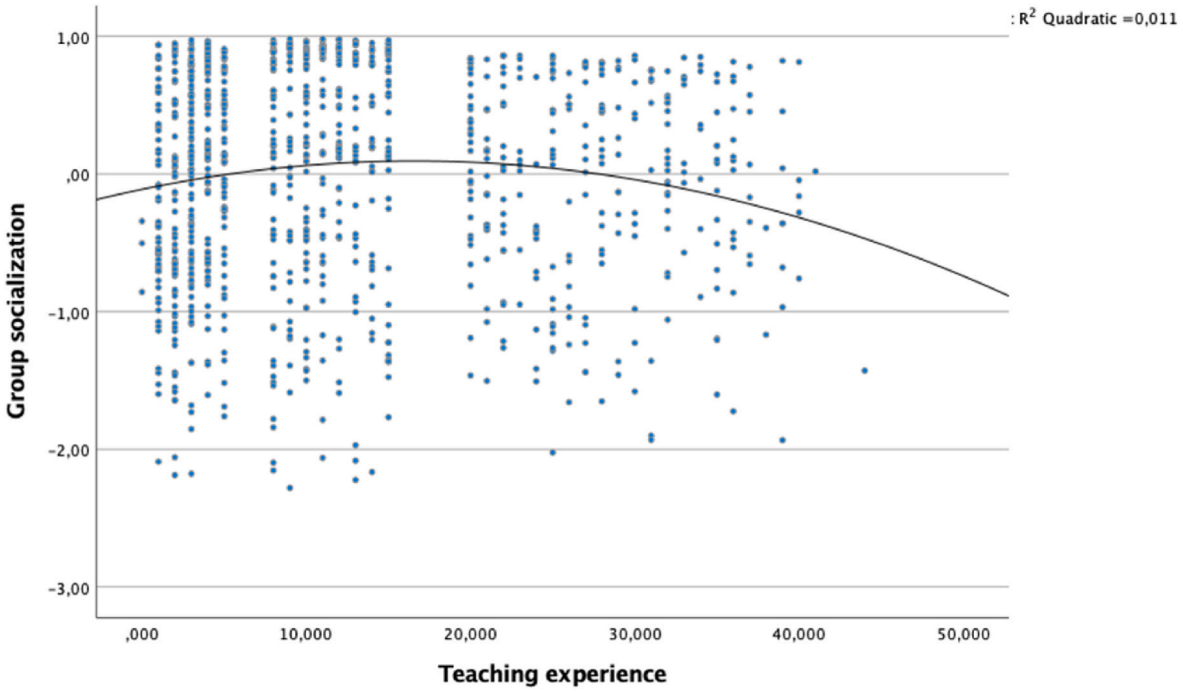
This work was partially supported by the F.R.S.-FNRS [F 6/40/5 - FRESH/FC 29830].

Appendix A

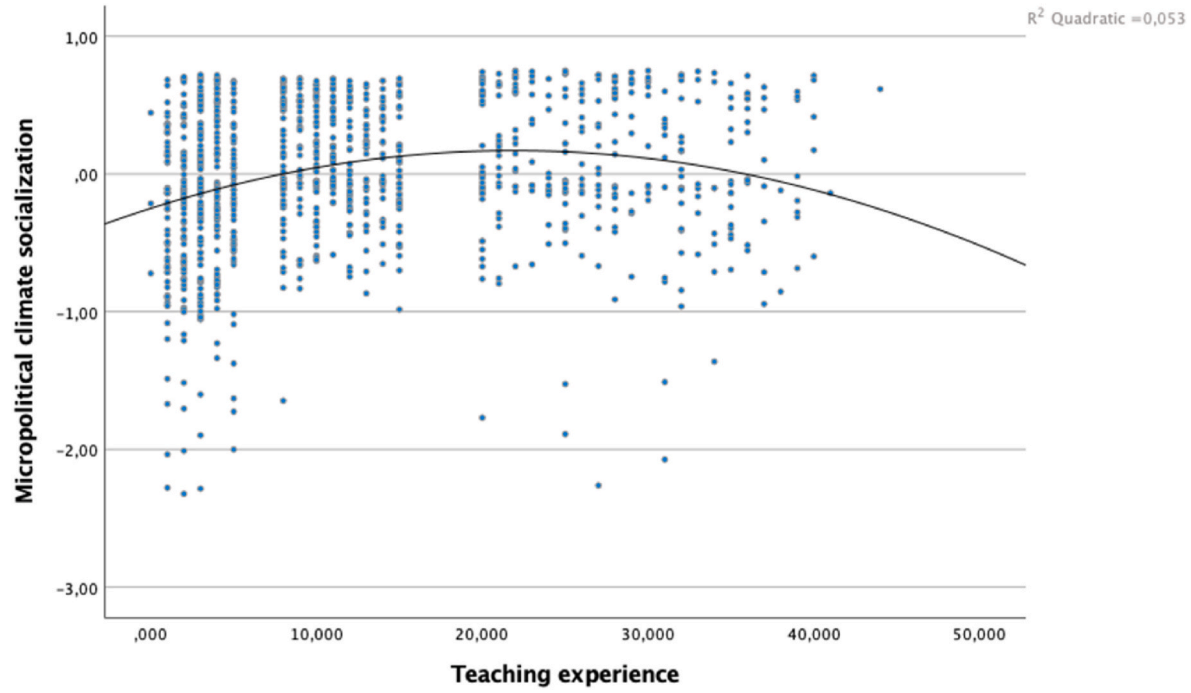
Table A.1
Examples of items for the teachers' work socialization scale

