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From isolation to interaction : a social network perspective on older teachers' position in school organizations and age-related HR practices

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From isolation to interaction: A social network perspective on older teachers' position in school organizations and age-related HR practices.

1. Introduction

The last decades, a demographic trend is visible toward an increasing prevalence of midlife and older workers across the world (European Commission, 2005; United Nations, 2013). In particular, as a response to several evolutions such as the ageing of the baby boom generation, the increasing life expectancy, and the decreasing birth rates during the last thirty years, a large majority of countries have been implementing policies to extend the mandatory retirement age in different sectors, including the public one (OECD, 2006; 2011; Kanfer & Ackerman, 2004). Making people work longer is seen as a promising solution to cope with the impact of a higher age dependency ratio (the number of younger workers for each retired person) on the financial social systems all over Europe (Armstrong-Stassen & Ursel, 2009; Bal & Visser, 2011). However, while the official retirement age in most countries has been raised to the age of 65, older workers retire earlier than planned. This is especially the case for teachers, compared to other professionals (Eurydice Network, 2012; OECD, 2012). Older teachers have a higher risk to suffer from physical or mental issues (such as disabilities or burnout) hindering their active engagement in the workplace (Schröder, Higo, & Flynn, 2016). Older teachers moreover often struggle with the changing educational context - characterized by technological evolutions and an increasing heterogeneity of the student population - for which they often do not feel prepared (Taylor & Sobel, 2001; Wedekind, 2001). These difficulties push older teachers to leave the profession before the official retirement age, presenting the educational labor market and school organizations with important challenges.

Compared with the myriads of studies addressing early career teacher attrition (see Devos, Dupriez, & Paquay, 2012; Lothaire, Dumay, & Dupriez, 2012; Kukla-Acevedo, 2009; Luekens, Lyter, & Fox, 2004; O'Brien & Christie, 2005), little is known about the factors contributing to

older teachers' early retirement decisions. Moreover, those existing studies on older employees or teachers often focus on the negative representations of this age group (e.g. Cau-Bareille, 2014; Jaoul & Kovess, 2004; Josten & Vlasblom, 2015). For example, research has shown how older employees often suffer from age-related stereotypes in the workplace that emphasize their lower motivation, low self-efficacy, low job satisfaction, lack of participation in formal training, and resistance to change (Buyens & Wouters, 2002; Levy, 2009; Posthuma & Campion, 2009; Warr & Birdi, 1998). As a result of these stereotypes and misconceptions, they often experience difficulties with accessing certain career opportunities, promotions, or specific trainings (Barth, McNaugh, & Rizzi, 1993; Taylor & Urwin, 2001), reducing their organizational success and preventing them from reaching their maximum potential at work (Staudinger, 2015; Von Hippel, Kalokerinos, & Henry, 2012; Zaniboni, 2015). Furthermore, educational research taking into account older teachers often uses a deficit perspective: an emphasis is placed on the challenges and difficulties they encounter instead of on their strengths. As a consequence of using a deficit perspective, HR measures and workplace accommodations are centered on lowering expectations and on decreasing hindering job demands (Schröder, Higo, Flynn, 2015).

Recently, however, we can see a move toward a more positive framing of older teachers, taking into account their experience, expertise, and professional knowledge (Van Woerkom & Meyers, 2018). Inspired by a strengths-use perspective, a number of authors emphasize that older teachers need to be perceived as resources that need to be developed and deployed in the school (Crizelle, Mostert & Van Woerkom, 2018). Bakker and van Woerkom (2018), in their study on strengths use in an organizational context, illustrated how promoting the use of older employee's personal resources is a promising way to foster health and well-being at work. According to this study, raising expectations toward older teachers and approaching them with regard to their experience, can facilitate successful aging at work as well as contribute to organizational development (Bakker & Van Woerkom, 2018): *“Since the application of employee strengths may be essential for organizations that need to boost the well-being,*

performance, and inclusion of their employees, strengths interventions that help employees to identify, use, and develop their strengths (Quinlan, Swain, & Vella-Brodrick, 2012) could be a valuable tool to promote the leverage of employees' unique qualities'' (p. 43). Also Kelchtermans (2017) and Skaalvik and Skaalvik (2011), when talking about teacher attrition and retention, emphasizes teachers' need for social recognition as well as sense of belonging, or more generally the importance of teachers' social relationships. More systematic research is nevertheless still required to better understand whether and how HR measures in schools support a strengths use perspective and if this contributes to successful aging of older teachers. Joining this recent trend on strength use, our study starts from the premise that older teachers need to have the opportunity to share their expertise and knowledge with colleagues. Based on social capital theory, the aim of this study is to unravel successful aging at work as a social phenomenon: we focus on older teachers' relationships with other teachers within the social network of their school. The characteristics of older teachers' network position and their interactions is then considered to be an indicator of their successful aging at work. Older teachers' networking characteristics have not received much attention up to now compared to the social network of beginning teachers (Ooghe, Thomas, Tuytens, Devos, Kelchtermans, Vanderlinde, 2019). Based on a mixed methods design, we studied older teachers' work life in two schools combining social network data with semi-structured interviews. This study offers new insights regarding successful aging at work, HR measures that focus both on relieving and on leveraging the aging workforce in schools, and the relevance of social relationships for older teachers' professional development as well as school improvement.

2. Theoretical Framework

In order to build a comprehensive understanding of older teachers' successful aging at work from a strengths use perspective, we combine the notions of school support structure and culture, social network theory, and positioning theory.

2.1 School's Support Culture, Structure and HR Measures: Relieving and Leveraging the Older Workforce

In order to understand in what way school organizations focus on relieving (i.e. deficit) and/or leveraging (i.e. strengths use) their older teachers, we focus on the school's support culture, structure, and HR measures.

