Master Thesis

What about the teachers? An analysis of teacher job satisfaction in relation to school violence considering school- and country-level factors.

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Due to many circumstances and constraints, I ended up following a BA in International Business and Languages in 2014 but halfway through the programme I realised that I did not have a passion for business and working in the area did not inspire me; I simply could not see how working for companies would enable me to "change the world". In honest terms, I finished my Bachelor with "the strength of my hatred", looking forward to finding another study that would be more suitable to my dreams and personality.

I would say that more unfortunate circumstances and constraints I faced later on drove me to start studying Sociology. At first, I did not understand that every turn I took (that I thought was a wrong decision) and every obstacle I faced were just forwarding me to get here: right where I belong. And if everything (good and bad) had not happened to me up to this point, I would never have been here, finishing my MSc thesis in Sociology. Along the course of my programme (Pre-Master included), I very quickly fell in love with the subjects. It was honestly an amazing journey of discovery and understanding society that I have almost no words to describe.

So, I would like to firstly dedicate this thesis to my professors (especially Lorenzo D'Hooge and Ruud Luijkx for their amazing guidance) and the whole social science community for paving the way to marvellous insights and explanations of social phenomena that, although we all live through such phenomena, we do not always understand the mechanisms behind them. I truly cannot begin to express how passionate I am regarding social sciences, especially considering that, in my opinion, this field of science is key to a better and more just society. I hope that sooner than later, I myself am able to inspire young minds as a university lecturer so that more and more people can become young scientists who aim at broadening society's knowledge based on facts in order to pave the way to effective policies and fair governments.

Secondly, I dedicate this thesis to my parents who have always supported my decision to pursue my MSc in Sociology. Thank you for everything. Thank you for making my dream academic career possible, even when you did not understand it. Thank you for the trust and thank you for your words of encouragement. I love both of you, Valéria and Kees.

Finally, I would like to thank my cousin Keila Gropelo Tanaka. Arguably, if it wasn't for your knowledge and your passion for social issues (particularly in feminism and politics) I would never have taken an interest in such subjects or even have considered studying Sociology. Thank you for having me think outside of the box before I chose this Master programme. Thank you for <u>always</u> being there for me, rooting for me, supporting me and thank you for the frequent lively discussions about social phenomena in which we exchange a lot of knowledge. I am a very lucky person for having you in my life.

"Seek knowledge, but not too much because it makes you want to cry."
– Luan V. Lovato, 2017

Abstract

Although school violence is a subject of interest for many scholars in contemporary times, most research focuses solely on the consequences of it to students, utilising teachers only as a source of information and policy enforcement. Although for many years this arguable "neglect" in studying teachers are victims of school violence has been acknowledged by the scientific community, the consequences of such are yet to be determined at a cross-national level. More specifically, this research aimed at not only filling this knowledge gap by focusing on the effect of school violence on teacher job satisfaction, which is a concept that closely relates to mental health, commitment and teacher attrition, but also meant to highlight the extent to which the effect can be traced back to individual, school and country factors. Furthermore, this research brings about the moderating effects of employer support and lack of material resources as school-level elements; and the moderating effects of teacher salary and percentage of the GDP spent on education in 27 countries. Multilevel analyses conducted using the OECD Teaching and Learning International Survey (TALIS) 2018 concluded that although there is a significant (negative) effect of school violence on teacher job satisfaction, of the moderating effects, only employer support can be considered statistically significant. This means that employer support and principal leadership diminishes the negative influence that school violence has on teacher job satisfaction, giving rise to possible policy implications regarding training and measures focusing on school principal intervention.

Table of Contents

List of tables

Acronyms

TALIS	Teaching and Learning International Survey
OECD	Organisation for Economic Co-operation and Development
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Introduction

Job satisfaction essentially relates to how much someone feels happy with their job (Won & Chang, 2020); and is related to, but different from, stress by having an inverse relation with it (Ouellette et al., 2018). In fact, professionally satisfied teachers are less vulnerable to job-related stress and burnout (Kyriacou & Sutcliffe, 1977; Skaalvik & Skaalvik, 2011), are able to provide better instructional quality and more support for students (Klusmann et al., 2008; Kunter et al., 2013) and feel more committed to the job, decreasing the likelihood of attrition (Blömeke et al., 2017; Klassen & Chiu, 2011). Considering the consequences that teacher attrition has on national education outcomes, financial costs and resources expenditure, countries and policy-makers all over the world are increasingly concerned with teacher turnover rates and scarcity of quality teachers aiming at policies tackling the teacher crisis so as to increase retention (European Commission, 2018; Ingersoll, 2017; Sibieta, 2018; Sutcher et al., 2016; Toropova et al., 2020; Worth & Lazzari, 2017).

Certainly, a favourable work environment fosters overall performance, commitment and especially job satisfaction (Kristof-Brown et al., 2005; Locke, 1969; Vancouver & Schmitt, 1991). According to the TALIS 2018 Results published by the OECD, there are many relevant elements related to the work environment that affect teacher job satisfaction wherein they can be generally satisfied with the profession itself but dissatisfied with the school they work in (OECD, 2020). Additionally, the study has reported cross-national variation related to teacher job satisfaction but it does not report the proportion related to school or country factors (OECD, 2020).

Furthermore, one particular aspect of the work environment which is key in this research is the feeling of safety. Thus, Maslow's Hierarchy of Needs seems fitting because it is a theory that depicts the different stages of employee happiness. The core of the theory describes a series of needs that range from essential physiological needs at the bottom to the highest level of need, which is named as self-actualisation (Maslow, 2013). The second stage – the need for safety – is the one in focus here, which if undermined, can be detrimental to employees' job satisfaction (Stewart et al., 2018) because seeking safety becomes the dominating goal, leaving little attention to the actual tasks pertaining to the job (Maslow, 2013). Additionally, Anderman et al. (2018) asserted that experiencing violence can severely impact the teachers' feelings of safety, change the attitudes toward their jobs and affect the intent to remain in the teaching profession.

In recent decades, the interest in understanding violence within the school context has developed in most countries, not only due to its implications for the process of integrating

children and adolescents into society but because of the close relationship that it displays with the failure of broader school objectives, such as effective educating, efficient teaching and successful learning (Abramovay, 2005). In fact, school violence has become of increasing concern in many Western countries with a growing body of studies about this topic (Debarbieux et al., 2002; Smith et al., 2004; Steffgen, 2009); and although these researches have proved to be of valuable knowledge, they have concentrated almost entirely on students who are subjected to school violence (Galand et al., 2007). Thus, the consequences of violence from the teachers' point of view as victims of it are generally less documented (Lorion, 1998) since most studies considered teachers as a source of information on student behaviour or as enforcers of prevention programmes, but were hardly studied as witnesses or subjects of school violence (McMahon, Davis, et al., 2020; Nicolaides et al., 2002). Consequently, even after having the scientific community recognised this knowledge gap, there is still a limited number of studies that consider teacher victimisation in comparison to students as victims of school violence (Anderman et al., 2018; McMahon, Peist, et al., 2020; Moon & McCluskey, 2020).

A number of analyses concluded that teachers' job dissatisfaction is directly associated with their mental health due to stressors at work, including burnout and depression (Capone & Petrillo, 2018), anxiety (Ho & Au, 2006) and physical health (De Simone et al., 2016). Ergo, besides teacher job satisfaction, (the threat of) violence could also have consequences for their health. In fact, studies on teachers' health (both mental and physical) have described a relationship between violence and physical, emotional and psychological consequences; besides highlighting the negative impacts of violence against teachers on teaching and professional engagement, harming not only their health but also the education process of the students (Galand et al., 2007; Wilson et al., 2011). Furthermore, it is asserted that the causes of the health detriment of teachers may be related to the professional context, which encompasses factors such as harmful work conditions and organisational problems, stressful social relationships and exposure to conflictive environments, permeated by displays of indiscipline, disrespect, aggressiveness and violence (Brum et al., 2012; Nesello et al., 2014). Additionally, teachers are often responsible for handling school violence and consequently are subjected to increasing job demands and conflicts with parents and officials (Won & Chang, 2020). The fact is, while a number of studies examine the effects of school violence on students while highlighting the teachers' roles regarding management and discipline in preventing recurrence (Casas et al., 2015; Yoon et al., 2016), few studies focus on the consequences that school teachers face when handling school violence (Won & Chang, 2020). In order to further

explore this subject, the main research question then becomes: **To what extent does school violence affect teacher job satisfaction?**

Thus far, according to previous research, it has become fairly evident that when teachers, in general, feel threatened by violence, all sorts of negative feelings are generated ultimately resulting in lower levels of job satisfaction, which in itself produces further consequences. However, it is argued, that deleterious contextual factors have a considerable number of consequences in the teachers' emotional well-being and may contribute to low levels of job satisfaction as well. As Cherniss portrays, "people can make their lives better or worse but what they think, how they feel and what they do is strongly shaped by the social contexts in which they live" (1995, p.166). Zembylas & Papanastasiou (2006), for example, describe that school teachers view poor pay, low status, lack of support and appreciation from administration and perceptions of how teachers are viewed by society as contributing factors for job dissatisfaction. Therefore, it is reasoned that context is surely a great predictor of overall teacher satisfaction (Dinham & Scott, 1998, 2000).