Examples of items measuring teachers' work socialization (translated from French)
SG: I usually do not take part in informal social events organized by colleagues. (reverse)
MP: I know who the most influential people are among my colleagues.
SO: I know how to adapt to my school's values.
ST: I know how to evaluate my students based on curriculum content and my planning of the year.

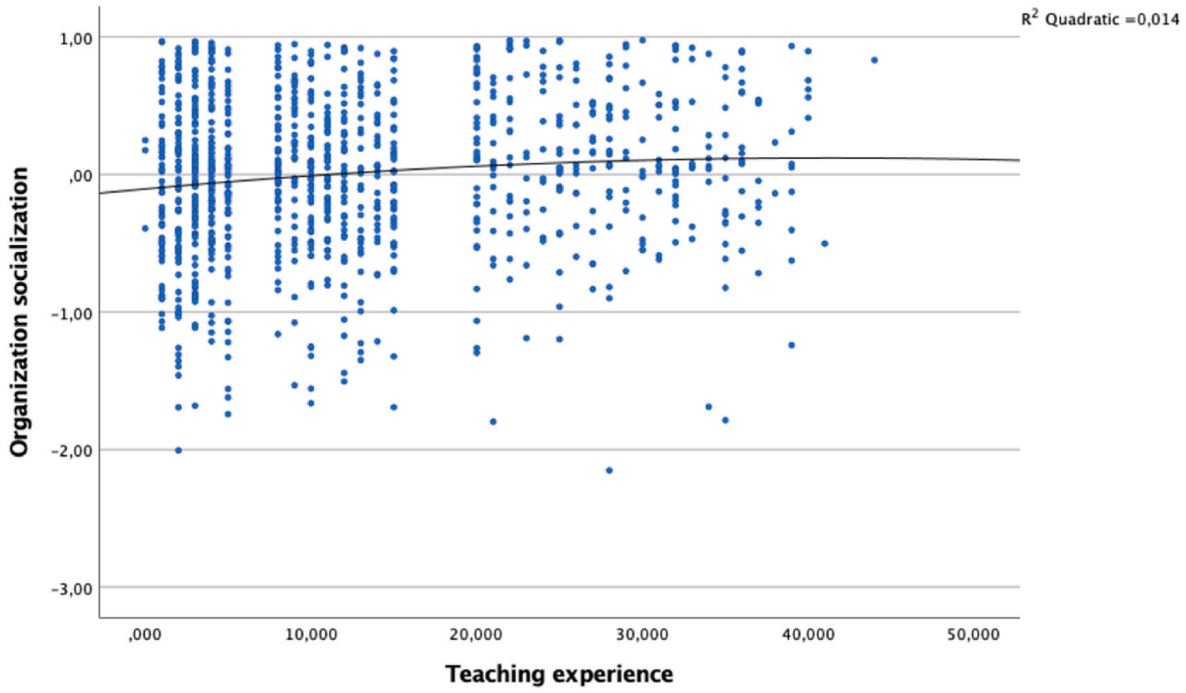
Appendices B.