Support Culture

Koberg and Chusmir (1987, in Devos, Dupriez, & Paquay, 2012) define school culture as a system of shared beliefs that produces social norms and establishes a specific way to function as an organization (see also Schein, 1992, in Kardos, Johnson, Peske, Kauffman, & Liu, 2001). Multiple studies have identified the existence of different types of school cultures (Johnson & Birkeland, 2003; Johnson & Kardos, 2004). More specifically, three different forms of school culture can be identified that are relevant to understand successful aging at work from a strengths use perspective. First, the *veteran-oriented form* is a culture where the older teachers set up the norms and where teacher autonomy is valued. In this context, there is little room for professional interaction between novice and experienced teachers. As such, these types of school lack mutual benefit from exchanging experiences and skills between teachers. Second, school organizations composed of many beginning teachers can be described in terms of a *novice-oriented culture*. The absence of experienced individuals lead to an intensification of exchanges between novice teachers, who will learn the expected organizational behavior and habits independently. Thus, the first two types of support culture lead to the same conclusion: in both cases, there are little opportunities for knowledge exchange between the two age groups. There is no mutual benefit. Thirdly, the *integrated professional culture* promotes a permanent exchanging culture between each member of the teaching staff. Gaikhorst, Beishuizen, Korstjens, and Volman (2014) add that an integrated professional culture is often characterized

by a school administration showing trust and offering support to teachers. Many studies have been illustrating the benefits of this integrated culture for teachers' perceived self-efficacy (Devos et al., 2012) and intrinsic motivation (Minarik, Thornton, & Perreault, 2003). An integrated professional culture is beneficial for all age groups and leads to a higher level of teacher confidence and autonomy.

Support Structure

According to Gaikhorst, Beishuizen, Zijlstra, and Volman, (2015), the school's support structure refers to every activity undertaken in order to help teachers exercising their profession and developing professionally taking into account the school context and its difficulties. More specifically, the literature describes two promising types of support structures: mentoring and knowledge exchange. Firstly, Hobson, Ashby, Malderez, and Tomlinson (2009, p. 7) defined mentoring as a one-to-one support to less experienced colleagues by a more experienced practitioner in order to assist the development of mentee's expertise. Mentoring relationships are not only beneficial for the mentee, but also for the mentor. Mentoring relationships enhance teachers' retention (of both novice and senior teachers) in the long term (Ingersoll & Kralik, 2004) and contribute to the teaching quality (Washburn-Moses, 2010). Secondly, schools can create opportunities for teachers to share their knowledge, experiences, and expertise in the school network (Gaikhorst, Beishuizen, Roosenboom, & Volman, 2017; Gaikhorst et al, 2015; Hofman & Dijkstra, 2010). The content of these exchanges can vary and cover all aspects of teaching: methods and materials, grading, lesson observation and critiquing, setting and marking assignments (Salleh & Tan, 2013, p. 154). Gaikhorst et al. (2014) indicate furthermore that a support structure is not enough but a support culture in schools needs to be implemented to maintain higher level of teachers' motivation and ensure their professional development.

HR Practices

Besides the school culture and structure, a strengths use perspective towards older teachers, is in particular visible in the school's HR practices or measures. Vrieling, Scheeren, Jettinghoff, and Jacobs (2009) point out the fact that the public sector has the largest amount of older workers and at the same time, the less disposed to adopt measures that prevent teacher attrition and guarantee teaching quality. The authors present two measures that organizations can apply to enable the professional development of their employees: remedial and developmental measures. The remedial measures concern every adjustment put in place for older workers in order to relieve pressure exerted on them (reducing working hours and extra-hours, avoiding difficult tasks, accepting more frequent holidays, having smaller students groups, etc.). On the other hand, the developmental measures are related to initiatives taken to leverage teachers' expertise and strengths in a perspective of a sustainable professional development. Here we can think of including career coaching, stimulating career mobility, and assigning certain tasks and responsibilities to older employees.

Vrieling et al. (2009) showed the prevalence of remedial solutions in the educational field. This can be explained by school leaders' stereotypical image on older teachers. Several studies showed how principals consider older teachers as being more reliable and showing more social skills, but as well as being more reluctant to get involved in new training (Van Dalen, Henkens, & Schippers, 2007; Van der Houwen & Moonen, 2014; van der Werf, Volkerink, Heyma, & Bisschop, 2012). Also Hoff and Lam (2009) observed that aged employees are less positive regarding their opportunities for career development than their younger colleagues.

2.2. Social Network Theory: Successful Aging as a Social Phenomenon

A strengths use perspective towards older teachers is not only visible in the school's infrastructure (culture, structure, HR practices), but also in the social interactions between teachers. As such, drawing upon social network theory, we look at older teachers' aging at work

as a social process, involving interactions with others through which the older teachers finds a position within the network of the school organization. Social network theory presents a lens for investigating how the configuration of social relations matters for a range of important outcomes (Lemke & Sabelli, 2008). Rather than explaining social phenomena (such as aging at work) by investigating individuals' characteristics, social network theory focuses on the system of social relations within which the phenomenon is embedded (Borgatti & Ofem, 2010). In other words, social network theory foregrounds individuals' attitudes and behaviour as affected by the social structures in which they find themselves (Borgatti & Ofem, 2010; Moolenaar, Daly, & Slegers, 2014). Social network theory frames these social structures in terms of nodes and ties (Borgatti & Ofem, 2010). Whereas nodes represent the individual actors within the networks (such as people, groups, or organizations), ties are the relationships between these actors. These ties can refer to friendship relationships, kinship, knowledge exchange, etc. As such, a social network could be seen as a map of all the existing relationships between the actors under investigation. Social networks moreover produce social capital: being part of a relationship, provides the actors with a wide range of possible resources, like help, support, or even a sense of well-being (Everett & Borgatti, 2013; Lin, 2001; Nardi, Whittaker, & Schwarz, 2000). For instance, the exchange of knowledge within networks has been identified as contributing to the professional development of individual teachers (Datnow, 2012; Little, 2005). Through professional interactions and networks, teachers can learn from each other, transfer information, and get access to knowledge and social support (Coburn, Russell, Kaufman, & Stein, 2012). With regard to older teachers' social networks, previous studies have documented how interpersonal relationships matter for a range of end-of-career phase outcomes (such as burn-out; see Van Droogenbroeck, Spruyt, & Vanroelen, 2014).