Considering that the school context is essentially the teachers' workplace, it is not surprising that the same is generally the focus of studies regarding teachers, their safety (Astor et al., 2009; Galand et al., 2007; Martinez et al., 2016; Won & Chang, 2020) and their job satisfaction (Galand et al., 2007; García Torres, 2019; Martinez et al., 2016; Olsen & Huang, 2019; Skaalvik & Skaalvik, 2009). That is because this context essentially relates to a "multi-systemic dynamics" that intensely involves students, teachers and other school staff (Espelage et al., 2013, p. 76). Moreover, past research has reported various school-based factors to be related to stress, teacher job satisfaction, feelings of safety and attrition such as perceived support, lack of resources and other aspects of the work that can cause negative and unpleasant emotions (Aldridge & Fraser, 2016; Betoret, 2009; Bounds & Jenkins, 2018; Cunningham, 1983; García Torres, 2019; Perie et al., 1997; Skaalvik & Skaalvik, 2011; Won & Chang, 2020), implying that "teachers' experiences of school violence [that eventually affect their job satisfaction levels] might vary considerably across different school contexts" (Won & Chang, 2020, p. 139). Additionally, comprehensive studies on sources of teacher anxiety and stress consistently found them to be associated with difficult students, financial constraints and lack of teaching materials and general resources (Coates & Thoresen, 1976; Cunningham, 1983; Landsmann, 1977).

So, while a myriad of school factors seems to contribute to teacher job satisfaction, two of the most prominent factors are perceived employer support and lack of material resources, as mentioned above. Perceived principal support was selected because principals' decisions

and responses to violence and other issues are crucial when it comes to teacher recruitment and retention (Espelage et al., 2013). When it comes to school violence, teachers often report feeling frustrated and unsupported because of the absence of consequences following serious cases of physical aggression, thus, administrators play a vital part in addressing school violence since they are responsible for implementing policies and providing school leadership (Astor et al., 2009; Brooks & Brooks, 2013). Furthermore, effective principals promote collaboration, build a positive school climate, offer support and motivate their teachers (Astor et al., 2009). On the other side of the spectrum, when teachers do not feel sufficient support from administrators after a violent episode, they may feel unsafe, blamed or disempowered (McMahon et al., 2017). In conclusion, an absence of administrative support, such as ineffective response or no response at all, is a common and substantial problem which could actually become more upsetting than a violent episode (McMahon et al., 2017), thus, supportive and effective principal leadership is a fundamental factor for preventing violence at school (Astor et al., 2009; McMahon, Davis, et al., 2020).

Another concept of the working conditions teachers face within schools that is often mentioned in researches is material/educational resources, and will, therefore, be included in this research. For instance, Benhorin & McMahon (2008) claim that increasing school resources (among other measures) can stimulate more positive and supportive classroom environments, thus improving the relationships between teachers and their pupils. Furthermore, according to Gerberich et al. (2014), student violence directed against teachers was associated with teachers' working environment in which one of the variables was "working in schools with inadequate resources and safety procedures" (Anderman et al., 2018); while yet another research used teachers' perceptions of sufficient school's resources and teaching materials as factors included in the working conditions concept that can reduce teacher attrition (Hirsch et al., 2006). Not only that, but it has also been found that schools with more resource scarcity display higher levels of delinquency and violence (Agnich & Miyazaki, 2013b; García Torres, 2019) contributing as job stressors for teachers (Betoret, 2009), which is why it is important to consider this latent concept in this study.

So far, it has been established that school context is widely used as an important level and basis of research (besides the individual focus) regarding teacher victimisation and job satisfaction; however, it has been asserted that not many studies were conducted in this area of expertise taking into consideration the role of country-level contexts (Agnich & Miyazaki, 2013a, 2013b; Akiba et al., 2002). In fact, it has been argued that in order to meet the required conditions for hiring quality teachers and retaining them, one should consider the national

context as education systems with many challenges that, in turn, affect teachers due to "global economic crisis, privatisation, shortages or oversupplies, underfinancing, and governmental attitude" (Symeonidis, 2015). As we approach the possibility that contextual factors might have a relevant influence on the relationship between school violence and teacher job satisfaction, it is possible to observe that people across countries choose teaching as a career for many of the same reasons such as desire and love of the profession (McKenzie et al., 2005), the ideological motivation of influencing young generations (Balyer & Özcan, 2014), sense of self-fulfilment (OECD, 2019b) and personal satisfaction (McKenzie et al., 2005). For instance, in the TALIS survey conducted in 2018, the average across all of the OECD members and partners was of around 90% of teachers who consider it of moderate to high importance that "teaching allowed [them] to influence the development of children and young people" and that "teaching allowed [them] to provide a contribution to society" (OECD, 2019b). In contrast, it seems to be indicated in the study that there is much more variance across the surveyed countries regarding job satisfaction (and teacher victimisation), suggesting that targeted policies are advisable to develop in accordance with the countries' settings (OECD, 2020); which would require a cross-national analysis in order to uncover and untangle the various influences and aspects that trigger this variation. So, if teachers worldwide start off relatively with the same motivations but end up with different rates of job satisfaction depending on the country they work in, what exactly causes this divergence throughout their careers?

As asserted by Halpert (2011, p. 6), "in the contemporary system of education there is a great reliance on funding, which goes toward capital, maintenance, and operations as well as teacher salaries." He goes on to explain how budgets are used to not only recruit, but also retain teachers in the profession and that past research has shown salary to be a relevant influence of teacher job satisfaction (Halpert, 2011). As a matter of fact, many studies reported similar results indicating that low level of salaries significantly affects teachers' job satisfaction (Darling-Hammond, 2003; Ingersoll, 2006; Liu, 2007; Loeb et al., 2005; Norton & Kelly, 1997; Shann, 1998), especially considering that, in comparison to other professions like computer programming, nursing and public accounting, the teaching one is a relatively low-paying profession (Song & Alpaslan, 2015). Furthermore, the response trend to economic recessions in many countries is to rely on "performance-related pay schemes that selectively reward individual teachers tend to be introduced by several governments under pressure to restrict public spending, at the expense of general pay increases" which undermines the profession and teachers' status (Symeonidis, 2015, p. 22). In light of these researches, it becomes clear the

need to include teacher salary in order to better assert the external, large-scale influences on the profession.

When looking at the broader aspect of national education systems and their influence over teachers' well-being in the workplace, it is also important to recognise that country-wide teacher assessments and accountability have increased the occupational demands experienced by them while working conditions, salaries and student behaviour have worsened, taking a toll on their levels of stress burnout and satisfaction (De Simone et al., 2016; Raymond, 2018). Furthermore, improving national educational systems is an essential but complex goal that includes well-designed policies and effective resource allocation of public investment (normally measured as a percentage of the country's GDP) (OECD, 2010). School funding, for example, can be supplemented with programmes that tackle school and district-specific needs such as disruptive student behaviour and school violence (Bridgeland et al., 2006; Høst, 2008; OECD, 2012a). It is also imperial to consider country-wide expenditure with education because school funding allocation as a percentage of the GDP, strategies and goals differ among OECD nations (OECD, 2012a). Moreover, it has been established that global trends such as economic recessions are particularly straining and deleterious to teachers' status, salary and working conditions in many countries, resulting in nation-wide job insecurity, budget cuts and salary reductions, further affecting their self-esteem and job satisfaction (Hargreaves & Flutter, 2013; Symeonidis, 2015). Thus, the last concept examined in this research is the countries' percentage of the GDP allocated to education.

