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Naar een beter begrip van de impact van binding en een 'autoritatief' schoolklimaat op spijbelen

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Voorwoord

This study attempts to offer insight into school-based strategies to prevent truancy by investigating the relationship between an authoritative school climate and truancy. We use data from PISA (2012) with fifteen-year-old pupils (N=2279) in secondary education in Flanders, the Dutch-speaking part of Belgium, to answer three research questions: (1) Is there a relationship between authoritative school climate and truancy? (2) Is the effect between the authoritative school climate and truancy mediated by individual school bonding? (3) Does school bonding moderates the relationship between the authoritative school climate and truancy? In line with the authoritative school climate model, our results indicate that authoritative schools manage to prevent truancy, irrespective of a pupil's personal background or the school composition. In addition, this study demonstrates that (a) the influence of authoritative socialisation at least partly runs through the enhancement of school bonding and (b) the link between school bonding and truancy is stronger in authoritative schools. In the discussion we elaborate on the implications of our findings.

Inhoud

Beleidssamenvatting

Het ontwikkelen van strategieën ter preventie van spijbelen wordt in de literatuur vaak beschouwd als een van de belangrijkste methoden in het reduceren van het aanal vroegtijdig schoolverlaters. In dit rapport leveren we een bijdrage aan dat debat door te onderzoeken hoe verschillende types schoolklimaat verband houden met een lagere kans op spijbelen. Twee onderzoeksvragen sturen de analyse: (1) Welk type schoolklimaat gaat samen met lagere spijbelcijfers, na controle voor de instroomkenmerken van de individuele leerlingen van scholen? (2) Hoe verloopt de relatie tussen het type schoolklimaat en de individuele kans op spijbelen?

Om deze onderzoeksvragen te beantwoorden maken we gebruik van PISA-data (2012) afgenomen bij 2279 vijftienjarige leerlingen uit het secundair onderwijs in Vlaanderen. De focus ligt hierbij op het voltijds en deeltijds onderwijs. Buitengewoon onderwijs wordt niet opgenomen. De analyses tonen een significant verband tussen de types schoolklimaat en spijbelen. Eén type schoolklimaat, het autoritatief schoolklimaat, blijkt in vergelijking met de andere onderzochte types verband te houden met een lagere kans op spijbelen. Autoritatieve scholen combineren een veeleisende en gedisciplineerde aanpak met een responsieve aanpak. Scholen met een autoritatieve stijl zetten zowel in op het bewerkstelligen van een vertrouwensrelatie met de leerlingen, door bijvoorbeeld het verlenen van inspraak, als het bewerkstelligen van ambitieuze leerdoelen en duidelijke regels.

Daarnaast stellen we vast dat de invloed van autoritatieve scholen op de individuele kans op spijbelen loopt via schoolbinding. Wanneer we gehechtheid, de mate waarin leerlingen zich emotioneel verbonden voelen met de school, toevoegen aan onze modellen verdwijnt de significante correlatie tussen de autoritatieve schoolstijl en spijbelen. Autoritatieve scholen slagen er, meer dan andere scholen, in om schoolbinding te generen. Het versterken van schoolbinding vormt op zijn beurt een buffer tegen spijbelen. Ten slotte, stellen we ook een cross-level interactie-effect vast tussen autoriatieve scholen en individuele schoolbinding. De relatie tussen individuele schoolbinding en de kans op spijbelen blijkt sterker in autoritatieve scholen. Deze resultaten suggereren dat autoriatieve scholen er niet enkel in slagen schoolbinding te genereren. Ze versterken ook bufferfunctie van schoolbinding ten aanzien van spijbelen.

Onze analyses leiden naar de volgende twee aanbevelingen voor het Vlaamse onderwijsbeleid. Ten eerste, bevestigen onze bevindingen dat het versterken van schoolbinding een geschikte aanpak is om laagdrempelig spijbelen op school te voorkomen. Onze resultaten bevestigen dat maatregelen ter preventie van spijbelen best getoetst worden aan de mate waarin ze inzetten op het versterken van deze relatie. Scholen kunnen, ten tweede, schoolbinding genereren door de school in te richten als een autoritatieve school. Beleidsmaatregelen gericht op het versterken van een spijbelbeleid op school worden dus het best geëvalueerd in termen van de mate waarin ze inzetten op het versterken van (1) responsiviteit en (2) academische veeleisendheid.