2.3. Positioning Theory: Older Teachers' Perceptions Regarding The End Phase of Their Career

Whereas social network theory enables to untangle the social relationships in which older teachers find or position themselves, positioning theory helps to explain how older teachers perceive themselves (toward their colleagues) in the last phase of their career¹. Positioning theory enables to create a more complex image of the participants given the information they provide through their speech. In particular, using a discursive analysis, it provides a precise view on individuals' relationship to different themes such as their interests, the way they see their colleagues, students, and the profession (Tirado & Galvez, 2007). Interaction approach theorists, Harré and Van Langenhove (1999), define *positioning* as a dynamic relational process within a conversation, where individuals adopt a position and give one to their interlocutor. The central question of this theory is that there are two simultaneous positionings in the core of this dynamic process, a reflexive and an interactive one. The reflexive positioning refers to the expression of the self. The interactive positioning happens at the very same moment and characterizes the contextualized aspect of their relationships. It refers to the way individuals (here: older teachers) perceive their colleagues and their positioning with regard to these colleagues.

3. Methodology

This study aims to explore successful aging at work from a strengths use perspective by taking into account the school's support structure, culture, and HR practices, older teachers' social interactions, and how they identify and see themselves. The following research questions guided our study:

RQ1: What are the practices enacted in the schools to promote older teachers' successful

¹ We distinguish two different meanings of the term "position" of an actor. A teacher's position (i.e. social network theory) is his or her physical position, the real position occupied in the school team or in a network of relationships. His or her positioning (i.e. positioning theory) refers to an individual's self-perception with regard to their profession, colleagues, etc.

aging? (support culture, support structure, and HR practices)

RQ2: What position do older teachers occupy within the school network? (network degree and betweenness centrality)

RQ3: How do older teachers position themselves? How do their colleagues perceive them in their last stage of career? (positioning theory)

3.1. Context of the study

It is first relevant to introduce the reader to the way in which the Belgian educational system is regulated and then, present the two selected schools. As it is currently designed, the educational system in Belgium is the result of the School Pact, a decree confirmed on May 29th, 1959. The federal government guarantees the execution of this School Pact, but the practical organization is assigned to the three federal regions or communities (French, Dutch, and German speaking communities). The two schools presented in this study are located in the French-speaking community, the Fédération Wallonie-Bruxelles (FWB). Three different educational networks organize French-speaking educational system: one is organised and financed by the FWB itself, one is the non-confessional network that is subsidised by the districts and regional entities (CPEONS, CECP), and at last, the network of the independent educational network, grouping together all the non-confessional and independent schools (FELSI) and all the confessional schools subsidised by the Catholic education (SEGEC).

We first conducted a document analysis to identify the various legal prescriptions and reviewed both printed and electronic (computer-based and Internet-transmitted) material (Corbin & Strauss, 2008; Rapley, 2007) to gain understanding on career endings in the public sector and, more specifically, in the teaching profession. Our analysis shows the existence of twenty circular letters (the most recent is Circular No. 7198, ratified on June 27, 2019). The vast majority of them deal with retirement conditions and officially abolish early retirement

pathways for teachers born after January 1, 1957. Quatre options sont possibles pour ces candidates. ***

Moreover, the decree of February 2nd 2007 regulated the status of a school principal and described the main leadership tasks as follows: “*the principal's mission has many facets: it includes pedagogical, relational and administrative aspects. Ensuring the smooth running of a school is of course managing the material aspects of the school, but it is above all about leading a team, resolving conflicts (which inevitably arise in a social organisation), transmitting the impetus for reforms, guaranteeing a positive climate that will offer pupils the best possible training conditions*” (FWB, 2007). A school leader is expected to execute multiple tasks: managing the material and financial resources of the school, organizing schedules, managing student files, as well as implementing the school’s pedagogical project. A school principal also needs to ensure the curriculum alignment. The principal, moreover, manages and coordinates the school team and more specifically, the relations with students, parents and teachers; and the school's external relations. To face these different challenges, school leaders are asked to follow a mandatory training of six modules (of a total of 120 hours). These modules focus on the relational aspects of the profession, the mastery of legislative and regulatory matters, the administrative, logistical and financial management of a school organization, and pedagogical skills. In this decentralized context, the federated government does not prescribe any specific HR policies with regard to end-of-career teachers. As a result, school organizations (and school leaders) have a lot of autonomy in deciding how to manage and professionalize their teaching staff.

3.2 Exploratory Multiple Case Study

As we aimed to obtain an in-depth understanding of older teachers’ successful aging from a strengths use perspective, we opted for a multiple case study design combining quantitative network data and qualitative data (Bryman, 2008; Guetterman & Fetters, 2018; Yin, 2014).

In particular, two secondary schools were purposefully selected during the 2017-2018 school year: Castro and Eureka. Both schools are located in Brussels, Belgium and belongs to the non-confessional network. They provide all levels of general and vocational secondary education. The schools were selected based on school size and school configuration. First, Castro (pseudonym) enrolls 1250 students supported by a team of 100 teachers while Eureka (pseudonym) enrolls 600 students for approximately 80 teachers. Castro is characterized by a more decentralized configuration as it has three different locations while Eureka has only one location. Regarding schools size, Lee and Loeb (2000) identified that school size and the amount of social interactions within a school are negatively correlated, meaning that smaller schools seem to facilitate personalized social interactions among school members. Literature, furthermore, shows spatial configuration of the workplace shapes the formation and the structure of intra-organizational networks between teachers (Sailer & Penn, 2007). Wineman, Kabo, and Davis (2006) found in a study within a university department, that collaboration networks are driven by both the distance between actors as well as between office locations. We therefore expect that school size and the configuration of the two selected schools will play a role in explaining older teachers' interactions and position within the school organization.

Within each school, we asked all members of the teaching staff to fill out a social network questionnaire (response rate of 80.2%). For the qualitative part of our study, we purposefully selected six older teachers - aged between 55 and 65 years old (see Table 1). We additionally interviewed two younger colleagues to capture their perceptions regarding their older colleagues and to understand older teachers' positions within the teaching staff. Moreover, the school principals were interviewed about their perceptions on older teachers and the HR measures targeting this age group.