It is important to recognise that the teaching profession and transgressive behaviour in school are not only about the profession and violence in general but also about how these are viewed and treated in different countries considering that each country has distinctive policies, values, budget priorities, investment plans and cultural contexts. International research indicates that while most teachers perceive their career choice as rewarding, most of them also associate their professions with a high degree of stress and burnout (Johnson & Birkeland, 2003; Neves de Jesus & Lens, 2005; Stoeber & Rennert, 2008). School violence, for example, is a phenomenon that has been an increasing concern for students and school employees across the world for decades (Jenson & Howard, 1999). The worldwide nature of school violence has been well established as a serious problem for students, school administrators, and teachers (Akiba et al., 2002; Baker & Letendre, 2005; Berger, 2012; Denmark et al., 2005), due to detrimental effects on individual students (Boxer et al., 2003; Buhs et al., 2006) and teachers (Anderson, 1998; Galand et al., 2007; Won & Chang, 2020). In fact, teachers all over the world have reported rising levels of classroom disruptions originated by comparatively "minor"

forms of violence and misbehaviour in during class (Anderson, 1998) as well as experiences of teacher victimisation in schools (Steffgen & Ewen, 2007). Research further uncovers how teacher attrition has developed into a global problem (Chang, 2009; Hong, 2010; Ingersoll, 2001) and that the factors that motivate them to leave the teaching profession are strongly related to their working conditions (Day, 2007; Skaalvik & Skaalvik, 2011). According to Toropova et al. (2020, p. 2), "increasing teacher turnover rates and a subsequent shortage of qualified teachers is a growing concern internationally" (European Commission, 2018; Ingersoll, 2017). While previous studies have evaluated individual risk factors (Warner et al., 1999), organisational factors such as schools and communities (Astor et al., 2009; Benbenishty & Astor, 2005), only a limited number of studies (Akiba et al., 2002) have explored the effects of nation-wide contextual levels of school violence. Thus, this research aims at contributing to this field by exploring such contextual factors cross-nationally at one point in time, not only focusing on the school violence suffered by teachers but on how their job satisfaction relates to this. Seeing that not only is school violence a universal phenomenon and that it varies between countries (Baker & Letendre, 2005; Stassen Berger, 2007) but that teacher job satisfaction also varies between countries (OECD, 2020), I formulate one more research question: **To what extent can the variation of the relationship between school violence and job satisfaction be attributed to individual factors, school factors and country factors?**

With this in mind, the goal is for this research to allow a comprehensive framework in which it will be possible to identify multiple levels of influence on the relationship between teacher-directed school violence and job satisfaction exploring the extent to which teachers experience violence and job satisfaction in relation to the school and the national context (Martinez et al., 2016).

Theoretical framework

The concept of Job Satisfaction

Locke (1969, p. 316) portrays this concept as the following, "job satisfaction and dissatisfaction are a function of the perceived relationship between what one wants from one's job and what one perceives it as offering or entailing." Furthermore, the notion that job satisfaction stems from an interaction between the individual and his/her work environment is not a new one, nor is it an unfamiliar relationship (see Locke, 1969; Rand, 1967; Roethlisberger et al., 1941; Sardžoska & Tang, 2012). According to Stewart et al. (2018), happiness in the work usually has two aspects: the economic and the emotional state which regards to how employees feel towards their environment and the level of stress they experience. Additionally,

emotional exhaustion, more commonly known as the term 'burnout', is especially associated' tense work environments and generally produces an overall feeling of indifference for the employees (Stewart et al., 2018). In conclusion, happiness manifested as satisfaction in the workplace is important because it enables employees, as a whole, to perform their job tasks at a higher level.

The importance of experiencing job satisfaction is further emphasised by Weatherby (2019) as it takes significant investments of time and money for teacher training from individuals, various public and private entities and governments; thus, transforming a new teacher into a good teacher entails substantial financial and human resources, so, a teacher who decides to quit teaching means a significant loss, which compels the whole system to begin the process over again in order to find a replacement. The author further points out that presently, many countries are experiencing high attrition and low recruitment of teachers, which directly affects the hiring and staffing of teachers and the quality of teaching and learning in schools. Thus, Weatherby (2019) argues, it is coherent that schools and education systems wish to keep the experienced and high-quality teachers in whom they have already invested. Research further shows that job dissatisfaction is associated to teacher burnout, attrition and lower commitment to their work, so teachers' job satisfaction is vital for principals who do not want to lose staff (Weatherby, 2019).

The concept of School Violence

Violence is defined as the intentional use of real (or threatening) physical force or dominance, against another person, group or community, resulting (or is very likely to result) in injury, psychological damage, deprivation, developmental disorder or death (Krug et al., 2002). Furthermore, [school] violence is a consequence of a break in dialogue by means of intimidation, injury and petty crimes against property, and so on (Werthein, 2003). Moreover, besides physically visible aggression, school violence is categorised by Charlot et al. (1997) as acts of "incivility" such as humiliation, offensive words and disrespect. Violence is also assumed to be practised by what Bourdieu (2001) describes as "concealed power", or symbolic violence which relates to violence in power relationships that are namely conniving and authoritarian. Surveys carried out in different geographical locations such as Europe, Canada and Brazil (Abramovay & Rua, 2004; Blaya, 2001; Debarbieux et al., 2002; Ortega, 2001) have revealed that there are many points of view on the school environment and this problem significantly thwarts a clear and unanimous understanding of the phenomenon in such an environment. Studies accomplished in England emphasise the difficulty in defining the concept

of school violence because the term "violence" is not usually linked to specific acts that are practised by students against teachers or vice versa (Blaya, 2001; Hayden & Blaya, 2001). That occurs because the kind of violence discussed here involves emotional implications (Abramovay & Rua, 2004), thus, utilising "aggression", "aggressive behaviour", "bullying" and "disruption" would ideally be more suitable terms when examining certain daily situations in the schools regarding transgressive behaviour (Werthein, 2003). Ortega (2001) demonstrated in Spain that there is a kind of moral discomfort involved in assigning certain demonstrations of violence as "school violence" per se, which is particularly true regarding acts practised *against* youth and children. In the USA however, the focus is usually placed outside the schools with an emphasis on gangs (Hagedorn, 1998) and the preferred terms used in these cases are "misconduct", "juvenile delinquency" and "anti-social behaviour" (Flannery, 1997). Furthermore, beginning in the mid-1990s in Brazil, a sort of consensus in the literature emphasised terms related to violence as any display of aggression towards property or persons such as students, teachers, school property, school employees, etc. (Candau et al., 1999; Guimarães, 1996; Minayo et al., 1999). Additionally, the focus of analysis of the phenomenon has also changed in comparison to the earlier studies. Initially, according to Abramovay & Rua (2004), school violence was considered as a simple matter of discipline; whereas later, it started to be studied as an expression of antisocial behaviour and a manifestation of juvenile delinquency. Today though, the phenomenon is perceived in a much broader manner with perspectives expressed by globalisation, inequality and social exclusion, which entail further analyses that are not limited to the actual transgressions practised by young students (Abramovay & Rua, 2004).

It is important to highlight again that that school violence is a very broad term, but in this research, the focus is on teacher victimisation, in which being intimidated or verbally abused by students is the observed outcome of such concept. Verbal abuse is a common form of aggression directed at teachers worldwide that is different from physical violence (but that could escalate to it) and it includes cursing, mockery, insults, humiliation and threats; leading to emotional distress, anxiety, teacher disengagement, lower job satisfaction and feelings of personal unsafety in their workplace (Benbenishty & Astor, 2005; McMahon, Davis, et al., 2020; Moon et al., 2015; Warburton, 2014; Wilson et al., 2011).

School Violence and Job Satisfaction

A number of studies that examined stress and professions have documented that school teachers are at a substantially high risk of work-related stress (Johnson et al., 2005; Kidger et

al., 2016; Won & Chang, 2020) which, as a consequence, negatively affects their job satisfaction. For example, the excessive educational enthusiasm that is expected from teachers is said to produce psychological burdens for them (Won & Chang, 2020). In particular, there is also a sort of expectation that deems teachers responsible for school-violence issues, which particularly intensifies the existing pressure due to such violence (Beran, 2006; Dake et al., 2003; Mishna et al., 2005). More specifically, the type of stress that teachers are likely to experience during their careers produced by school violence is described as pressure suffered by handling school violence and the number of negative psychological responses (for example helplessness, anxiety and depression) in response to such violence (Park et al., 2007; Won & Chang, 2020). In fact, physical/emotional distress and fear caused by violence targeted at teachers have been reported by many studies claiming that such consequences of teacher victimisation affect not only their performance and turnover but also their job satisfaction and intentions to remain in the profession (Anderman et al., 2018; Dzuka & Dalbert, 2007; Galand et al., 2007; Moon et al., 2015; Moon & McCluskey, 2020; Wilson et al., 2011). Therefore, in order to test the claims previously made by various studies conducted in different countries and points in time, the first hypothesis is formulated as:

> *Hypothesis 1: The more intimidation and verbal abuse experienced by teachers as manifestations of school violence, the less job satisfaction is reported by teachers.*

School Factors

Certainly, many extrinsic factors have been linked to teacher satisfaction such as perceived support from school leaders, financial compensation, school safety, availability of material resources and so on (Bobbitt et al., 1994; Choy et al., 1993). School culture has been indicated by various studies to be imperative in promoting and implementing programmes tackling bullying and school violence, especially by including effective support, collaboration and connection among staff (Coyle, 2008; Greene, 2008), ultimately leading to improved student engagement (Brady, 2005) and higher academic achievement (Brookover, 1985; Hoy & Hannum, 1997; MacNeil et al., 2009). Principal support is characterised by Aldridge & Fraser (2016, p. 296) as "the extent to which teachers feel that the school's leadership team is approachable and supportive". Their study still yielded results reporting that principal support directly and positively affects job satisfaction, backing up other studies' findings of the notion that constructing a supportive work environment increases productivity, benefits teachers' self-efficacy and foments their job satisfaction. (Aldridge & Fraser, 2016). Indeed, studies claim

that when teachers do not feel supported in the workplace, they feel less motivated and inclined to achieve their best performance while teaching (Ashton & Webb, 1986; Ostroff, 1992). Claiming that poor working conditions demoralise the teaching profession, some policymakers, researchers and educators say that lack of support demotivates becomes a reason for teacher attrition (Choy et al., 1993). Conversely, it has been reported that teachers are the most satisfied when working in a supportive and low-violence environment, confirming that teachers' perceptions of their workplace are associated with their job satisfaction (Perie et al., 1997) and, in addition to that, other studies observed that supportive leadership and staff cohesion relate negatively to school violence (Debarbieux, 1999; Gladden, 2002). Thus, I formulate 2 more hypotheses:

Hypothesis 2 (a): The higher the principal support reported by teachers at a school level, the higher is teacher job satisfaction.