Introduction

A broad collection of research indicates that truancy, defined here as unexcused absenteeism among young people following secondary education, is related to psychosocial problems, like low self-esteem and depression (Attwood & Croll, 2015; Egger, Costello, & Angold, 2003) and antisocial behaviour, like substance use, vandalism and aggressive behaviour (Patrick, Schulenberg, & OMalley, 2016; Vaughn, Maynard, Salas-Wright, Perron, & Abdon, 2013). The problematic nature of truancy stems from its self-perpetuating character. What starts out as occasional truancy easily expands to regular and then very persistent truancy that eventually could lead to school drop out and a problematic entry into the labour market (Alexander, Entwisle, & Horsey, 1997; De Witte & Csillag, 2014).

Against that background, the literature on the risk factors for truancy has shifted from a focus on individual characteristics and the home background towards the impact of the school environment. This shift is informed by the observation that (a) the prevention of truancy is important because tackling the self-perpetuating character of truancy often fails and (b) the school climate plays a crucial role in the development and implementation of school-based truancy prevention plans (Hendron & Kearney, 2016). So far, however, little research has assessed the impact of the school climate on truancy. School climate is defined as "the quality and character of school life and is based on patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning activities, and organizational structures" (Cohen, McCabe, Michelli, & Pickeral, 2009, p. 182). Recently, scholars have claimed that an authoritative school climate performs best with respect to keeping the prevalence of school misbehaviour low (Cornell, Shukla, & Konold, 2015; Jia, Konold, & Cornell, 2016; Pellerin, 2005). Authoritative schools offer their pupils warmth, trust and safety (in short, they are responsive for pupil's needs), but link this to clear and high expectations and discipline. The authoritative school climate model has its roots in parenting style research and holds that schools that combine a *responsive* with a *demanding* style will be more successful in combating truancy rates. Little research, however, has empirically investigated the relationship between the authoritative school climate and truancy. An exception was Pellerin (2005), who found that authoritative schools are less confronted with truancy. The data of this study are, however, somewhat dated (1992) and also did not allow to operationalize the responsiveness and demandingness dimension in an ideal way. Therefore, the first objective of this paper is to assess the role of authoritative schools with respect to truancy based on more recent data which allow for a more encompassing operationalization of the key dimensions of the authoritative school climate model. Consequently, the first research question of the present study was to investigate *whether there is a relationship between the authoritative school climate and truancy, after controlling for relevant individual and school composition characteristics?*

A second objective of this paper was to investigate *why* pupils in authoritative schools truant less. Several authors argue that schools with a warm and intimate climate ensure a stronger bond between the pupil and the school (Battistisch, Solomon, Kim, Watson, & Schaps, 1995; Payne, 2008). The concept of school bonding is derived from Hirschi's social control theory (1969, 2004)

which holds that pupils who feel connected to school conforming others –e.g. prosocial class and schoolmates, parents and teachers- will be less likely to truant. A large body of research supports this hypothesis (Anderson, Christenson, Sinclair, & Lehr, 2004; Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004; Chhuon & Wallace, 2014; Demanet & Van Houtte, 2012). However, to the best of our knowledge no study yet has empirically tested the relationship between the authoritative school climate, school bonding and truancy. Since authoritative schools invest in supportive relationships, clear goals and a high degree of pupil involvement is it likely that the pupils in these schools feel more connected to school conforming others. Are pupils in schools that combine a responsive and demanding approach less likely to truant because of a stronger bond to the school? Hence, the second research question was to examine *if the relationship between the authoritative school climate and truancy is mediated by school bonding?* The third research question was to examine *if the relationship between school bonding and truancy is moderated by the school climate?*

In order to answer our research questions we rely on data from the Programme for International Student Assessment (PISA, 2012) with fifteen-year-old pupils (N=2279) in secondary education in Flanders (the Dutch-speaking part of Belgium). In line with the authoritative school climate model, our results indicate that authoritative schools manage to prevent truancy, irrespective of a pupil's personal background or the school composition. In addition, this study demonstrates that (a) the influence of authoritative socialisation at least partly runs through the enhancement of school bonding and (b) the link between school bonding and truancy is stronger in authoritative schools.

The remainder of this paper is organised as follows. The literature study starts with a brief overview of the theoretical framework behind the authoritative school climate model. Subsequently, we introduce literature on school bonding and outline the benefits of bringing both theoretical frameworks together. After the description of the methodology, we present the results of our empirical analyses. In the discussion we elaborate on the implications of our findings.

Chapter 1 Authoritative school climate model

Several studies have demonstrated a link between a school climate and a range of individual level school outcomes (Cohen et al., 2009). Recently, scholars have also started to examine the benefits of a school climate for the prevention of truancy. Truancy is often described as "a highly complex issue due to its symptom heterogeneity, myriad risk factors, and breath of interventions from several disciplines" (Hendron & Kearney, 2016, p. 109). In addition to specific truancy measures, more overarching prevention strategies have been developed to account for this complexity. The implementation of a "positive school" climate aligns within that perspective (Hendron & Kearney, 2016; Kearney & Graczyk, 2014).