<Insert Table 1 around here>

3.2 Data Collection

Multiple sources of data were collected through social network questionnaires, semi-structured interviews, and document analysis. We decided to conduct an interview prior to the study with the aim of keeping track of any documents attesting to a HR vision of the two institutions in terms of professional development of teachers of all ages.

Then, we gathered quantitative social network data to visualize and describe older teachers' position within the school network. Social network analysis frames social structures in terms of nodes and ties (Borgatti & Ofem, 2010). Whereas nodes represent the individual actors within the networks (such as people, groups, or organizations), ties are the relationships between these actors. These ties can refer to friendship relationships, kinship, knowledge exchange, etc. As such, a social network could be seen as a map of all the existing relationships between the actors under investigation. Specifically, we combined whole and ego network approaches. We used a *whole network approach* to obtain an overall description of the schools networks and to allow us to analyze patterns of interactions and structural features like centrality and betweenness (Borgatti et al., 2013). Our *egocentric analysis* focused on the structure and content of the relationships between an individual called ego (here: older teacher) and a set of alters (Wellman, 1993). By collecting data on the ego level, we are able to map and examine ties within an existing bounded network reported by the older teachers (Baker-Doyle, 2011, 2015). Data collection for the social network analysis was done through *questionnaires*. All the teachers from each school were asked to identify minimum five other actors with whom they exchanged advice and expertise during the course of one school year. This enabled us to identify the position of older teachers within the school's network and the types of expertise they shared during their interactions (i.e., didactics, administrative tasks, class management, planning, use of material resources, teaching content) (see Moolenaar, 2012).

Second, in-depth semi-structured interviews were conducted with older teachers. The selection of these participants was based on the results of the whole network visualizations and their

different positions in the network based on their centrality and betweenness indices. This selection depended also on teachers' will to be part of the study. We must admit that we faced two types of difficulties to recruit participants. The first one was to accept refusal from teachers who were highly influential. For instance, the two most central teachers in Eureka did not want to be involved in the study (ID86 and ID94). The second difficulty was to approach peripheral teachers because whether they had some form of distrust regarding the study or were simply not in the school for a number of reasons, medical issues or absence during data collection. One religion teacher in Castro (ID120) responded six months after data collection because he works for five different schools and did not have any mailbox in Castro for example. This limitation will be addressed in the discussion.

Finally, the interviews lasted between 60 and 90 minutes and consisted of three sets of questions. First, we asked questions regarding their last career phase in terms of challenges and incentives, their perceptions of themselves as an older teacher, and their future as a teacher. It further helped us to understand their reflexive and interactive positioning as an older teacher (in their discourse). The second set of questions focused on their interactions and actual position within the social structure of the school. Older teachers were asked to describe their exchanges with other colleagues using the visualizations of their whole-school and egocentric network. It documented their position and identified the social capital shared within the school organization. The third set of questions were related to their perceptions of the school structure and culture and HR practices enacted in their school. Similar interview questions about older teachers were asked to the one younger colleagues within both schools.

Finally, in order to understand the school's HR policy and measures targeting older teachers, semi-structured interviews were conducted with the school principals. These interviews lasted between 60-90 minutes. In addition, school documents on HR policy were collected such as the

school's human resource plan and the school's vision on teacher's successful aging to have insights on the school's organizational structure and culture.

3.4 Data Analysis

Network questionnaires were created to answer the second research question. They allow us to analyze teachers' position using an ego and a whole network approach, taking older actors and their contacts as the starting point. In order to visualize the different networks, we used Gephi software (v. 0.9.2). *Whole network* visualizations were built according to two conceptions of centralization. The first dealt with the degree of centralization, named *degree centrality*, and quantified the number of ties kept between network members. This means that the more an individual maintains contacts with his/her colleagues, the larger the dot representing him or her will be in the visualization (Figure 3 and 5). The second conception corresponded to the centralization between individuals, named *betweenness centrality*, and identified individuals that influence the information flux within the network (Figures 4 and 6). The larger the dot within the network visualization, the more influential the person is (in terms of exchanges) within the network structure. Finally, in order to differentiate teachers at the end of their professional career with other teachers in the school, we opted for different colors: green for the older teachers and blue for the other ones.

Then, to answer our first and third research question, a total of 16 interviews were analyzed. The interviews were audiotaped, transcribed verbatim, and interpretatively coded. 'Content analysis' was used for the data analysis through a process of reducing data, showing data, drawing conclusions, and verifying them (Miles & Huberman, 1994). After reading the transcripts individually, codes were generated, which were then discussed with the co-authors and modified based on consensus. We divided the transcribed protocols into text fragments and coded them through strategies of open and axial coding (Strauss & Corbin, 1990). More specifically we started by assigning initial codes to the data, labelling the issues addressed in

the text fragment (open coding). We grouped the open codes (by comparison and identifying relationships among them) to generate specific categories and themes derived from the conceptual framework (axial coding). From this, we developed a coding structure and then further refined the list of codes as additional transcripts were coded and discussed. After coding the data, we performed a vertical analysis for each individual participant, followed by a horizontal analysis (within-case analysis), comparing the findings for the different actors within the schools for systematic similarities and differences (Miles & Huberman, 1994). We then conducted a cross-case analysis that consisted of comparing the data from the two schools.

4. Results

The objective of this section is to present results from a three-entry-points analysis to identify a strength-use perspective within the two selected schools. The first one will deal with HR measures and practices identified from the document analysis and interviews. This will serve to characterize the two high schools in the light of theoretical insights in terms of support culture. We will then present the findings of the social network analysis, which aim to describe social interactions based on two centralization criteria. In order to contextualize the social position of teachers at the end of their careers as measured by the SNA, we will present several excerpts from the interviews in relation to the positioning theory and their sense of belonging.