Hypothesis 2 (b): As principal support reported by teachers at a school level is higher, the strength of the negative relationship between school violence and teacher job satisfaction is lower.

Generally, resources are meant to aid teachers to prevail over work stressors, but when these are insufficient, it only adds to the job stress caused by the work environment (Blase, 1982) such as school violence. It has been previously found that inadequate resources significantly and negatively affects teachers' feelings of self-efficacy and contribute to lower turnover and retention rates (Aldridge & Fraser, 2016; Hirsch et al., 2006). Furthermore, teachers rely heavily on the availability and accessibility of school materials in order to achieve maximum learning results and it has been argued that the use of such material resources gives way to more valuable development to teachers than any personal skills without the materials in the learning environment (Usman, 2016). Moreover, as mentioned before, school resources foment more efficient and constructive working environments for the teachers and their relationship with the students (Benhorin & McMahon, 2008) and, conversely, the unavailability of such teaching resources has been linked to low teacher job satisfaction (Sahito & Vaisanen, 2016). Apart from that, it has been previously established that an inadequate number of resources is one of the working environment factors often linked to higher rates of teacher violence perpetrated by students (Agnich & Miyazaki, 2013b; Anderman et al., 2018; García Torres, 2019; Gerberich et al., 2014). Material/educational resources refer to didactic

resources for teachers such as maps, books, and digital resources as well as school facilities such as libraries, labs, and offices (Betoret, 2009) and are reported to reduce work-related stressors related to burnout (Betoret, 2006; Blase, 1982; Breuse, 1984; Schwarzer & Greenglass, 1999). As previously indicated, the availability of resources (among other factors such as administrative support, interruption, large class enrolments financial constraint) are much associated with teacher satisfaction – where when there is a lack of resources, teachers feel more anxious and stressed (Aldridge & Fraser, 2016; Betoret, 2009; Cunningham, 1983; Landsmann, 1977; Perie et al., 1997), which might arguably add to the negative feelings caused by school violence. Thus, another hypothesis is formed:

Hypothesis 2 (c): The more of a problem is the lack of school material resources, the lower is teacher job satisfaction.

Hypothesis 2 (d): The more of a problem is the lack of school material resources, the strength of the negative relationship between school violence and teacher job satisfaction is higher.

Country Factors

Studies report that teacher salary, among other factors, is one of the main influences of teacher performance and quality, and thus, it is argued that pay is important to predict increasing or decreasing levels job satisfaction (Ingersoll, 2006; Liu, 2007; Loeb et al., 2005; Song & Alpaslan, 2015; Tickle et al., 2011; Tillman, 2008). In fact, low salaries, prestige and satisfaction are professional challenges that teachers are said to face in contemporary society, which may be added to the threat of violence (Halpert, 2011), for instance, it has been reported that in the U.S., teacher attrition got to up to 30% due to low salaries (Darling-Hammond, 2003) and the increased educational demands and accountability (such as controlling student misbehaviour and directly dealing with school violence) do not accompany rising salaries nowadays (De Simone et al., 2016; Raymond, 2018). It is true that teacher salary is reported to have different relationships with job satisfaction in different studies, and that mainly relates to group comparison or when taking other concepts and factors into consideration. For instance, it is claimed that people do not necessarily choose teaching as a career for external rewards such as salary (Choy et al., 1993), indicating that remuneration is not usually a motivator. Moreover, staff turnover has been weakly (directly) linked to salary and similar benefits but mostly related to school quality (indicating private and public funding), administration, cohesion among staff and school size (Ingersoll & Alsalam, 1996; Lee et al., 1991). It has also

been reported by researchers that although salary is still important to teachers, financial compensation only modestly predicts job satisfaction (Firestone, 1990; Perie et al., 1997). More recent studies, however, have been able to link dissatisfaction with various environmental factors such as salary, lack of principal support, difficult students and unsafe school environments as main reasons for teachers to drop out of the profession (Bounds & Jenkins, 2018; Ingersoll, 2001; Smith & Smith, 2006). Many scientific debates have certainly arisen about whether teachers experience more job satisfaction with higher salaries, thus somewhat counterbalancing negative experiences in the workplace such as violence (Darling-Hammond, 2003; Macdonald, 1999; Murnane, 1991; Perrachione et al., 2008), and indeed some have consistently found so (Brackett et al., 2010; Kirby & Grissmer, 1993; Shann, 1998). However, it is important to recognise that studies like these were rarely conducted cross-nationally and could omit important country-level information, especially considering that the average teacher salary varies greatly from country to country (see Appendix 1). Thus, the next hypothesis is developed:

Hypothesis 3 (a): The higher the teacher salary, the higher is teacher job satisfaction.

Hypothesis 3 (b): The higher the teacher salary, the strength of the negative relationship between school violence and teacher job satisfaction is lower.

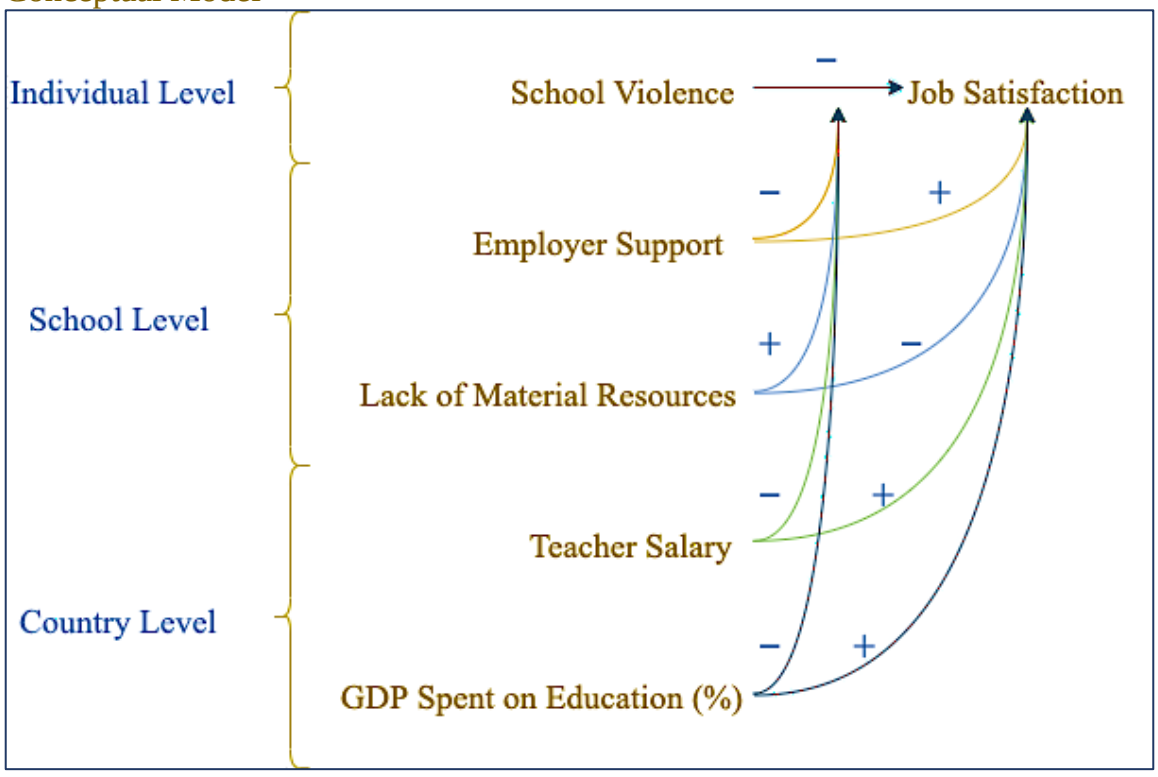
The issue of limited resources has been mentioned in this research as it has been reported to add negative feelings to teachers in relation to their profession and workplace, eventually and arguably adding to the stress and dissatisfaction in the presence of violence (Ouellette et al., 2018). Accordingly, state funding is imperial in influencing and constraining teachers regarding their job tasks (OECD, 2018), in implementing policies tackling school violence (Plan, 2008) and improving student achievement (von der Embse et al., 2016). Although educational funding plays a relevant part in national teacher salary, that is just one area of allocation, and therefore, it is relevant to analyse seeing that it comprises national policies, teacher recruitment and retention effort (linked to job satisfaction), administrative priorities (Halpert, 2011). The TALIS Survey 2018 for example, reveals that when teachers were asked about improvements of their working conditions (in the sense of education budget priorities if such would increase by 5%), 65% of them rated “reducing class sizes by recruiting more staff” as being of high importance. Further, 64% rated “improving teacher salaries”, followed by 55% rating “offering high-quality professional development for teachers”, and