The key question, however, is what makes a school climate to have positive effects on pupil outcomes. Indeed, compared to the consensus concerning the benefits of a positive school climate, there remains much discussion on the critical qualities of a school climate (Gill, Ashton, & Algina, 2004; Hung, Luebbe, & Flaspohler, 2015). Authoritative school climate theory posits that two dimensions are crucial: responsiveness and demandingness (Konold & Cornell, 2015; Pellerin, 2005). Responsiveness refers to the degree of warm, supportive and trustful relationships between the school staff and the pupils. Demandingness refers to the striving for high academic standards and the ratification of those standards through a clear structure and discipline. The combination of both dimensions yields four school climates: (1) authoritative school climate, (2) permissive school climate, (3) authoritarian school climate, (4) indifferent school climate (Pellerin, 2005).

An *authoritative school* climate combines a demanding and disciplined approach with a responsive approach. Authoritative schools combine efforts in achieving trusting relationships with the pupils with a commitment to reach challenging academic goals through clear rules. *Permissive schools* invest in trusting relationships with their pupils, but lack an academically demanding and disciplined approach. Since permissive schools do not strive for a certain academic standard, the need to negotiate the rules to achieve these standards is also lower. *Authoritarian schools* express clear academic ambitions towards their pupils, but lack participation and mutual trust between the pupils and the school staff in the achievement towards these goals. Communication patterns mainly run top down, from the school staff towards the pupils. *Indifferent schools*, finally, refer to schools that score low on both dimensions. These schools are characterized by little eagerness to work towards responsive relationships. There is also no ambition to strive for high demanding academic goals.

Pellerin (2005) found that truancy rates are lowest in authoritative schools and that dropout rates are highest in authoritarian schools. Since authoritarian schools are characterized by the unilateral imposition of rules and discipline, they focus mainly on external control to acquire the desired outcomes. Baumrind (1978) already warned that adolescents under these circumstances may start to rebel against authority which could explain the higher dropout rates in these schools (see also Van Petegem, Soenens, Vansteenkiste, & Beyers, 2015).

During recent years, some authors tested the authoritative school climate model on other behavioural school outcomes, including bullying and victimization (Cornell et al., 2015; Gregory et al., 2010) and school dropout (Jia et al., 2016). These authors conclude that in particular the combination of responsiveness with demandingness (i.e. an authoritative school) is beneficial for pupil outcomes. None of these studies, however, seem to provide an answer to the question *why* pupils in authoritative schools perform better or truant less.

In this paper, I argue that the impact of authoritative schools on pupils runs through the enhancement of school bonding. Schools are, in addition to the family, traditionally recognized as a primary institution for socialisation (Wentzel & Looney, 2007). Each school is unique, which is reflected in specific social relationships, values and norms, structures and patterns of interaction. This overarching entity is defined as the school climate (Cohen et al., 2009). The specific nature of the school climate determines the quality and the content of the habits, norms and values schools transmit to pupils. Since authoritative schools invest in supportive relationships, clear goals, and a high degree of involvement and participation, pupils are more likely to perceive their relationship with the schools staff as legitimate and consequently internalise values and norms that are beneficial for school outcomes.

The supportive relationships, clear goals and the high degree of pupil involvement in authoritative schools increase the likelihood that adolescents internalise the values and norms of prosocial socializing agents. This reasoning shows similarities with the principles of school bonding, conceptualised in Hirschi's social control theory (1969, 2004). Hirschi argues that individuals are only inclined to engage in deviant behaviour when there's a lack of social bonding with prosocial significant others. Hirschi considers the school, next to the family, as one of the fundamental areas in which adolescents engage in social bonds. Social control theory distinguishes four elements of school bonding that ties individuals to their social environment and prevents them from deviance: (1) attachment, (2) commitment, (3) involvement, (4) belief. Applied to truancy, the reasoning goes that the risk of truancy decreases as the pupil (1) is attached to school conforming significant others and the school, (2) is committed to school related activities, (3) participates in school related activities and (4) beliefs in the school rules (Huebner & Betts, 2002; Jenkins, 1997; Krohn & Massey, 1980).

Attachment refers to the degree of affectivity that over the years has grown between an adolescent and significant others such as teachers, the school, and school conforming parents and peers. Second, commitment refers to the amount of investments in school-related activities such as doing homework or achieving good grades. Third, involvement refers to the amount of time spend in school related activities. The reasoning goes that the more time is spend to conventional activities, the less time remains for deviant activities. Finally, belief refers to the conviction in the moral legitimacy of the social rules. It refers to the degree to which adolescents are convinced that education and obtaining a diploma are necessary means to be successful in adult life (Hirschi, 1969, 2004).