4.1 HR Practices undertaken in the schools

Data from the document analysis show the FWB does not provide schools with specific decrees concerning the teachers' professional development. In this decentralized context, the federated government does not prescribe either any specific HR policies with regard to end-of-career teachers. This is confirmed by the fact that after discussing with the two school principals, no formalized documents were found regarding this issue. As a result, school organizations (and school leaders) have a lot of autonomy in deciding how to manage and professionalize their teaching staff. Although the two selected schools have different characteristics for what

concerns size and school configuration, the profile for what concerns human resource management of the two schools remains similar because they practise rather traditional measures - which are often found in Belgium - punctuated by the daily functioning and management of secondary schools. We have made a distinction between remedial and developmental practices by confronting them with the experiences of teachers and principals.

4.1.1 Remedial Measures

In line with the collected data, a predominance of remedial HR policy is observed in both schools. Three anchored practices serve as examples to illustrate the lack developmental measures and the general tendency to encourage a reduction of working time. First, older teachers often continue to perform a full teaching schedule while being assigned "softened" hours, which involves fewer corrections or taking care of less pupils for instance. Second, school administration can consider other work tasks than teaching with the aim of relieving them from professional difficulties. In most cases, teachers are offered to take up a coordination function. Existing only in secondary education, it consists of converting a small number of hours in a time allocated to pedagogical alignment between teachers, programme coordination, and crisis management. Third, teachers try to reduce working time by requesting a leave for personal convenience. This practice is both very common and well-established among teachers. School leaders confirmed that as the teaching career is horizontal and no other career positions are available, teachers often use that strategy at their end of career. This practice is a possible remnant of a previous legislation providing teachers an occasion to leave the profession at fifty-eight years and/or to obtain a part-time contract at fifty-five years with no impact on the salary. This procedure has been withdrawn since 2015.

In many cases, school boards opt for a listening strategy, trying to offer solutions to value the expertise and experience of older teachers. Principals make every effort to find the best way to meet actors' demands or do not show any initiative at all. '*Laisser-faire*' remains a common

strategy used in response to a problematic situation and in general, teachers do not report on the existence of measures to promote personal development.

“You have to be a good listener. Depending on the person, you have to try to assign “soften hours” that will require less corrections such as coordination hours or things like that, which also empower the teacher and make him/her feel better”. Patrick, Castro principal, (lines 20 à 22).

4.1.2 Developmental Measures

The presence of developmental measures is very limited. Although, data show indications of some measures to support the professional development of older teachers. Eureka, for instance, offers special attention to the staff’s comfort to improve teaching conditions. The principal listens to teachers’ desiderata and responds to specific needs at the material level in particular. Also in Castro, the principal is willing to be primarily an information source concerning professional development. Through e-mails or around informal discussions, he notifies the staff that several projects for career development are at their disposal.

Despite the desire to inform teaching staff, both principals have very little means to act and implement consistent measures for a supportive structure. From the teachers’ viewpoint, the arrangements that promote career development either do not exist at all, or are relatively superficial and intended to increase well-being rather than stimulate the desire to learn and develop. From the principals’ perspective, a development measure is not easy to implement within secondary schools. It needs to be considered in terms of the ratio of *NTTP* periods, the Total Number of Teachers' Periods of work. This ratio limits a certain number of hours allocated to a course based on the number of students in the school as of January 15th and the number of students attending the course. Thus, the implementation of a development activity therefore induces an organizational sacrifice. If the candidate wishes to keep his/her salary, the imbalance

that the measure creates must be passed on to another colleague. He will have to take care of the number of students in order not to lose these *NTTP* periods. Penalties for schools exists for non-compliance with this ratio. In other words, implementing a developmental measure has become almost impossible. The management is therefore turning toward optimization of the material teaching conditions and actors toward a reduction of working time that implies a reduction of wages.

“The principal may not be able to “organizationally” afford it. Because the NTTP hours are checked all the time. He has to take into account how the system works. He cannot say: next year, you and you will only be working 16 hours in the classrooms and 4 hours will be dedicated to taking care of the young teachers. He may really want to do this but it costs him too much. He just can't afford it... We will have to put 28 students in a class for instance. He is the first person to know what it is feasible, but here we are, sometimes the ministry imposes strict and straightforward rules to the principals which delineate their actions” Daphni, Castro teacher, 59, Part-time 50% (lines 678 to 687).

In conclusion, we found evidence of a strength-use perspective, benefiting of teachers' experience and expertise in both schools. School principals mentioned the use of older teachers (as resources) for the good of the school's social capital. School board members consider older teachers as key-persons who fulfill the role of “pillars” among the teaching staff. They facilitate the transmission of information by welcoming and mentoring new colleagues and by supporting the others. Considering their organizational knowledge, their accumulated professional expertise and experiences from former trainings, older teacher are encouraged to advice other on the internal functioning of the school. They are considered as valuable within the decisional process regarding their historical knowledge of the school, influencing in this way the organizational culture.

« We (as principals) can make changes and they are open to it, but it must be done in consultation with them, respecting the culture of their school because they have worked here for 30 years and have ensured today's school reputation. It exists thanks to them and this must be taken into account. » Patrick, Castro principal, (lines 194 to 198).

« (Older teachers are) ... the guarantors of the school's culture. They are people with professional experience, with uh... It all comes into play, life experience and professional experience. They really are assets. » Patrick, Castro principal (lines 414 to 417).

School administration expressed they maintain a strategic and instrumental view on older teachers, considered as key-persons and resourceful for the good of the organization. By considering older teachers as potential allies, it facilitates the implementation of organizational changes within the school team. The usage of older teachers' expertise in this case serves a strategic purpose and corresponds to the principal's interests but nothing allows us to say that this is used to further develop older teachers or to stimulate interactions between teachers.