55% also rating "reducing teachers' administration load by recruiting more support staff" as being of high importance across countries (OECD, 2019b). In addition to that, it is claimed that information about school violence across countries uncovers "the potential role of national funding for education in raising awareness of school violence as a social problem, and the link between awareness and actual levels of violence in schools" (Agnich & Miyazaki, 2013a, p. 394). In order to analyse whether the amount of state funding has an impact on the main relationship of this study, the share (%) of the countries' GDP allocated for education will be used as an observable element in the following hypothesis:

Hypothesis 3 (c): The higher the share (%) of the countries' GDP spent on education, the higher is teacher job satisfaction.

Hypothesis 3 (d). As the share (%) of the countries' GDP spent on education higher, the strength of the negative relationship between school violence and teacher job satisfaction is lower.

Conceptual Model



Data and methods

The dataset used for the individual- and school-level information was retrieved from the OECD Teaching and Learning International Survey (TALIS) 2018 conducted with 153,682 teachers that provide an ISCED education Level 2 as defined by the International Standard Classification of Education 1997; which corresponds to the lower secondary level of education (UNESCO Institute for Statistics, 2006) and 9,247 principals of the same schools in the teacher sample. Thus, both the teacher and the principal survey datasets are used in this study. Furthermore, the teacher population "was stratified [into a] two-stage probability sampling design" where teachers were selected randomly in each school (with its respective principal) that was also previously randomly selected within each country (OECD, 2019a, p. 160). As for the country-level data, the sources used were The World Bank Group ©, the Organisation for Economic Co-operation and Development (OECD) © and Knoema ©. In sum, from the 49 countries/economies that participated in the TALIS 2018, 27 countries[1] were chosen for this research as determined by the availability of reliable and recent country-level data, and 65,115 teachers and 4,763 principals (which also refers to the number of schools) were selected after deleting missing cases.

In order to test the proposed hypotheses, the type of the analysis chosen is cross-sectional seeing that there is no time-related dimension throughout the hypotheses where the unit of observations at the individual level are secondary school level teachers (also for perceived principal/employer support), at the school level are school principals (only for lack of material resources) and at the country level are official data retrieved from secondary sources. Moreover, the unit of analysis at the individual level regards perceived levels of school violence, job satisfaction. Employer support aggregated to the school level and lack of material resources regards to the school level. Lastly, the country-level data entail national units of analysis of average teacher salary and percentage of GDP spent on education.

Operationalisation

Dependent Variable. In the TALIS 2018 dataset, *job satisfaction* was measured on a four-point Likert scale, for which the response categories were "Strongly disagree" (1), "Disagree" (2), "Agree" (3) and "Strongly agree" (4). The survey statement for this variable was "All in all, I am satisfied with my job" and the main question was "We would like to know

[1] Australia, Austria, Brazil, Bulgaria, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Israel, Japan, Korea, Latvia, Lithuania, Mexico, Netherlands, New Zealand, Norway, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Turkey, and United States.

how you generally feel about your job. How strongly do you agree or disagree with the following statements?"

Main Independent Variable (level 1). Perceived *school violence* manifested as intimidation and verbal abuse was measured by the TALIS survey where the main question was "Thinking about your job at this school, to what extent are the following sources of stress in your work?" The statement used for this study is "Being intimidated or verbally abused by students" for which it was also measured on a four-point Likert scale where the response categories were "Not at all" (1), "To some extent" (2), "Quite a bit" (3) and "A lot" (4).

Independent variables (level 2 and 3). At the school level, teachers were asked "How strongly do you agree or disagree that the following present barriers to your participation in professional development?" in which one of the categories was "There is a lack of *employer support*" and the response options were also "Strongly disagree" (1), "Disagree" (2), "Agree" (3) and "Strongly agree" (4). The variable was aggregated to the school level so as to represent the school environment then reverse coded so that higher scores represent higher employer support. Furthermore, the *lack of material resources* variable is a scale formed by the TALIS technical team and already made available in the original dataset. The main question principals were asked was "To what extent is this school's capacity to provide quality instruction currently hindered by any of the following issues?" where the issues presented were:

- Shortage or inadequacy of instructional materials (e.g. textbooks);
- Shortage or inadequacy of digital technology for instruction (e.g. software, computers, tablets, smartboards);
- Insufficient Internet access; and,
- Shortage or inadequacy of library materials.

Their response options were also presented as a four-point Likert scale: "Not at all" (1), "To some extent" (2), "Quite a bit" (3), "A lot" (4).

Finally, the *country-level variables* being used for this study are starting *teacher salary* (secondary education) measured in US dollars in 2018 and the *government expenditure on education* as a percentage of the GDP.

Control variables. At the individual level, the control variables used are *age, gender, class size* and *training*. Firstly, *age* was included because it has been found that older teachers expressed less professional satisfaction (Ma & MacMillan, 1999) and considering teacher demographic characteristics such as age and gender can aid and give direction to policy "interventions by identifying groups that are at greater risk for experiencing violence" (Martinez et al., 2016, p. 388). Secondly, *gender* was selected as female teachers were found

to report more job satisfaction than male teachers (Bogler, 2002; Geer & Lortie, 1976; Ma & MacMillan, 1999). Thirdly, *class size* was included because smaller class size are largely perceived as allowing teachers to spend more time with students individually and less time busy with classroom management, thereby offering better instruction that is tailored to the students' individual needs and ensuring higher performance (OECD, 2012b). Not only that, according to Perrachione et al. (2008), small class size is one of the factors that positively influence teacher satisfaction with the profession. Lastly, *training* was added as it is possible that violence aimed at teachers (within teacher preparation programs) may be an overlooked subject, given the global frequency of teacher victimisation, which results in many educators having insufficient skills to prevent challenging behaviour from happening and to counteract effectively when transgressive behaviour does manifest (Espelage et al., 2013). As expressed by Espelage et al. (2013), when educators are better prepared with training, they become their very own best first line of defence when it comes to threats of student violence, however, teachers reported a lack of training in preventing and managing violence at school in several studies (Alonso et al., 2009; Daniels et al., 2007; Shernoff et al., 2011). Age was treated by the TALIS dataset as a categorical variable for age groups[2], gender as a dummy variable using "male" as a reference category, class size is measured continuously by teachers' answer to "How many students are currently enrolled in this <target class>? Please write a number" and respondents had the opportunity to answer whether "Student behaviour and classroom management" was one of the elements included in their formal training or not, making it a dichotomous variable. Thus, training was also made into a dummy variable with 'yes' as the reference category.

At the school level, the control variables chosen were *school size* because studies found that larger school sizes correlate to higher levels of violence as social control becomes more difficult to establish (Agnich & Miyazaki, 2013b; Burdick-Will, 2013) and *percentage of economically-disadvantaged students* because principals have reported higher frequencies of violence when the percentage of low SES students was higher, indicating that either "schools with greater numbers of low SES students are socially disorganized and more conducive to violence, and/or that schools with greater numbers of low SES students have fewer resources to be able to enact effective social control" (Agnich & Miyazaki, 2013b). School size is a continuous variable drawn from the principals' questionnaire in which they were asked "What

[2] The age group categories used in the survey were: 1 = "Under 25", 2 = "25-29", 3 = "30-39", 4 = "40-49", 5 = "50-59" and 6 = "60 and above".

is the current school enrolment, i.e. the number of students of all grades/ages in this school? Please write a number" but later turned into a categorical variable by the TALIS technical team. Therefore, the variable in the dataset has 5 categories: 1 = "Under 250", 2 = "250-499", 3 = "500-749", 4 = "750-999", and 5 = "1000 and above." The variable *percentage of economically-disadvantaged students* was also treated as a continuous variable in which principals were asked "Please estimate the broad percentage of [<ISCED level x> or 15-year-old] students in this school who have the following characteristics" where one of the categories was "students from <socio-economically disadvantaged homes>." However, the dataset also presents this variable with the following categories: 1 = "None", 2 = "1% to 10%", 3 = "11% to 30%", 4 = "31% to 60%", and 5 = "More than 60%."