Discussions about the mechanisms behind authoritative socialisation at school leads to Hirschi's (1969, 2004) school bonding concept. A responsive and demanding school climate seems to foster school bonding at the individual level. It is known that adolescents who have warm, supportive and guiding relationships with prosocial adults are more inclined to adopt a more prosocial attitude and

behaviour (Ryan & Deci, 2000). Previous research showed that pupils are more engaged with their schools when these schools adopt a positive school climate (Battistich, Solomon, Watson, & Schaps, 1997; Hurd, Hussain, & Bradshaw, 2015; Loukas, Suzuki, & Horton, 2006; Payne, 2008). Battistich and colleagues (1997), for example, found that pupils in schools with a strong social cohesion are more engaged with school, which in turn improves their educational performances. Payne (2008) examined the relationship between a strong social cohesion at school and Hirschi's (1969, 2004) school bonding elements in more detail. Her results reveal a link between a strong social cohesion at school and two elements of school bonding: attachment and belief. Based on these findings and the literature described above, we expected that the effect of the authoritative school climate on truancy is *mediated* by individual school bonding. It is important to note the difference between school bonding and the authoritative school climate. While school bonding is a individual theoretical construct – it are the pupils who feel attached to a certain school – the authoritative school climate refers to the context of the school and thus must be interpreted as a theoretical construct at the school level. It is thus also possible that the context-variable (the school climate) *moderates* the relationship between the individual-level variables (school bonding and truancy). Authoritative schools invest in responsive and guiding relationships at school. It is likely that the degree of bonding in these schools between the pupils and the school staff is stronger in authoritative school. Hence, we expected that the relationship between school bonding and truancy would be stronger in authoritative schools.

To sum up, we investigated the following research questions:

(1) Is there a relationship between the authoritative school climate and truancy after controlling for relevant individual and school composition characteristics?

(2) Is the effect between the authoritative school climate and truancy mediated by individual school bonding?

(3) Does school bonding moderates the relationship between the authoritative school climate and truancy?

Chapter 2 Data and operationalization

2.1 Sample and procedure

To answer our research questions we relied on data from the Programme for International Student Assessment (PISA) (2012) in Flanders (Belgium). PISA is a worldwide comparative educational study by the Organisation for Economic Co-operation and Development (OECD) of 15-year-old school pupils' scholastic performances on mathematics, science and reading (http://www.oecd.org/pisa/). In addition, pupils answer a background questionnaire, providing information about themselves, their homes and their attitudes to learning and the school environment. For this study, we relied only on data gathered through the background questionnaire (2012) in Flanders.

Flanders is the northern, Dutch-speaking part of Belgium, and constitutes a political entity with the jurisdiction to implement and govern its own educational system. The Flemish Department of Education developed various interventions to combat truancy (Vandenbroucke, 2006). Several action plans were developed, focusing on (1) raising awareness, (2) prevention, (3) coaching and (4) sanctioning. Today, the truancy policy is considered by the European Commission as a role model for other regions (European Commission/EACEA/Eurydice/Cedefop, 2014). By investigating our research questions in Flanders, we try to understand the relationship between truancy and the school climate in a context which is characterised by a broad scale of measures to prevent and tackle truancy.

In Flanders, education is compulsory until the age of 18. The Flemish school system can be categorized as explicit school-level tracking, categorising pupils to different school types according to their study results. Flemish secondary education comprises 6 grades, and from the third grade onwards (14 years and older), pupils are divided over five tracks: (1) vocational tracks preparing for the labour market (this track comprises around 22% of the pupils)[1] ; (2) technical tracks preparing for the labour market and higher technical training (which comprises around 30%); (3) general tracks, from which almost all pupils move on to higher education (which comprises around 45%); (4) arts tracks which link general secondary education with active art practice (which comprise only about 2 per cent of the pupils); and (5) part-time vocational track which combines education through classroom lessons with workplace learning. Pupils can enrol in part-time vocational from 15-year-old but generally start at the age of 16. This track comprises less than 1 per cent of the pupils. Pupils enrolled in special educational needs programmes are not included in our analyses. The different tracks are commonly classified hierarchically, placing (part-time) vocational tracks at the lower end.

The PISA (2012) sampling procedure consisted of a two-stage stratified design. The first-stage sampling units consisted of individual schools. The second-stage units were 15-year-old pupils within schools. For the Flemish sample, this procedure resulted in a final response rate of 96% at the school level (stage 1) and 92% at the individual level (stage 2) (OECD, 2014). In absolute numbers, PISA (2012) tested 3890 pupils from 174 different schools in Flanders. PISA guidelines recommend

to delete cases with missing data when conducting multilevel analyses with predictors of the contextual questionnaire (PISA, 2009). As a result, our final sample consisted of 2620 pupils from 160 different schools. Below we briefly present the respondents in our sample.