4.2 Position of Older Teachers Within School Organization

In order to put into perspective the results obtained in line with HR measures, we will present the data collected from the social networks analysis. As indicated in the Methodology section, two indices were used to investigate how teachers are positioned within the school network as shown in Table 2. First, *degree centrality* is measured as the number of direct ties that entail a node. In other words, the higher the amount of ties actors have, the more popular they are. It means that a person maintaining numerous contacts with other nodes within the network plays an active and central role. Two separate metrics represent degree centrality: the in-degree measures incoming ties and the out-degree, given by the out-going ties. For instance, if actors receive many ties, they have a higher in-degree score and are thus prominent. If actors have high out-degree, they are able to exchange with many others and to make others aware of their view and are in this case influential actors. On the opposite, peripheral nodes maintain less or

no relations with other nodes and are by definition at the margins. As Table 2 shows, the average degree centrality is almost similar in both schools, which means teachers are on average connected with three to four of their peers. As shown in the Figures 1 and 2, the whole networks that focus on the degree centrality indicate that in both schools, older teachers (green nodes) are not the most central persons in the school. They are not frequently nominated by their peers for sharing professional advice. However, if we take a closer look at the network visualizations, some older teachers are well connected to their colleagues anyway and are not isolated nor in the margins of their professional networks. This is also confirmed in the Table 2.

<Insert Table 2 here> <Insert Figure 1> <Insert Figure2 around here>

The second indice used is *betweenness centrality* and examines how many times a node appears between the others in the network and on the shortest paths to seek information. This indicates the capacity of an actor to have control over the information flowing between others (Newman, 2005). Actors with high betweenness centrality are then considered as bridges or brokers (Fernandez & Gould, 1994; Burt, 2005), connecting people and facilitating interactions and communication between individuals that they link. The nodes occupy then a structural position by acting as a vector of information. Table 2 shows that a majority of older teachers have above-average scores of betweenness centrality, strengthening the idea that older teachers play an active and a structural role in their professional environment. In Figure 3, most of the older teachers in Castro have no active and influential role within their network, as the first three most influential teachers are aged between 24 and 54 years old. On the other hand, Eureka's most influential teacher (node 86) is an older teacher (Figure 4) who gives three different type of courses and has been nominated by fifteen peer colleagues to be the most relevant person to give professional advice to.

"And then now that s·he is a principal, s·he is obviously and mostly relying on (uh) the older teachers... » Daphni, Castro teacher, 59, Part-time 50% (lines 67 to 69).

"Well, some of the people at the end of their careers, we see them a bit as mentors compared to others. They are like the dinosaurs in the school and so it is clear that there are still some people of reference." Eric, Eureka teacher, 59, Part-time 50%, (lines 47 to 51).

<Insert Figure 3> <Insert Figure 4 around here>

As Figure 5 and Figure 6 shows, we observe two different phenomena in both schools: teachers gather by discipline in a mixed-age subgroup. It means that a mathematics teacher is more likely to exchange information with a mathematics teacher and in extenso, they will create a subgroup of mathematics teachers belonging to various age categories. These discipline-based subgroups or cliques are more dense than the entire network. Some older teachers are clearly located on the margins even if they have the same domain of expertise (see. nodes 57, 42, 26, 74). Several Castro teachers mentioned this phenomenon in their school during the interview.

"It is also important to know that teachers are grouped by subject. Science teachers stay together, French language teachers too. Small groups are formed." Patrick, Castro principal (lines 361 – 363).

"A core of Latin teachers? There are five of us, but it doesn't work because it's a matter of personality. Many of us are very individualistic and it doesn't work well..." Castro teacher, 56, Part-time 80% (lines 519 – 520).

<Insert Figure 5> <Insert Figure 6 around here>

4.3 Older teachers' positioning

The third entry of our analysis deals with the question of the strengths-use perspective with regards to the positioning theory. Social networks data is linked to the interviews. Despite some slightly more central positions of end-of-career teachers, some of them note that they are gradually isolating themselves from the other members of the educational staff. This might be

due to the fact that they have reduced their working hours for a part-time contract. We also observe this distance at the level of centrality indices, which consequently results for some teachers in a lack of knowledge of the daily school functioning while others point out the existence of a generational gap taking hold and habits – grouping with colleagues of the same age – and behaviours - they have acquired are therefore difficult to deconstruct.

Besides, some teachers still cultivate the need to develop themselves constantly and continue to embrace the teaching profession. They do not feel tired from daily work practice. The school environment meets their expectations and needs in terms of material resources and they experience parental involvement and strong support from the school principal.

"Personally, I have everything I need here. I have my office, I have my machines, I have my interactive white board. When I ask for something useful here, it's yes. I'm fine. Pure happiness." Muhammad, Castro teacher, 62, Full-time contract (lines 212 to 214)

Many older teachers show strong engagement and dedication and refer to their active participation in internal and external educational activities. They participate in projects that connect teachers and it has potentially helped them to thrive throughout their career and anchoring them in the educational team. These teachers also maintained a high degree of work motivation. This is explained through their engagement for the teaching profession to which they feel totally dedicated and which fulfils them with joy because of the social contact with students and colleagues.

"I think about it even outside working hours. I could not consider doing a job in which I wouldn't get involved, in which I wouldn't feel concerned. It is a great moment of fulfilment because what It really means to me, the whole relational side with the students. So, yes, it's a very important part of my life. " Xavier, Eureka teacher, 55, Part-time 50% (lines 18 to 23).

Next to these positive considerations for the teaching profession, some older teachers did not consider themselves in their last phase of career and demonstrated a certain willingness to renew their work practices to keep themselves updated regarding curriculum changes and teaching materials. Naturally curious or not, the majority of the older teachers are willing to find new topics to adjust the course content in order to bring some change. Some adopt a proactive attitude and seek for constant improvement. They do not necessarily wish to attain a certain comfort level after all these years of service. For these actors, novelty and innovation is the real driving force.

On the other hand, some older teachers report a growing generation gap between them and younger colleagues and students. This gap becomes more important with increased age. Teachers express their frustration in relation to students' general aptitudes and level of engagement compared to previous generations.

"It's not the career that's in question, but it is this context with young people, you become grandpas for them." Jean, Castro teacher, 55, Full-time contract (lines 405 to 408).

4.3.2. Reducing working hours

Some teachers in the sample have chosen to reduce their working hours and data shows a variety of experiences about it. The first example illustrates a teacher who is completely satisfied with this situation and is gradually preparing for retirement. She has already reduced her working hours and at first sight, she feels more relaxed. Nevertheless, this professional situation is particular in the sense that she is gradually leaving the profession but still has a certain love for the profession and would even be willing to continue teaching. However, she prefers to end her career in a positive way and comes up with examples of teachers who have found a new source of growth after working life.