Regarding the country-level control variables, poverty and inequality can be seen as national manifestations of variations in social support and are well applicable to school and country-wide contexts of education (Agnich & Miyazaki, 2013a). That is due to the fact that social support is usually conceptualised as actions taken by countries to lessen the negative effects of poverty (Chamlin & Cochran, 1997; Pratt & Godsey, 2002; Worrall, 2009). Empirical evidence of this phenomenon comprises prior research that indicates how schools in countries with lower GDPs display higher levels of violence (Akiba et al., 2002). Upon consideration of what these studies reveal, it is not unreasonable to conclude that nation-wide economic factors and indices can be of help in accounting for variations in school violence, which, as a consequence, may affect teacher job satisfaction. The Gross Domestic Product (GDP), for example, has long been used as a comparative tool for evaluation of countries' economic growth which essentially measures the value of the production of goods and services of countries and relates to a nation's productivity and output (Dynan & Sheiner, 2018; Mallett & Keen, 2012). According to the previous paragraph, not only is GDP linked to differences in school violence cross-nationally, but inequality seems to be also linked to intra-nation variation. In order to analyse this relationship, the GINI coefficient of income inequality, which is a measure of deviance from a perfectly equal distribution of income among the citizens[3], was chosen to further explore the country differences in this study. Additionally, it has been previously hypothesised that countries with higher Gini coefficients may display higher levels of school violence (Agnich & Miyazaki, 2013b). Finally, the Human Development Index was chosen because it not only comprises health and standard of living as a measure of economic growth expressed in quality of human life, but it also comprises education (Deb, 2015); a theme

[3] Retrieved from https://knoema.com/search?query=gini&pageIndex=&scope=&term=&correct=&source=Header

related to this research. Particularly considering that, as previously mentioned, teachers who experience more school violence tend to display lower performance, turnover and professional engagement, all of which, in turn, reflects as poor levels of student achievement (Espelage et al., 2013). *GDP* was measured per capita (current US$) using 2018 as a reference, the Net Income *GINI* 2018 was used as a percentage where 0% represents perfect equality and 100% represents perfect inequality, and the Human Capital Index (*HCI*) 2017 (scale 0-1) in which 1 represents a country where children "can expect to achieve both full health (no stunting and 100 per cent adult survival) and full education potential (14 years of high-quality school by age 18)" (World Bank, 2018).

Descriptive values. The table below shows the individual-level variable descriptives encompassed in the TALIS 2018. Furthermore, the country-level variable values can be found in appendices 1, 2, 3, 4 and 5.

Table 1. Descriptive statistics of individual-, school- and country-level data

	N	Minimum	Maximum	Mean	SD	%
School violence	65115	1	4	1.60	.856	-
Job satisfaction	65115	1	4	3.17	.614	-
Age groups	65115	1	6	4.00	1.150	-
Gender	65115	0	1	.682	.466	-
Male (ref.)	20681	-	-	-	-	31.8
Female	44434	-	-	-	-	68.2
Class size	65115	1	98	24.48	9.956	-
Training	65115	0	1	.677	.468	-
No (ref.)	21016	-	-	-	-	32.3
Yes	44099	-	-	-	-	67.7
Employer support	4763	1	4	2.846	.5598	-
Lack of material resources	4763	1	3	1.418	.575	-
School size	4763	1	5	2.708	1.363	-
Economically-disadvantaged students (%)	4763	1	5	2.676	1.079	-
Teacher salary	27	14494.20	49481.80	30941.930	10280.044	-
GDP spent on education (%)	27	3.19	7.98	5.318	1.12	-
GDP per capita	27	6667.79	81734.47	33752.199	20203.921	-
GINI	27	24.90	48.90	33.259	7.097	-
HCI	27	.56	.85	.741	.075	-

Source: TALIS 2018 Survey dataset, own calculations

Method of analysis

By utilising the SPSS Statistics Software, the data was prepared such as by removing missing values and recoding dummy variables. Afterwards, the Multilevel Analyses were conducted using the statistical software STATA in order to distinguish the variances of scores in the dependent variable by accounting for both the individual and the environmental-level data. The overall equation used in Multilevel Analysis is: $Y_{ijk} = \gamma_{000} (+ \beta_1 X_{ij} \ldots) + v_{0k} + u_{0jk} + e_{ijk}$, where residuals at all levels are expressed as: $v \sim N(0,\sigma 2\ v)$ being the between-country variance; $u \sim N(0,\sigma 2\ u)$ being the between-school variance and $e \sim N(0,\sigma 2\ e)$ being the within-groups (between-individuals) variance. Finally, I present the findings as the following:

1. Empty model – conducted in order to establish the Intraclass Correlation Coefficient (ICC) without any predictors.

2. Main Relationship Model (main independent variable only) – used to test the first hypothesis in order to establish the main relationship between school violence and job satisfaction in a multilevel framework (individual control variables added).

3. Random Intercept Model (main independent variable with individual-level control variables) – added in order to account for any spurious effects the control variables might have on job satisfaction.

4. Random Intercept Model (school-level variables) – by adding the school-level variables, the aim is to establish how work environment influences play a part in the relationship between school violence and teacher job satisfaction so as to test hypotheses 2 (a) and 2 (c) (school control variables also added).

5. Random Intercept Model (country-level variables) – by adding the country-level variables, the aim is to establish how outside influences affect the relationship between school violence and teacher job satisfaction so as to test hypotheses 3 (a) and 4 (c) (country control variables added). Thus, models 4 and 5 are added at this stage solely to assert how the contextual level could matter.

6. Random Slope Model – so far, these models allowed for the intercepts to vary but not the slopes, so until now it was assumed that the overall effect of the independent variables on job satisfaction is the same across schools and across countries.

7. Random Slope Model (with Cross-Level Interactions Individual-School) – added to model 7 to test hypotheses 2 (b), 2 (d).

8. Random Slope Model (with Cross-Level Interactions Individual-Country) – added to model 7 to test hypotheses 3 (b) and 3 (d) as a final model with all the cross-level interactions.

Moreover, in each model, I will also present the deviance between each newly added model in comparison with the previous ones by using the maximum likelihood values in order to establish how well the added variables fit the data and the pseudo R^2 so as to describe the proportion of variance of the models.

Limitations

Finally, the limitations of this research involve a lack of data on school-level teacher salary and the amount of public funding/financial support. Therefore, the way around it was using country-level data and including this level in the conceptual model. Furthermore, due to estimation and system errors of the statistical programme SPSS, this programme was only used for data preparation while STATA was used for the multilevel analyses.

Results

Table 2. Parameter Estimates for all Models of the Multilevel Analysis using Job Satisfaction as the dependent variable

Model	M1: Empty	M2[a]: Random intercepts	M3[b]: Random intercepts	M4[c]: Random intercepts	M5[d]: Random intercepts	M6: Random slopes	M7[e]: Cross-level interaction	M8[f]: Cross-level interaction
Fixed part				**Coefficient (S.E.)**				
Intercept	3.172*** (.032)	3.404*** .033	3.256*** (.013)	2.912*** (.049)	1.603* (.667)	1.884*** (.586)	1.683** (.607)	1.679** (.605)
School violence	-	-.145*** (.003)	-.144*** (.003)	-.140*** (.003)	-.141*** (.003)	-.150*** (.009)	-.098*** (.028)	-.037 (.047)
Age groups	-	-	.011*** (.002)	.011*** (.002)	.011*** (.002)	.010*** (.002)	.010*** (.002)	.010*** (.002)
Gender[g]	-	-	.022** (.005)	.021*** (.005)	.021*** (.005)	.020*** (.005)	.020*** (.005)	.020*** (.005)
Class size	-	-	-.0001 (.0003)	-.0001 (.0003)	-.0001 (.0003)	-.0001 (.0003)	-.0001 (.0003)	-.0001 (.0003)
Training[h]	-	-	.082*** (.005)	.081*** (.005)	.081*** (.005)	.081*** (.005)	.081*** (.005)	.081*** (.005)
Employer support	-	-	-	.132*** (.008)	.132*** (.008)	.132*** (.008)	.157*** (.015)	.156*** (.015)
Lack of material resources	-	-	-	.002 (.005)	.002 (.005)	.004 (.005)	.009 (.010)	.009 (.010)