Of the respondents in the sample, 2,4% attended the eighth grade, 23,9% the ninth grade, 72,6% the tenth grade and 1,0% the eleventh grade. The sample was equally divided by gender: 50,4% girls en 49,6% boys. The majority of respondents were natives (93,5%). 15,1% of the respondents had a mother who was born in a foreign country, 16,1% of the respondents had a father who was born in a foreign country. Finally, the majority of the respondents were enrolled in general education (47,3%), compared to 32,1% in technical education, 2,2% in arts education, 18,1% in vocational education and 0,2% in part-time vocational education.

2.2 Measures

2.2.1 Truancy

The PISA background questionnaire (2012) contains two questions that refer to truancy: "In the last two full weeks of school, how many times did you skip some classes?" and "In the last two full weeks of school, how many times did you skip a whole day?". Both questions were answered on a 4-point Likert scale (1 = none, 2 = one or two times, 3 = three of four times, 4 = five or more times). As the frequency distribution of both measures was skewed, answer categories 2, 3 and 4 were taken together. 4,1% of the 15-year-old pupils in Flanders reported to have skipped at least one lesson in the last two full weeks of school preceding the questionnaire. 2,7% of the 15-year-old pupils reported to have skipped at least one day in the last two full weeks of school preceding the questionnaire. These self-reported truancy rates in Flanders are much lower compared to the OECD average (truanted at least one lesson = 20,4%; truanted at least one day = 18,3%) but are approximately equal to neighbouring country The Netherlands (truanted at least one lesson = 2,6% ; truanted at least one day = 11,1%). As the analyses on the truants who skipped at least one day revealed unreliable estimates (due to skewed distribution), we presented in the next section only the results of pupils who reported to have skipped at least one lesson.

 There is much debate about the reliability of self-reported measures to assess norm violating behaviour among adolescents (truancy is considered as a status offense). Delinquent youth are less willing to participate in surveys and in the case of truancy it is plausible that those who were absent during the questionnaire were truanting (Crosnoe, 2002; Heijden, Sjitsma, & 't Hart, 1995). Consequently, we have to take into account the possibility that the self-reported truancy rates are an underestimation when interpreting the results. That said, many authors argue that self-report remains the most appropriate method for measuring delinquent behaviour among adolescents (Thornberry & Krohn, 2000). This certainly applies to truancy, for which registration data also could lead towards underestimated truancy rates. Research showed, for example, that a significant part of the truancy is pre-planned or occurs with consent of the parents and consequently is not present in official registration data (Birioukov, 2016; Keppens & Spruyt, 2016).

2.2.2 School climate

This study relied on the same operationalization strategy as Pellerin (2005) in order to assess authoritative socialisation at school. Schools were assigned a school climate category in a two-step procedure. First, we created two higher-order factor scales: responsiveness and demandingness. Both higher-order factor scales were composed of validated PISA-measures, aggregated at the school-level. See OECD (2014) for an extended technical report on the described PISA-scales in this and the next sections.

The responsiveness scale was constructed by combining the 'Teacher-student relation'-scale and the 'Sense of belonging to school'-scale (e.g. 'Most of my teachers really listen to what I have to say'; 'I am satisfied with my school'; Cronbach α: 0,668). The demandingness scale was constructed by combining the 'Disciplinary climate'-scale, the 'Teacher directed instruction'-scale, the 'Cognitive activation in mathematics lessons'-scale and the 'Teacher support in mathematics classes'-scale (e.g. 'The teacher sets clear goals for our learning'; 'The teacher presents problems for which there is no immediately obvious method or solution'; 'Students don't listen to what the teacher says'; Cronbach α: 0,735). Consequently, our demandingness scale tapped into both dimensions of demandingness: academic demandingness and disciplinary demandingness (Konold & Cornell, 2015; Pellerin, 2005).

In the second step we classified schools into Authoritative, Authoritarian, Permissive and Indifferent groups based on their relative levels of responsiveness and demandingness[1]. For example, schools that are above the mean on both responsiveness and demandingness are "Authoritative". Schools that are below the mean on responsiveness and above the mean for demandingness are "Authoritarian". This resulted in four groups of comparable size. All schools were assigned into one of the four categories (cf. Pellerin, 2005). The typology of school climates was added to our models with the authoritative school climate group as the reference category.