"I'm actually waiting for the Ministry to decide if I can leave. I have enough months to leave this year. So we'll see, I'm waiting for the answer. If it is positive, this is very good since I made the request a long time ago. If it is negative, I feel quite capable of working part time for a year and still enjoy doing it." Salma, Eureka teacher, 59, Full-time contract (lines 1150 to 1153).

On the contrary, another teacher has opted for a part-time contract and the distribution of working days does not suit her. She is experiencing physical constraints, while theoretically she is obliged to continue working for eight years to meet the conditions to retire. In this case, there is no other choice than quitting and/or claiming a place in a school closer to home.

"It's really (uh) annoying. Because it's true that there have been changes that didn't concern me, but I feel that there is physical and mental wear. At sixty, it's going to be complicated. Because there is this physical wear and tear and therefore, (uh), make the effort until sixty, yes yes, but after sixty, I don't know if I want to do... Why? Because I'm also a perfectionist. I know that there are some things I would like to renew and that we should renew." Elise, Castro teacher, 56, Part-time 80% (lines 332 to 338).

not 100% satisfied with this last part.

5. Discussion

Given the current relevance of the topic observed in the media and the findings from the literature, this article sought to understand how older teachers perceive themselves and are positioned within the school. The first finding that emerges from our data (based on older teachers' positioning) identified two contrasting portraits. A negative portrait depicts a worn-out teacher, exhausted by the profession, who is no longer inclined to change the content of the courses and is only slightly involved in the school's projects. As mentioned in the literature, some elements of the problem concern chronic fatigue (Cau-Bareille, 2014) and the effects on

teachers' health (Hélou & Lantheaume, 2008; Maroy, 2006) are also found in the interviews. In contrast, a positive vision describes a dynamic, motivated and involved teacher who is thirsty for renewal and who is in search of the student's intellectual development. In between, a series of four specific cases, certainly not representative for the teachers' professional careers, which are halfway between these two opposing representations. The presence of various portraits reflects the different perspectives provided by the literature on aging (Hertel & Zacher, 2015; Sterns & Doverpike, 1989). It can also be related to Huberman's four main trajectories of a teaching career (1995) where disenchanted teachers, negative and positive focusers are easily notifiable. This finding allows us to answer the first research question that focused on a more individual perspective. It states the existence of a variety of individual trajectories and occupational realities that must be taken into account in schools' future challenges to engage in collaborative and professional development perspective.

Then, the second finding of this study is on the visualizations built by network questionnaires. Combining this information with the data collected during the interviews, three observations concerning professional exchanges in school organization were presented. The network of an older teacher includes between one and eleven interlocutors when it is about exchanging pedagogical material and resources. It therefore appears stable and relatively fixed. Teachers also point out the importance of their friendly contacts within the school through informal moments, which are here totally invisible. These relationships, where peers are perceived as members of an extended family or clique (Coleman, 1988; Kauffman, 1993), cement team cohesion and serve as a daily driving force. This result is unprecedented in today's scientific literature. Teachers' discourse also testifies of a phenomenon of isolation and distance between different generations of teachers. It questions the individualism of their colleagues and the material conditions that are not conducive to exchange. They also show a certain fatalism with regard to these difficult interpersonal exchanges between different age groups. The argument of "it's like that and not otherwise" comes up lots of time. In summary, this

information is crucial to answer our second research question on the position of older teachers in their professional structure. It is shown that older teachers do not necessarily have most of the contacts and are not always popular among their peers, but some occupy important positions in terms of influence and control of information in the network of shared expertise. These strategic positions within the network echoes the notion of brokerage that Burt (2005) defined as a position benefiting from social capital advantage and is a manifest of the recognition and expertise from the team. Nevertheless, it must be noted that these brokering positions held by some older teachers are not reflected in the current educational literature.

Furthermore, network data also showed older teachers are intentionally sharing their knowledge and being active within the school teams. In this line, several authors bring a more positive perspective by considering older workers as actors of their own change. They are indeed able to influence certain organizational conditions policies, by asking for more integrated forms of management (Heckhausen, Wrosch, & Schultz, 2010). Despite the irreversible biological aging process, Hertel and Zacher (2015) also point to a certain notion of control that individuals can activate to ensure their biological functions match their abilities in two possible ways: either by maintaining physical activity and a healthy lifestyle in their daily lives, or by addressing the health risks of work. The same authors also advise managers and organizations to value the practices previously described as a form of management for this category of employees.

The third finding deals with the organizational dimension. The data collected suggest that there is a focus on so-called "relief" measures as defined by Vrieling et al. (2009). There is little room for professional development due to a plateaued profession, although some information about potential training programs is nevertheless disseminated within the team by school management. The possibility to implement these developmental measures is relatively limited because they involve an organizational cost or are locked by ministerial directives. An

effort made toward an actor has immediate impacts on the workload of another colleague. Principals often find themselves stuck in a difficult situation as they do not have the means to implement significant adjustments. Educational system is designed in such way that it does not offer a variety of possible functions. Several observations therefore converge toward a more superficial form of "supportive" structure (Gaikhorst et al., 2015) targeting essentially well-being, comfort and improvement of teaching conditions beyond managers' active listening and their particular attention to their staff. This allows us to establish links with our latest research questions on culture and managerial measures taken within a school. The school management does its best to act on these conditions, but within the two institutions, there is no formal plan of mentoring and the exchange of expertise is not necessarily valued. Early stages of an integrated culture were identified through the high levels of autonomy granted by school management. That said, there is currently no action being taken to either initiate a collaborative and integrated culture or to individualize the measures adopted in both schools, taking into account the different portraits of teachers previously presented.