School size	-	-	-	.001 (.002)	.001 (.002)	.001 (.002)	.001 (.002)	.001 (.002)
Economically-disadvantaged students (%)	-	-	-	-.004 (.003)	-.004 (.003)	-.003 (.003)	-.003 (.003)	-.003 (.003)
Teacher salary	-	-	-	-	.00001** (.000003)	.00001** (.000002)	.00001** (.000003)	.00001** (.000003)
GDP spent on education (%)	-	-	-	-	.050 (.004)	.040 (.030)	.043 (.027)	.044 (.027)
GDP per capita	-	-	-	-	.000003 (.000002)	.000002 (.000002)	.000002 (.000002)	.000002 (.000002)
GINI	-	-	-	-	.023*** (.006)	.019*** (.005)	.020 (.005)	.020 (.005)
HCI	-	-	-	-	.144 (.646)	.009 (.568)	.090 (.584)	.082 (.581)
Interaction[1]: Employer support	-	-	-	-	-	-	-.017* (.009)	-.016 (.008)
Interaction[2]: Lack of material resources	-	-	-	-	-	-	-.004 (.006)	-.004 (.006)
Interaction[3]: Teacher salary	-	-	-	-	-	-	-	.000001 (.000001)
Interaction[4]: GDP spent on education	-	-	-	-	-	-	-	-.006 (.007)
Random part				**Coefficient (S.E.)**				
Residual variance (individual) (σ^2_e)	.336*** (.002)	.325*** (.002)	.324*** (.002)	.323*** (.002)	.323*** (.002)	.319*** (.002)	.319*** (.002)	.319*** (.002)
Intercept variance (school) (σ^2_{v0})	.013*** (.001)	.009*** (.001)	.009*** (.001)	.007*** (.001)	.007*** (.001)	.015*** (.003)	.015*** (.003)	.015*** (.003)
Covariance between the slope and intercept (σ^2_{u0u1})	-	-	-	-	-	-.008*** (.001)	-.008*** (.001)	-.008*** (.001)

Slope variance (σ^2_{u1})	-	-	-	-	-	.006*** (.0008)	.006*** (.0008)	.006*** (.0008)
Intercept variance (country) (σ^2_{u0})	.027*** (.007)	.028*** (.008)	.029*** (.008)	.040*** (.011)	.016*** (.004)	.011*** (.003)	.012*** (.004)	.012*** (.004)
Covariance between the slope and intercept (σ^2_{u0u1})	-	-	-	-	-	.0002 (.001)	-.0002 (.001)	-.00004 (.001)
Slope variance (σ^2_{u1})	-	-	-	-	-	.002*** (.001)	.002*** (.001)	.002*** (.001)
Number of Parameters	3	4	8	12	17	21	23	25
Deviance (-2LL)	115801.648	113271.918	112971.706	112713.152	112687.42	112384.038	112380.266	112377.578

Notes: a. only main individual variable; b. model individual-level + control variables; c. model with school-level + control variables; d. model with country-level + control variables; e. model with school-level interaction variables; f. model with school-level interaction variables; g. reference category is 'Male'; h. reference category is 'No'.
*p < 0.05, **p < 0.01, ***p < 0.001.

The table above (Table 2) presents the results of all the Models of the Multilevel Analysis for the dependent (outcome) variable *Job Satisfaction*. Furthermore, the "fixed part" of the table presents the regression coefficients, the statistical significance levels of the coefficients and the standard error of variances within schools (between individual teachers). The random part, on the other hand, displays the variances produced between individuals, between schools and between countries while at the lower part of the table the number of parameters of each model are shown as well as the likelihood ratio test.

Empty Model 1. The first model depicts only the dependent variable by school, without any predictor variables. With an intercept of 3.172 where 0 is not a meaningful number in the scale of job satisfaction, individuals show a residual variance of .336, a variation of .013 at the school level and a variation at the country level of .027. In order to determine the ratio of the between-school variance to the total variance an Intraclass Correlation Coefficient was used where σ^2_{u0} (school variation) / σ^2_e (residual individual variation) + σ^2_{u0} (school variation) + σ^2_{v0} (country variation), resulting in the following equation .013 / (.336 + .013 + .027) = .035. Therefore, this means that 3,5% of the variation of teacher satisfaction can be attributed to

school level variation. The ratio of the between-country variance resulted in the following equation .027/ (.336 + .013 + .027) = .072. Therefore, this means that 7,2% of the variation of teacher satisfaction can be attributed to school level variation, and 89,3% to individual level variation.

Random Intercept Model (independent individual-level variable) 2. By adding the school violence variable, it was possible to observe that for every 1-unit increase in school violence, *job satisfaction* significantly decreases by -.145. Thus, *Hypothesis 1 is accepted*.

Furthermore, the individual variation has decreased to .325 (compared to .336 in the first model), indicating that school violence explains a significant part of the individual differences in job satisfaction. The same variable also explains some school variation as the value decreased from .013 to .009. Meanwhile, the country variation coefficient actually increased slightly from .027 to .028 indicating some suppression effect of school violence on job satisfaction in the variation between countries. Here, the deviance between the two models is calculated using the maximum likelihood values in order to detect how well the second model statistically fits the data, compared to the empty model, by performing a chi-square test (Hox, 2002). The difference in deviance (-2LL) between the two models is 2,529.73 (115801.648 – 113271.918) and the difference in parameters is 1 (4-3). This is equal to the degrees of freedom for the chi-square distribution table. With 1 degree of freedom at a p>.01 alpha level, the difference should be at least 6.63 Since 2,529.73 is higher than 6.63, it is possible to conclude that the random intercept model fits the data significantly better than the empty model. Furthermore, the proportion of variance explained school violence alone in the 1st random intercept model (compared to the empty model) can be calculated as a pseudo R^2 by using the following formula: (variance of the empty model - variance of the model of comparison) / variance of the empty model (Hox, 2002). The R^2 at the individual level was (.336 - .325)/.336 = .033. So, the school violence explains 3,3% of the individual differences in job satisfaction. The school-level variance was (.013 - .009)/.013 = .308. So, 30,8% of the school differences in teacher job satisfaction can be explained by differences in the school violence. Finally, the country-level variance was (.027 - .028)/.027 = -0.037. Meaning that there are more differences/variation at the country level when introducing the individual level variable *school violence*. The following result interpretations focus more on the effects; for more information on the proportion of variance between the models, please refer to Table 3 at the end of this section.

Random Intercept Model (individual-level variables with controls) 3. By adding the school violence variable, it was possible to observe that for every 1-unit increase in school

violence, *job satisfaction* significantly decreases by -.144 (slight decrease compared to model 3). The teacher age b is .011, so for every 1-unit increase in teachers' age, teacher job satisfaction significantly increases by .011 and compared to males, female teacher job satisfaction is .022 significantly higher. While class size did not produce a significant effect, compared to the teachers who did not previously receive student behaviour and classroom management training, the ones who did have a significant b of .082 higher job satisfaction.

Random Intercept Model (school-level variables added) 4. Upon adding the second-level variables (with controls), the main independent variable (school violence) decreased from -.144 to -.140, indicating that controlling for school-level variables produces a more accurate result without spurious effects. While age remained the same, the gender effect decreased slightly (.021) and so did training (.081). The school-level variables encompass a significant effect of employer support on job satisfaction of .132, and statistically insignificant effects of Lack of material resources, School size and Percentage of economically-disadvantaged students. Thus, *hypothesis 2 (a) is accepted and hypothesis 2 (c) is rejected*.

Random Intercept Model (country-level variables) 5. Once the country-level variables were added, the school violence effect increased slightly (-.141) indicating some suppression effect of the country variables. While the school-level effects remained the same as in Model 4, teacher salary had a very small, but significant effect of .00001 on job satisfaction. Furthermore, while percentage of GDP spent on education, GDP per capita and HCI had produced insignificant effects, GINI (a control variable) resulted in a positive significant effect of .023 which means that the more inequality there is in the country, the more professionally satisfied the teachers are. This is a very interesting and intriguing result which would warrant further investigation perhaps by analysing this effect on separate countries, however, time constraints do not allow an in-depth analysis on this matter. Thus, *hypothesis 3 (a) is accepted and hypothesis 3 (c) is rejected*.

Random Slope Model 6. In this model, the slopes were allowed to vary so that it is possible to analyse the unconstrained effects of the independent variables on job satisfaction across schools and countries. School violence produced a higher significant effect of -.150, age (.010) and gender (.020) decreased slightly while (of the significant effects), training, employer support and teacher salary remained the same. Lastly in the model, the GINI effect on job satisfaction decreased slightly to .019.

Random Slope Model (with Cross-Level Interactions Individual-School) 7. By adding the school-level interaction effects, it was possible to observe that school violence significantly decreased from -.150 to -.098 indicating some spuriousness of the moderating

variables. All significant effects remained the same as model 6 except for employer support which increased from .132 to .157 indicating some suppression effect of the moderating variables. Furthermore, only the moderating variable of employer support was significant (-.017) which means that *hypothesis 2 (b) is confirmed: employer support has a negative effect on the negative relationship between school violence and teacher job satisfaction* and *hypothesis 2 (d) is rejected.*

Random Slope Model (with Cross-Level Interactions Individual-Country) 8. By adding the country-level moderating variables, school violence became statistically insignificant. In regards to the significant effects, only employer support (direct effect) changed by decreasing slightly to (.156). Furthermore, the last added variables were not significant, meaning that *hypotheses 3 (b) and 3 (d) are rejected*.