2.2.3 School bonding

The PISA background questionnaire (2012) consists of two measures gauging school bonding: school attachment and school belief. In accordance with Hirschi (1969, 2004) we operationalized both elements at the individual level. School attachment reflects the degree of affectivity between the pupil and the school and was measured based upon the 'Sense of belonging to school'-scale (e.g. 'I feel like I belong at school'; 'Things are ideal in my school'; 9 items; Cronbach α: 0,828). School belief refers to the degree to which pupils believe in the importance of educational achievement and was measured based upon the 'Attitude towards school: learning activities'-scale (e.g. 'Trying hard at school will help me get a good job'; 'Trying hard at school is important'; 4 items; Cronbach α: 0,782). Following Hirschi (2004), both measures were added simultaneously to our models.

2.2.4 Control variables

We also included some control variables for which previous research has shown that they predict truancy, to test the robustness of our results and to reduce the chance on spurious correlations for our key variables. We used the 'PISA index of economic, social and cultural status' (ESCS) to measure the socioeconomic background of the pupils. ESCS is composed of variables assessing the number of economic and cultural resources at home, the parent's employment status and the educational status of the parents. A high score indicates a high socio-economic status. Additionally, we controlled for gender (0:girl), ethnicity (0:native) and educational track (0: general track) (Henry, 2007; Vaughn et al., 2013). In our analyses we have grouped together the general tracks and the arts tracks, and the technical tracks and the (part-time) vocational tracks.

At school level we controlled for socioeconomic and ethnic composition. The school's SES composition was measured by calculating the mean SES of pupils per school. The school's ethnic composition represents the proportion of immigrants at school calculated by means of the self-reported ethnicity. A high score on SES composition indicates the presence of many pupils with a deprived socioeconomic background; a high score on ethnic composition indicates the presence of many pupils with a foreign background. Table 1 illustrates the social and ethnic diversity across the classified school. We see that authoritarian schools consist of most students with a high SES background and that indifferent schools consist of most students with a deprived social background. In addition, indifferent schools consist of most pupils with an immigrant background.

Table 1. Descriptive statistics of SES composition and ethnic composition across the classified schools.

SES composition	Authoritative	Permissive	Authoritarian	Indifferent
Minimum	-1,20	-1,01	-0,31	-0,96
Mean	0,23	0,23	0,56	0,07
Maximum	1,54	1,54	1,06	1,16
Ethnic composition				
Minimum	0	0	0	0
Mean	4,72	4,84	4,67	7,45
Maximum	100	21,1	14,3	50
N schools	*47*	*31*	*33*	*49*

2.3 Research Strategy

We used a stepwise forced entry logistic multilevel analysis to answer our research questions. The first and second model are used to answer the first research question by examining the relationship between the school climate and truancy after controlling for individual and school level characteristics. In the first model we included gender, ethnicity, SES and the educational track. In the second model we added the school climate variables, SES composition and ethnic composition. Doing so enabled us to assess whether characteristics of the school explained additional variation

over and above that accounted for by the characteristics of the individual pupils. Next, we assessed in the third and fourth model the relationship between the school climate, school bonding and truancy. In the third model we added school attachment and school belief. This provided insight into the extent to which the effect of the school climate on truancy passes through school bonding. Finally, we added in the fourth model the interaction terms between the school climate and school bonding. The latter model tested whether the relationship between truancy and school bonding is stronger in authoritative schools compared to permissive, authoritarian and indifferent schools. To ensure model stability and ease the interpretation of the coefficients, all but the dichotomous variables were grand mean centered. In the next section we present the results of the odds ratios.

Chapter 3 Results

Table 2 presents the results of the multivariate analyses. Model 0 included only a constant and indicates that about 8% of the variance in truancy occurs between schools rather than in within schools. In model 1 we assessed the relationship between truancy and several background characteristics. In line with the truancy literature, we observed that boys truant more than girls and pupils enrolled in technical and vocational tracks truant more than pupils in general tracks. In the second model we added the indicators at the school level, including our measures for the school climate. Even after controlling for relevant individual characteristics and school composition variables, there is a significant relationship between the school climate and truancy. Not surprisingly, we see that adolescents are more likely to truant in schools characterized by a low willingness to respond to the individual needs of the pupils and a lack of structure and academic challenges. A similar finding is observed in authoritarian schools. Authoritarian schools strive for discipline and the accomplishment of clear academic goals, but do so without the participation and involvement of pupils. The increased risk of truancy in these schools can partly be interpreted as an expression of rebellious behaviour against a one sided imposed structure. Contrary to our expectations, we did not observe a significant difference between authoritative and permissive schools (despite the fact that the direction of the coefficient is as expected; OR=1.35; p=0.114). That observation led to two conclusions. First, our results suggested that responsiveness contributes more to the prevention of truancy compared with academic and disciplinary demandingness. Authoritative and permissive schools both share a willingness to strive for warm and responsive relationships. Second, the implementation of demandingness seems only to be successful in preventing and combating truancy when it is combined with responsiveness. In line with authoritative school climate research on victimization and school dropout rates we observed that when pupils perceive their school environment as supportive, they are more willing to accept a high academic and disciplinary standard (Cornell et al., 2015; Gregory et al., 2010; Jia et al., 2016).