Limitations and Future Research

Limitations of this current study might be the overall empirical generalizability. This study was conducted in two French-speaking high schools in Brussels. The extent of generalizability to other Belgian secondary schools, districts and school networks can therefore not be determined or must be supported by further studies. For instance, our findings support the argument that HR practices are not aligned with the position of older teachers within school's network of professional advices and their apparent influence in it. However, these two schools apply certain measures that others do not. Also, these measures are not necessarily used in less privileged environment or in schools that follow other pedagogical objectives. School size may also matter when the focus is on social interactions. Further studies should then compare schools with the same work characteristics in terms of size, student population, size of the educational staff, and

location whether it is an urban or a rural school, etc. The particular functioning of secondary schools also results in typical networks shapes and facilitates formation of cliques. It might then be relevant to investigate other levels of the educational system to see if other teaching environments create different networks.

*** INSERT HERE : Theoretical implications + practical information + address limitations of the data collection!

Moreover, this study presents only one time measurement of the schools' social structure whereas literature agrees social networks are dynamic and change over time (Kilduff & Tsai 2003). It is then imperative to understand how patterns of social relationships both shape, and are shaped by, social contexts in schools. Recent qualitative studies highlighted particularly the social complexity and power plays that occur in social networks as they change over time (e.g. Baker-Doyle, 2011; Daly & Finnigan, 2011). It is then important for further research to develop a longitudinal approach with multiple time points to track teachers' professional development (Richter, Kunter, Klusmann, Lüdtke, & Baumert, 2014), observe changes in terms of expertise fluxes and strong position within school teams. Several measurements will help identifying teachers and, workers in general, who may be at risk of isolation in the professional context.

Furthermore, it is worth noting that older teachers occupy an important place in the school as intermediaries who disseminate information to the entire educational team and take part in the decision-making process of the school. Measures taken that tend to change the organizational culture are often the result of consultation with them. Principals opt for a strategic and instrumental vision to use the accumulated resources of the older teachers. They serve to enrich the internal functioning of the school and strengthen their position as pillars of the school, guaranteeing the history and philosophy of the organization. As evidenced by some of the testimonies collected and by the existing literature, many preconceptions about aging exist within the occupational field (Posthuma & Campion, 2009) and parasitize communication

between different age categories of workers. The implementation of a collaborative and "supportive" culture within institutions should be considered at the political level given the positive outcomes they generate. In a context of recognition of the difficulty of certain civil service jobs, everyone will benefit from developing a school organization geared toward intergenerational exchange in order to maintain various actors in their jobs for as long as possible.

To conclude, in contrast to the strong position within the social structure of a school, results also highlighted the isolation of certain teachers of all ages. School management could then create moments where teachers can exchange and invest in social capital in order to avoid isolation issues. In addition, some of the results contradict stereotypical beliefs about older workers and echoes the growing interest for developmental HR practices, strengths use management and supportive structures within schools (Bakker & van Woerkom, 2018). In regards with diverse perceptions of older teachers, these practices should be aligned with mapped positions and encourage tailored interventions to answer the diversity of profiles within school teams.

From a practical point of view, it is also relevant for school management to consider individual differences to better understand the potential of its staff. Although, the qualitative assessments in this study bring in-depth analysis that find echo in recent publication that attempts to do a profiling of successful agers with person-centered approaches and results from qualitative approach (Thrasher, Zabel, Bramble, & Baltes, 2018). Future research should then adopt the usage of multi-source survey studies (Zacher, Kooij, & Beier, 2017).

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Table 1

Overview of the Interview Participants (n=16)

School	ID	Surname	Age	Function	Discipline(s)	Contract
Castro	5	Elise	56	Teacher	Latin	Part-time 80%
	6	Muhammad	62	Teacher	ICT	Full-time
	55	Alex	61	Teacher	French	Full-time
	77	Marcus	44	Teacher	Physical education	Full-time
	79	Rosa	60	Teacher	French	Full-time
	101	Patrick	45	Principal	-	Full-time
	115	Jean	55	Teacher	Chemistry	Full-time
	117	Daphni	59	Teacher	Ancient Greek	Part-time 50%
Eureka	4	John	59	Teacher	ICT	Part-time 80%
	7	Fred	57	Teacher	TORPS - AIP - Internship	Full-time
	15	Inge	28	Teacher	Dutch	Full-time
	21	Lola	55	Teacher	Dutch – English	Full-time
	24	Salma	59	Teacher	Arts and Technology	Full-time
	25	Eric	59	Teacher	Management – Economy	Part-time 50%
	99	Xavier	55	Teacher	French	Part-time 50%
	102	Joanna	44	Head principal	-	Full-time

Table 2

Two Indices Used in the Network Analysis of the Two Schools

School	Surname	Age	Degree centrality		Betweenness centrality	Network Characteristics
			In-degree	Out-degree		
Castro	Elise (ID5)	56	4.00	6.00	341.11	Integrated
	Muhammad (ID6)	62	3.00	4.00	272.75	Integrated
	Alex (ID55)	61	5.00	0	0	Isolated
	Marcus (ID77)	44	9.00	5.00	573.40	Central, influential
	Rosa (ID79)	60	5.00	5.00	595.81	Central, influential
	Patrick (ID101)	45	8.00	0	0	Isolated
	Jean (ID115)	55	4.00	1.00	0	Isolated
	Daphni (ID117)	59	0	3.00	0	Isolated
	ID23	36	10.00	5.00	695.88	Mainly consulted
	ID17	41	8.00	11.00	1428.94	Most influential and main advice giver
	Mean (school)		2.99	2.99	164.44	
Eureka	John (ID4)	59	5.00	6.00	529.75	Central, influential
	Fred (ID7)	57	5.00	0	0	Isolated
	Inge (ID15)	28	4.00	4.00	108.66	Isolated
	Lola (ID22)	55	2.00	5.00	311.79	Integrated
	Salma (ID24)	59	9.00	8.00	625.79	Central, influential
	Eric (ID25)	59	5.00	5.00	506.90	Central, influential
	Xavier (ID99)	55	4.00	0	0	Isolated
	Joanna (ID102)	44	8.00	0	0	Isolated
	ID 94*	54	23.00	5	759.24	Mainly consulted
	ID 43	34	6.00	12.00	708.69	Main advice giver
	ID 86	58	6.00	9.00	1034.25	Most influential
	Mean (school)		3.45	3.45	119.74	

* Assistant Director