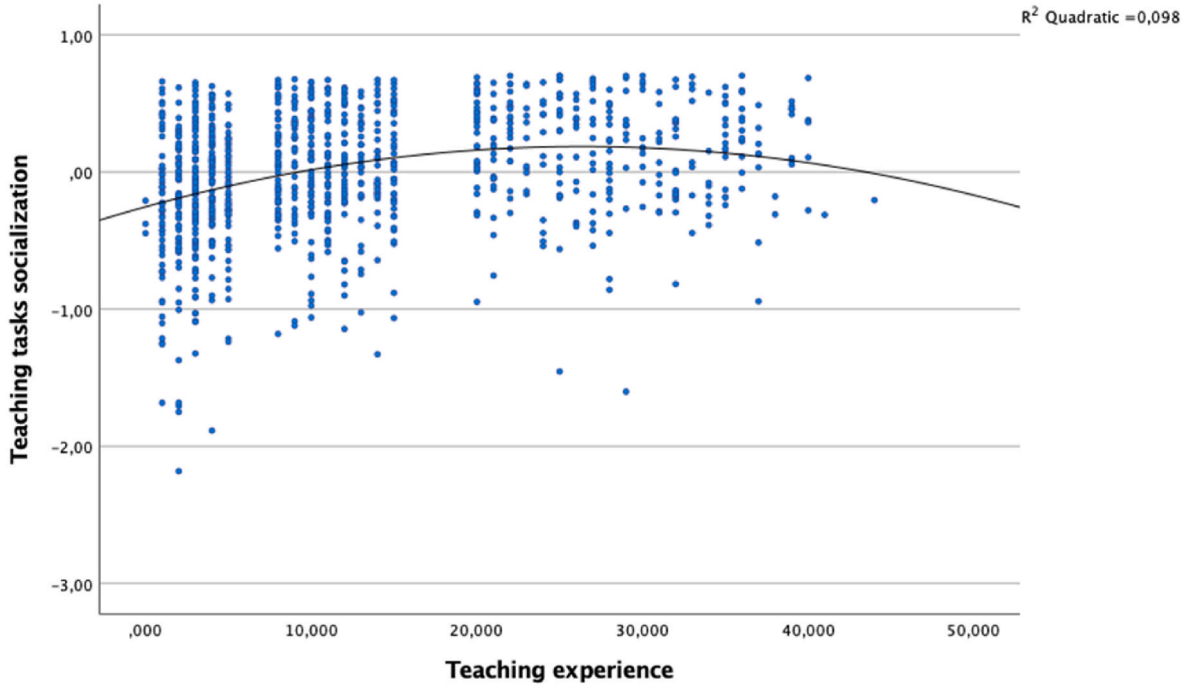
B.1. Scatterplot and quadratic approximation of teachers' group socialization by years of experience. Note: The vertical axe refers to latent factor scores.



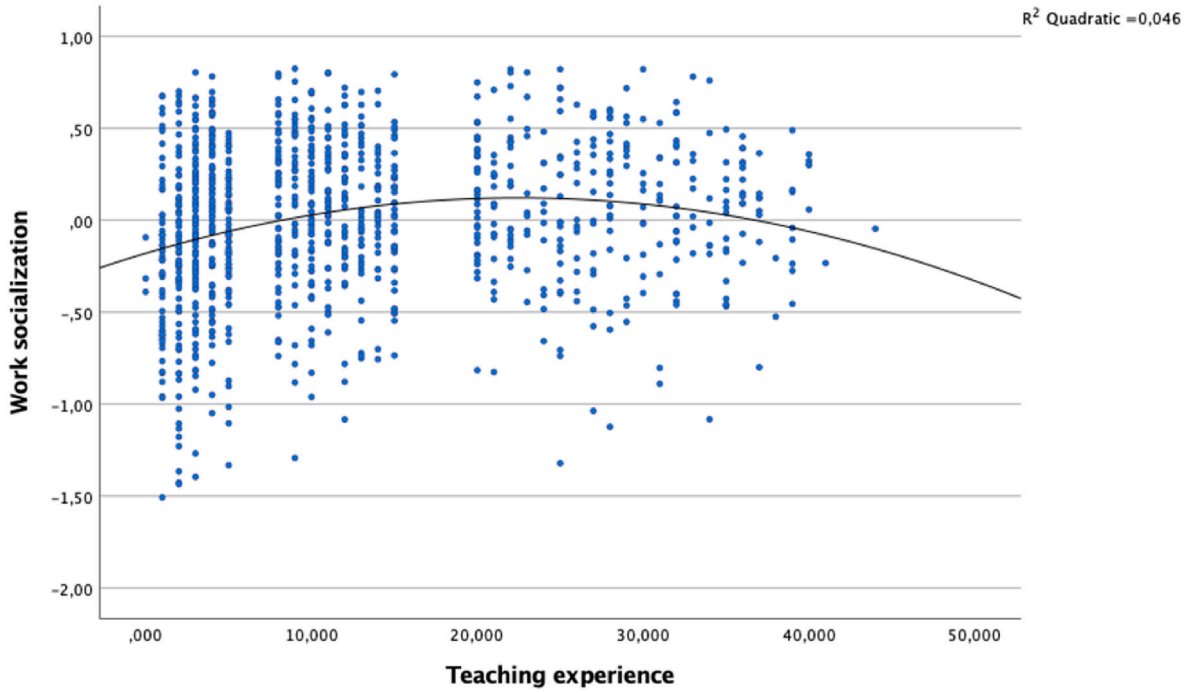
B.2. Scatterplot and quadratic approximation of teachers' micropolitical climate socialization by years of experience. Note: The vertical axe refers to latent factor scores.



B.3. Scatterplot and quadratic approximation of teachers' organization socialization by years of experience. Note: The vertical axe refers to latent factor scores.



B.4. Scatterplot and quadratic approximation of teachers' task socialization by years of experience. Note: The vertical axe refers to latent factor scores.



B.5. Scatterplot and quadratic approximation of teachers' work socialization (the four included) by years of experience. Note: The vertical axe refers to latent factor scores.

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