In the third model, we added our two indicators for school bonding: attachment and belief. For both variables we found a significant relationship with truancy. In line with Hirschi's social control theory, we found that pupils who feel emotionally connected to their school and believe in the importance of school achievement, truant less. Moreover, after including these individual level indicators for school bonding, the effect of the school climate variables decreases and becomes non-significant. It suggests that the influence of authoritative socialisation at least partly runs through the enhancement of school bonding. Compared to authoritative and permissive schools, authoritarian and indifferent schools manage less to strengthen the bond between their pupils and the school, which in turns is related to a greater risk of truancy. In the fourth model we investigated more in depth these relationships by assessing interaction effects between the school climate and the two elements of school bonding. We note significant interaction effects between attachment and the authoritarian school climate and between attachment and the indifferent school climate. The odds ratios of the interaction effects are negative, suggesting that the relationship between truancy and school bonding is less strong in authoritarian and indifferent school. Authoritative and

permissive schools both have in common that they invest in warm, inclusive and two-way communication patterns. Such warm and supportive climate appears to be more suited in strengthening affective relations between the pupil and his school. In the next section we elaborate on the implications of these findings.

Table 2. Sequential multilevel logistic analysis on truancy for fifteen-year-old pupils in secondary education in Flanders. Results in odds ratio's (N=2620).

	Model 0	Model 1	Model 2	Model 3	Model 4
	OR	OR	OR	OR	OR
Intercept	.03***	.02***	.02***	.02***	.02***
Student variables					
Gender (0:girl)		.67(*)	.69	.73	.72
Ethnicity (0: autochtonous)		1.58	1.33	1.18	1.05
SES		.92	.99	1.03	1.04
Educational track (0: general)		1.88*	1.28	1.19	1.20
School bonding: attachment				.73*	1.09
School bonding: beliefs				.64**	.64
School variables					
SES composition			1.55	1.57	1.58
Ethnic composition			6.19	7.94	9.65(*)
School climate (0: authoritative)					
Permissive			1.35	1.21	1.12
Authoritarian			1.96(*)	1.66	1.64
Indifferent			1.69(*)	1.40	.85
Interaction terms					
Permissive X attachment					1.39
Authoritarian X attachment					.41(*)
Indifferent X attachment					.41*
Permissive X beliefs					1.46
Authoritarian X beliefs					2.05
Indifferent X beliefs					.67
ICC school level	8,0%	6,3%	3,9%	3,5%	2,9%
Model deviance		792,36***	780,94*	755,54***	728,24***

(*) p ≤ 0.10, * p ≤ 0.05, ** p ≤ 0.01, *** p ≤ 0.001

Chapter 4 Discussion

During adolescence schools are a primary socialization context for the transfer of norms and values that prepare young people for adult life. Investigations on the quality of social relationships and the context in which these take place are fundamental to get a better grip on understanding such socialization processes. However, "rarely scholars have attempted to align school-based objectives with specific socialization processes to identify what might promote the development and achievement of positive outcomes" (Wentzel & Looney, 2007, p. 382). Against that background this paper focuses on the relationship between the school climate and truancy. This paper contributes in two ways to the literature.

First, school effectiveness research has long been discussing the precise factors that constitute a positive school climate (Gill et al., 2004; Hung et al., 2015). It is only recently that scholars, derived from parenting research, have argued that in particularly the combination of responsiveness and demandingness fosters the most beneficial pupil outcomes (Cornell et al., 2015; Gregory et al., 2010; Jia et al., 2016; Konold & Cornell, 2015; Pellerin, 2005). Consistent with the authoritative school climate model our results revealed a relationship between the authoritative school climate and truancy. Authoritative schools manage to prevent truancy, irrespective of a pupil's personal background or the school composition. The strength and direction of our odds ratios suggest, in line with other research (Cornell et al., 2015; Gregory et al., 2010), that responsiveness is a prerequisite for a demanding approach at school to succeed. Pupils who feel themselves supported and respected at school are more inclined to accept structure and strive for ambitious academic goals. However, when pupils are forced into a highly demanding structure without a base of mutual trust, a demanding approach has little chance to succeed (Arum, 2003; Gottfredson, Gottfredson, & Hybl, 1993; Gregory et al., 2010). In those circumstances, pupils are likely to rebel against authority (Baumrind, 1978; Pellerin, 2005). Contrary to our expectations we did not find a significant difference between authoritative and permissive schools. Compared to Flanders, metropolitan areas in The United States are confronted with a much higher concentration of ethnic and socially deprived groups. As a result, context effects (school effects and neighbourhood effects) in many West-European countries are often smaller compared to the American context (Briggs, 2003; Friedrichs, Galster, & Musterd, 2003). To our knowledge, this is the first study that examined associations between authoritative socialisation and truancy –or any other behavioural outcome– in a European context. It is therefore interesting that the main findings of this study are similar to those found in the American context.

 Second, to our knowledge this study is the first to empirically test whether the link between authoritative socialisation and truancy can be interpreted through school bonding. Our results demonstrate that (a) authoritative socialisation at least partially runs through the enhancement of individual school bonding and (b) that the prevention of truancy through school bonding is stronger in authoritative and permissive schools. According to Van Houtte (2005), there is only one explanation for how the transmission of values and norms from schools to pupils can be interpreted: through the interaction with school conforming significant others. This dovetails with

Hirschi's (1969) school bonding concept and is confirmed by our results. If schools can make a difference in the prevention of truancy, it is through the implementation of measures that strengthen the bond between the pupil and the school. School bonding refers to the degree to which a pupil feels connected towards school conforming peers, teachers and his/her school. Bonding, seen in this way, is not an attribute of individuals but a quality inherent to the relationship between pupils and schools. This implies that truancy can and should not be seen as a strictly individual phenomenon, but as an outcome that strongly depends on the relationships with peers, teachers and school staff. One-way communication, a lack of involvement in the decision-making at school or even the absence of warm and trustful relationships between pupils and school staff will never be beneficial for the development of strong bonding to the school. It is along this line of reasoning that our observed interaction effects can be interpreted. Authoritarian and indifferent schools are both characterized by a lack of responsive initiatives. It is in these schools that the likelihood on truancy among the pupils increases. This dovetails with findings from qualitative research that showed that truants often complain about a lack of trust in the relationships with counsellors and teachers, an unwillingness to listen to their problems or even the ignoring of their problems by teachers and school staff (Attwood & Croll, 2006; Bottrell, 2009; Spruyt, Keppens, Bradt, & Kemper, 2016). Our results suggest that schools where the pupils lack feelings of mutual trust and safety will never succeed in reinforcing the school bonds.

Finally, we acknowledge the limitations of this study and discuss how they can be a starting point for further research. A first limitation is the cross-sectional nature of our data. Consequently, it is impossible to truly account for the causal direction between school bonding and truancy without longitudinal data. For example, Hirschfield and Gasper (2011) and Loukas and colleagues (2016) have shown that the relationship between school engagement and externalizing problems is bidirectional. A second limitation is that our measures of the school climate are based on perceptions of fifteen-year-old pupils. Ideally, the school climate is measured by the combination of perceptions of pupils, teacher and school staff. PISA (2012), however, does not contain questions gauging perceptions of teachers and school staff of responsiveness and demandingness at school. According to Gregory and colleagues (2010) this leads to two potential limitations. First, perceptions of fifteen-year-old pupils might not be sufficiently representative to gauge the experiences of all pupils. Second, perceptions of pupils might differ from perceptions of teachers or school staff resulting in an inaccurate assessment of the school climate (see also Mitchell, Bradshaw, & Leaf, 2010). Pupil perceptions, however, remain the most important indicator to measure the school climate (Gregory et al., 2010; Loukas, Suzuki, & Horton, 2006). It are the pupils' experiences of the school environment that are associated with the manifestation of certain behavioural outcomes. Nevertheless, future research should attempt to gauge more thoroughly authoritative socialisation by combining perceptions of pupils, teachers and school staff. Studies that have used school staff report (Gill et al., 2004; Pellerin, 2005) are mainly based upon the single perception of the principal, which as well could lead towards biased results compared to the experiences of the whole school staff (Konold & Cornell, 2015). A third limitation of this study is that PISA (2012) contains only two indicators of school bonding: attachment and belief. Despite the difficulties related to the measured of involvement with cross-sectional designs (involvement is considered as a temporal construct, see Cernkovich & Giordano, 1992; Krohn & Massey, 1980), Hirschi's (1969) concept of school bonding should be measured based on the four elements of school bonding. To sum up, it would be useful for future studies to investigate additional

experiences of authoritative socialisation in combination with the four elements of the school bond.

Notes

1. Distribution of the school population in the second grade of full-time secondary education (Vlaams Ministerie van Onderwijs en Vorming, 2013).

2. An alternative strategy consists of using the full range of both measures of an authoritative school climate by inserting responsiveness and demandingness as continuous variables (e.g. Cornell et al., 2015; Gregory et al., 2010). Results based upon this operationalisation strategy reveal similar results (analyses available upon request).

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