Table 3. Proportion of variance between the models

Comparison of proportion of variance →	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Difference in deviance should be at least:	6.63	13.3	13.3	15.1	13.3	9.21	9.21
Actual difference in deviance:	2,529.73	300.212	258.554	25.732	303.382	3.772	2.688
Does the new model fit the data better?	Yes	Yes	Yes	Yes	Yes	No	No
R^2 individual level	3,3%	3,6%	3,9%	3,9%	-	-	-
R^2 school level	30,8%	30,8%	46.2%	46.2%	-	-	-
R^2 country level	−3.7%	-7.4%	-48.1%	40.7%	-	-	-

Conclusions and Discussion

Both the phenomenon of school violence and the concept of job satisfaction are multifaceted elements of school teachers' workplace. Each of them having further consequences and outcomes in teachers' lives in different parts of the world. Considering the fact that teachers are arguably the most important link between youths and education, a point of entry in the academic and professional career, it is crucial to offer educators a safe and productive work environment.

By utilising the OECD Teaching and Learning International Survey (TALIS) 2018 I aimed at analysing the effect of school violence in the sense of teacher victimisation on teacher job satisfaction at an individual, school and country level using multilevel analysis statistical methodology. Professionally satisfied teachers are less susceptible to job-related stress, are able to provide better instructional quality and are less likely to drop out of the profession. Furthermore, bearing in mind the consequences that teacher attrition has on education, financial

costs and resource expenditure on a national scale, many Western governments and policy-makers are increasingly concerned with teacher turnover rates and scarcity of quality teachers.

It has been concluded by many scholars that feeling safe in the work environment is key when it comes to job satisfaction and, in turn, mental health, commitment, turnover, and so on. Although a myriad of research aimed at understanding violence within the school context, most scholars have concentrated almost entirely on students. Thus, the consequences of violence from the teachers' point of view as victims of it are generally less documented.

In accordance to the results of this research, it is feasible to conclude that, indeed, school violence targeting teachers produces consequences to a great extent in teacher job satisfaction, thus, creating a "snow ball" effect which ultimately results in teacher attrition. In regards to the proportion of the differences of this major effect between teachers, schools and countries, it is possible to assert that, at the school level, school violence explains the most part of differences in teacher job satisfaction (30,8% to be exact). This may imply that governments that wish to increase teacher turnover rates and decline teacher attrition rates should focus on implementing policies that aim at specific school needs taking into consideration the municipality/state rather than investing broadly in country-wide programmes.

Following the same line of thought, of the moderating effects, only employer support was significant because, as previously asserted, school culture is vital in promoting and implementing policies tackling school violence and fomenting effective support and leadership among school staff. In particular, it has also been established earlier that principal support not only positively affects job satisfaction but it also shields teachers from the consequences of violence in their workplace. Thus, policies focusing on principal training regarding not only methods to deal with school violence but also on effective responses to teacher victimisation so as to provide valuable support are crucial in reducing teacher attrition.

Indeed, the country-level results were surprising, to say the least. But reflecting upon them, I could argue that future research could stratify the countries encompassed in this thesis in at least two groups: developed countries and developing countries. Thence, I would assume that some issues are more prominent in developing countries than in fully developed nations such as lack of material resources (even though this is a school factor, one could aggregate it to countries), class sizes, teacher salary, etc. So, while this research might be suitable on more school-focused policies, a second step could be further analysing country factors in depth.

Additionally, since it has already been established that school violence affects teacher job satisfaction, it would be interesting to take a step back and analyse how the factors related to this research affect school violence in order to further investigate the triggers and policy

implications. Again, I would assume that developing countries would present different rates of school violence compared to developed countries due to different national contexts such as economic inequality and government expenditure on educational outcomes. Lastly, further research on individual countries is advised so as to account for other factors influencing this area of research such as culture, political regime and existing educational policies.

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Appendices

Appendix 1. Starting lower secondary teacher salary, measured in US dollars (descending), 2018 or latest available.

Denmark	49 481.8
Spain	45 508.7
Australia	44 247.3
Netherlands	43 132.2
Austria	42 276.8
United States	40 602.3
Sweden	40 347.9
Bulgaria	39 936.9
Norway	38 558.6
Finland	36 629.3
Portugal	33 516.3
Korea, Rep.	32 547.6
France	32 492.2
New Zealand	31 392.1
Japan	30 560.4
Slovenia	28 030.8
Mexico	26 560.2
Turkey	25 955.1
Chile	23 747.1
Estonia	22 178.3
Czech Republic	21 854.3
Israel	21 388.8
Lithuania	20 254.6
Colombia	19 623.7
Slovak Republic	15 339.2
Brazil	14 775.4
Latvia	14 494.2

SOURCE: OECD (2018), Teachers' salaries (indicator). doi: 10.1787/f689fb91-en (Accessed on 26 May 2020)[4]

[4] See https://data.oecd.org/eduresource/teachers-salaries.htm

Appendix 2. GDP per capita (current US$) 2018 (alphabetical order)

Australia	57395.919
Austria	51499.885
Brazil	9001.234
Bulgaria	9271.546
Chile	15923.359
Colombia	6667.791
Czech Rep.	23069.383
Denmark	61390.693
Estonia	23247.110
Finland	50175.300
France	41469.920
Israel	41719.725
Japan	39289.958
Korea, Rep.	31380.146
Latvia	17854.760
Lithuania	19071.300
Mexico	9673.444
Netherlands	53022.191
New Zealand	42330.906
Norway	81734.466
Portugal	23403.218
Slovak Rep.	19443.562
Slovenia	26041.819
Spain	30323.651
Sweden	54651.085
Turkey	9370.176
United States	62886.836

Source: The World Bank, 2018[5]

[5] See https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.PCAP.CD&country=

Appendix 3. Net Income GINI%, 2018 (alphabetical order)

Australia	33.2
Austria	27.8
Brazil	44.9
Bulgaria	33.9
Chile	45.9
Colombia	48.9
Czech Rep.	25.6
Denmark	25.3
Estonia	34.7
Finland	25.6
France	29.9
Israel	36.9
Japan	29.9
Korea, Rep.	30.7
Latvia	36.3
Lithuania	34.2
Mexico	45.9
Netherlands	26.6
New Zealand	32.5
Norway	24.9
Portugal	34.8
Slovak Rep.	26.1
Slovenia	25.9
Spain	34.3
Sweden	25.7
Turkey	39.8
United States	37.8

Source: Inclusive Development Index, Knoema, 2018[6]

[6] See https://knoema.com/WEFTIDI2018Jan/inclusive-development-index#/WEFTIDI2018Jan/subscribe?returnUrl=%2FWEFTIDI2018Jan%2Finclusive-development-index

Appendix 4. Human Capital Index (HCI) (scale 0-1) 2017 (alphabetical order)

Australia	0.803
Austria	0.793
Brazil	0.56
Bulgaria	0.676
Chile	0.674
Colombia	0.593
Czech Rep.	0.782
Denmark	0.774
Estonia	0.747
Finland	0.814
France	0.765
Israel	0.763
Japan	0.844
Korea, Rep.	0.845
Latvia	0.724
Lithuania	0.712
Mexico	0.607
Netherlands	0.8
New Zealand	0.767
Norway	0.771
Portugal	0.776
Slovak Rep.	0.694
Slovenia	0.788
Spain	0.743
Sweden	0.8
Turkey	0.626
United States	0.762

Source: The World Bank, 2018[7]

[7] See https://databank.worldbank.org/source/human-capital-index

Appendix 5. Government expenditure on education as a percentage of the GDP (latest available data) (alphabetical order)

Australia	5.27 (2016)
Austria	5.5 (2016)
Brazil	6.24 (2015)
Bulgaria	4.08 (2013)
Chile	5.4 (2018)
Colombia	4.5 (2018)
Czech Rep.	5.59 (2016)
Denmark	7.63 (2014)
Estonia	5.17 (2016)
Finland	6.9 (2016)
France	5.43 (2016)
Israel	5.85 (2016)
Japan	3.19 (2016)
Korea, Rep.	4.59 (2016)
Latvia	4.72 (2016)
Lithuania	4.01 (2016)
Mexico	4.91 (2016)
Netherlands	5.48 (2016)
New Zealand	6.44 (2016)
Norway	7.98 (2016)
Portugal	4.88 (2015)
Slovak Rep.	3.9 (2016)
Slovenia	4.8 (2016)
Spain	4.21 (2016)
Sweden	7.67 (2016)
Turkey	4.29 (2015)
United States	4.96 (2014)

Source: The World Bank, 2018[8]

[8] For 2018 data, see: http://wdi.worldbank.org/table/2.7#
For last available data, see: https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS