

Social capital erosion in education? A closer look at the social implications of grade retention.

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Abstract

This study investigates the association between grade retention and the number of same-grade friendships. Moreover, we investigate the effect of the school percentage of retained students on same-grade friendship quantity, and the moderating effect of this school characteristic on the relationship between retention and the number of same-grade friendships. Multilevel analyses on data (2004-2005) from 11,759 students in 83 Flemish secondary schools showed that secondary school retention was related to a lower number of friendships. Primary school retention was unrelated to friendship quantity in secondary education. Furthermore, students attending schools with a higher percentage of retainees had fewer same-grade friendships. Moreover, the retention composition moderated the effect of individual grade retention on the number of same-grade friendships. Implications are discussed.

Keywords: Grade retention, School effects study, Friendships, Multilevel research

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Introduction

Grade retention is widespread in many countries (*Switzerland*: Bonvin, Bless, & Schuepbach 2008; *US*: Jimerson 2001; Goldstein et al. In Press; *Canada*: Pagani, Tremblay, Vitaro, Boulerice, & McDuff 2001; *Belgium*: Demanet & Van Houtte 2013; Juchtmans et al. 2011). Educators believe that, by letting failed students repeat their grade, these will eventually catch up to normal educational growth. Most studies, however, have condemned grade retention as an ineffective practice to improve student learning (see e.g., Bonvin et al. 2008; Holmes 1989; Jimerson 2001). The majority of grade retention studies have focused on cognitive outcomes. Nevertheless, grade retention has also been demonstrated to have socio-emotional implications. For instance, research found retainees to suffer worse psychosocial functioning (Goos et al. 2013), more internalizing problems (Pagani et al. 2001), and, in general, a lower emotional health (Jimerson et al. 1997). While the evidence is not unequivocal (see e.g. Pierson & Connell 1992; Wu et al. 2010), it certainly seems that grade retention – a practice designed to ameliorate cognitive outcomes – is not without its socio-emotional side-effects.

Grade retention is also believed to have implications for peer relationships. Inherent to the practice of grade retention is that retainees are taken away from their familiar class group and put in an unfamiliar one, mostly consisting of younger students. As a result, existing friendship relations are disrupted (Pierson & Connell 1992; Stearns et al. 2007). Furthermore, researchers state that the label of “retainee” impedes their ability to form new friendships (Hong and Yu 2008; Jimerson et al. 2006; Stearns et al. 2007). As such, most researchers assume that retainees are at risk for social isolation in their new class group. However, empirical research on the social outcomes of retention is scarce, and the existing studies paint a mixed picture (Bonvin et al. 2008; Wu et al. 2010). Most likely, this is because of the differing conceptualizations of what researchers call peer or social acceptance (Bonvin et al. 2008; Jimerson et al. 1997; Wu et al. 2010). While different measures have been investigated under the heading of acceptance, no study to our knowledge has investigated the actual number of friendships students have with others in their grade. Nevertheless, having friendship relations to other students in the own grade is associated with a range of beneficial outcomes, such as increased school performance and school liking, lower levels of school avoidance, and so forth (Bukowski et al. 1993; Hartup 1996; Ladd 1990). As such, to fully grasp the social implications of grade retention, it seems pivotal to investigate its effects on the number of same-grade friendships. Another limitation of the existing research on social outcomes of retention is that it is mostly concerned with early grade retention, occurring in kindergarten (Hong & Yu 2008) or the primary school (Bonvin et al. 2008). However, researchers have argued that grade retention is more stigmatizing at later ages, and, starting from labeling theory (Becker 1963; Lemert 1967), one would expect that grade retention leads to negative social outcomes especially in adolescence (Hong & Yu 2008). As such, it is important to investigate retention effects in secondary education (see also Demanet and Van Houtte 2013; Gottfredson et al. 1994).

Scholars have furthermore argued that retention research has failed to account for the multilevel nature of the school context (Hong & Raudenbush 2005), as very few studies have investigated school-level influences (for exceptions, see Demanet & Van Houtte 2013; Hong & Raudenbush 2005). Nonetheless, retention policies differ across schools, yielding differences in the schools’ retention composition – that is, the percentage of retained students at school. While retention composition effects have been investigated in the context of students’ cognitive (Hong & Raudenbush 2005; Hong & Raudenbush 2006) and behavioral outcomes (Demanet & Van

Houtte 2013; Hong & Yu 2008), they are still unexplored with regard to social outcomes. However, if grade retention indeed severs friendships between retainees and promoted students, all students in high-retaining schools may be expected to have fewer friendships. Furthermore, the effect of grade retention on social relationships may differ between low- and high-retaining schools. It has been stated that the label of “retainee” is less stigmatizing as more students are retained in a school (see Demanet and Van Houtte 2013), and, as such, we may expect retainees to have less difficulties of establishing friendships to students in their grade in high-retaining schools than their counterparts in low-retaining schools. Moreover, based on Blau’s (1974; 1977) macrostructural theory, we expect that retainees prefer to associate with fellow retainees, which is easier in higher-retaining schools. Consequently, based on these viewpoints, we expect that the effect of grade retention on the number of same-grade friendships is less negative in schools with a higher percentage of retainees.

In short, the first aim of the current study is to examine whether there is a relation between retention and the number of same-grade friendships in adolescence. Second, we investigate whether there is an effect of schools’ retention composition on the number of same-grade friendships. The third research question, then, is whether an association between retention and the number of same-grade friendship relationships is dependent upon the percentage of students retained in school.

BACKGROUND

Cognitive and non-cognitive retention effects

The practice of grade retention has sparked researchers’ interest in its effectiveness for decades (for reviews, see Holmes 1989; Jimerson 2001). In two influential meta-analyses, Holmes (1989), reviewing 63 studies from 1960 to 1987, and Jimerson (2001), drawing on 22 studies largely performed during the 1990’s, both conclude that grade retention is ineffective as a remedy for poor academic progress. Some studies have found a positive learning effect in primary schools (e.g. Alexander et al., 1994), but these positive effects only surface when retainees are provided with special help (Peterson, Degracie, & Ayabe 1987). Moreover, when positive learning effects are found, they mostly remain short-term (Jimerson & Ferguson 2007). For instance, researchers pointed to a “grade-replacement effect” (Meisels & Liaw 1993): while retained students perform better in the repeated grade, this beneficial effect is substantially reduced when they pass to a new grade. Hence the temporary improvement would simply be due to repetition of the course material. Consequently, most studies find that grade retention has no lasting beneficial effect on educational attainment (Goos et al. 2013; Shepard & Smith 1990).

The practice of retention has implications beyond the cognitive domain. There are two competing theoretical viewpoints in this regard. First, studies have been based on the social comparison theory (Festinger 1954) to explain short-term beneficial effects of grade retention (Hong & Yu 2008; Wu et al. 2010). They state that comparison to their new classmates may yield positive outcomes for retained children, as they are older and have already seen the subject matter at least once more than their younger classmates. This may lead to a higher academic self-esteem among retained children – at least in the short term (Hong and Yu 2008; Ehmke et al. 2010; Wu et al. 2010). On the contrary, based on the labeling theory (Becker 1963; Lemert 1967), studies have forwarded that the label of retainee invokes negative connotations such as “incompetence” or “deviance”, therefore it may become a stigma that leads to lower self-esteem and aberrant behavior (Hong and Yu 2008; Pagani et al. 2001).

Empirical research into the social-emotional outcomes of grade retention offers mixed evidence. For instance, research found retainees to suffer worse psychosocial functioning (Goos et al. 2013), a higher propensity towards internalizing and externalizing behavior (Demant and Van Houtte 2013; Pagani et al. 2001), and a lower emotional health (Jimerson et al. 1997). While most studies seem to point to negative socio-emotional side-effects, other studies found that grade retention favors academic self-esteem (Hong and Yu 2008), and diminishes problem behavior (Gottfredson et al. 1994). For example, in a methodologically rigorous four-year longitudinal study, Wu and colleagues (2010) found retention to be associated with a range of beneficial socio-emotional outcomes, such as higher school belonging, academic self-efficacy, and decreased hyperactivity and sadness. Some studies, however, found that retention is unrelated to socio-emotional outcomes, such as perceived self-worth (Pierson and Connell 1992) and self-concept and attitudes toward school (Bonvin et al. 2008).

These different results may be attributed to the timing of retention, as most studies finding positive effects investigate grade retention occurring very early in a child's educational career, such as in kindergarten or in the first grades of primary school (e.g. Hong and Yu 2008; Wu et al. 2010). Indeed, other researchers have argued that retention might be especially stigmatizing at later ages, such as in adolescence (Demant and Van Houtte 2013; Wu et al. 2010). Unfortunately, most research on retention ignores this developmental period (Jimerson and Ferguson 2007). The few studies that have investigated retention in secondary education find that it is mostly associated with undesirable non-cognitive side-effects, such as increased problem behavior (Demant and Van Houtte 2013; Jimerson and Ferguson 2007).

Grade retention and peer relationships

Inherent to the practice of grade retention is that retainees enter a new class group. Therefore, next to cognitive and socio-emotional outcomes, it is also important to investigate the social outcomes of grade retention, that is, the implications of grade retention for interpersonal relationships to other students. Most researchers believe that retention entails that retainees' bonds to their former classmates are severed (Pierson & Connell 1992; Stearns et al. 2007). Moreover, it is also likely that being a retainee has an impact on the new position in the class' social group (Pierson & Connell 1992). At younger ages, retainees may be popular among their new classmates, being older, more mature, and more confident about the subject matter. When retention occurs later in the educational career, however, the stigmatizing experience of grade retention may label the retainee as a slow learner or a low achiever, which might lead to social withdrawal (Hong & Yu 2008). Moreover, scholars point out that the label of "retainee" impedes their ability to form new friendships (Hong and Yu 2008; Jimerson et al. 2006; Stearns et al. 2007). As such, most researchers assume that retainees are confronted with difficulties in rebuilding their social network, and, as such, retainees would have less positive social relationships to other students in their grade in comparison to promoted students.

Most of these expectations and assumptions, however, remain uninvestigated, as empirical research on the consequences of grade retention for friendships is rather scarce, and provides mixed results (Bonvin et al. 2008; Wu et al. 2010). Some of the studies confirm the general expectations that grade retention is detrimental for one's social relationships to same-grade students. Pianta and colleagues (1997), for example, focusing on kindergarten retention, show that retainees are less well liked by classmates than their equally low-achieving, but promoted counterparts. In a longitudinal study, Jimerson and colleagues (1997) confirmed these results, and added that the negative social repercussions of primary school retention may affect retainees

even up to age sixteen. Both studies were confined to teacher reports of peer acceptance. A more recent study utilizing peer-reported data was able to distinguish between short- and longer-term social consequences of grade retention in first grade (Wu et al. 2010). While, in the short term, grade retention increased liking by classmates, it was associated with growing negative effects over time. These findings are consistent with the idea that retainees are stigmatized more as they grow older (see also Wu et al. 2010, p.148). Not all research is equivocal on the social consequences of grade retention, however. Bonvin and colleagues (2008) carried out a longitudinal investigation of the social consequences of grade retention in primary education in Switzerland. They also found a beneficial short-term effect on social acceptance, but did not find the detrimental long-term effect found by Wu and colleagues (2010). Other studies find no association between retention and social outcomes. Hong and Yu (2008), for example, found that kindergarten retention was not related to popularity or ease of making friendships in elementary education. Gottfredson and colleagues (1994) found that retention in middle school was unrelated to the retainees' perceived social acceptance among peers.

This overview shows that the existing research on social outcomes of retention is inconclusive. This might be attributed to the fact that, while studies mostly investigate social outcomes under the heading of social or peer acceptance (Bonvin et al. 2008; Jimerson et al. 1997; Wu et al. 2010), they operationalize this concept in many different ways. For instance, some scholars focus on psychosocial dimensions of interpersonal relationships, such as perceived competence or interest in peer relationships (Hong and Yu 2008; Jimerson et al. 1997), while others rely on liking by peers (Pianta et al. 1997; Wu et al. 2010). Still others construct a measure of the frequency of positive or negative interpersonal interactions in class (Bonvin et al. 2008), or investigate retainees' perceptions of peer relatedness (Pierson & Connell 1992). To the best of our knowledge, however, no study to date has investigated the actual number of same-grade friendships as an outcome of grade retention. Nevertheless, when one wants to test empirically the assumption that retention impedes retainees' ability to form new friendships (see e.g. Pierson & Connell 1992; Stearns et al. 2007), it is pivotal to investigate the number of friendships with other students in the same grade. Furthermore, there are theoretical reasons to focus on other social outcomes besides social or peer acceptance. Bukowski and colleagues (1993), namely, point out the importance of distinguishing between popularity measures – which concern general experiences with the peer group – and friendship measures – which concern dyadic relationships between pairs of students. According to these scholars, social acceptance and peer liking is situated under the popularity indices. While such indices are important, their beneficial effects on the emotional well-being of students would only apply for students that have friendship relationships (Bukowski et al. 1993). In short, then, in order for social embeddedness to have beneficial effects on students, being liked or being accepted is not enough – popularity needs also to translate in actual friendships (for a more elaborated discussion on these issues, see Bukowski et al. 1993). Other studies support the beneficial effects of having same-grade friendships. For example, students with more same-grade friendships are shown to have higher achievement scores, higher levels of school liking, and lower levels of school avoidance (Hartup 1996; Ladd 1990). Applied to the topic of grade retention, then, it seems that only focusing on social acceptance does not sketch a complete image of the social outcomes of retention: one should also focus on the actual number of friendships with same-grade students. Another concern deals with the timing of retention. As the label of retainee is more stigmatizing at later ages, one would expect grade retention to be especially detrimental for social relationships in adolescence. It is unfortunate, however, that only one study on the social

outcomes of grade retention was situated in secondary education (Gottfredson et al. 1994). Given the dearth of research in this developmental period, it is important to perform more research on social outcomes in adolescence. Based on this literature review, we reach our first research hypothesis:

Hypothesis 1: Adolescent retainees have fewer friendships with other students in their grade than promoted students.

Multilevel questions in retention research

Since the 60s, educational studies have shown that the school a child attends ‘makes a difference’, or, in other words, that school characteristics determine children’s cognitive and non-cognitive outcomes, over and above the influence of individual characteristics (see e.g. Teddlie & Reynolds 2000). An important shortcoming of research into the outcomes of grade retention, however, is that very few studies have accounted for this multilevel nature of the school context (for notable exceptions, see Demanet & Van Houtte 2013; Hong & Raudenbush 2005; 2006). Nevertheless, it has been demonstrated that there are differences between schools’ retention policies, which yield differences in their retention composition – that is, the percentage of students who have a history of retention enrolled at school (Hong & Raudenbush 2005; Shepard & Smith 1988). It is important to investigate whether this compositional characteristic influences student outcomes – that is, over and above the influence of individual grade retention.

Two specific kinds of composition effects may be investigated. First, the compositional characteristic may exert a direct effect on student outcomes. Hong and Raudenbush (2005; 2006) hypothesized that the retention policy may not only affect retained children, but also the promoted ones, by shaping the retention composition at school. This consideration led them to assess the impact of the schools’ retention composition on the achievement of retained and promoted students. They discovered, however, no effect of the retention composition. According to the authors, this might be due to the study’s crude distinction between low- and high-retention schools (Hong & Raudenbush 2006, p. 909). Another study investigated this compositional effect on school misconduct (Demanet & Van Houtte 2013). This study did utilize a continuous measure of the retention composition, which allowed for a more fine-grained analysis, and found that higher percentages of retained students at school were associated with higher chances of misbehaving for individual students. This effect was established over and above the individual effect of grade retention. We have reasons to believe that the retention composition also affects the number of same-grade friendships directly. If it is true that grade retention disrupts friendships, the frequent application of this practice in a school may eventually diminish the number of same-grade friendships for all students at school. As retention may be expected to disrupt especially friendships between retainees and promoted students, namely, the latter should also have a lower number of same-grade friendships in high-retaining schools. No study to date, however, has investigated whether the retention composition of the school is related to the number of same-grade friendships of students. As such, we reach the second hypothesis:

Hypothesis 2: A higher percentage of retained students at school is associated with a lower number of same-grade friendships for all students at school.

The second kind of composition effects are moderation effects. Applied to the topic of grade retention, the retention effect on a retainee may depend upon the percentage of retained

students at school (Hong and Raudenbush 2006). Hong and Raudenbush (2006) investigated whether the impact of individual retention on academic achievement differs in low-retention and high-retention schools. They found, however, no moderation effect of the retention composition. Again, this might be due to the study's dichotomous distinction between low- and high-retention schools (Hong & Raudenbush 2006, p. 909), as Demanet and Van Houtte (2013) showed that the effect of individual retention on school misconduct is moderated by the percentage of retainees at school. More specifically, they found that students retained in low-retention schools are more likely to break rules than those retained in high-retention ones (Demanet & Van Houtte 2013). Applied to the topic of social relationships, it is possible that the effect of being retained on the number of friendship relations differs between low- and high-retaining schools. We have discussed above that the stigma associated with being a retaineer may impede one's chances of developing new friendships. Scholars hold, however, that the severity and nature of stigmatization is dependent upon the context (see e.g. Coleman 1986). For instance, when one is only one of the few people in a context that has a stigmatizing label, the stigma is larger than when more people are subject to the same label. In the case of grade retention, it has been suggested that, when more fellow students have been retained, it is less stigmatizing to be a retaineer than when only a few peers are in the same situation (Demanet and Van Houtte 2013). Hence, we may expect the label of retaineer to have less of an impeding impact on the development of new same-grade friendships in schools where more students have been retained. Furthermore, the moderating influence of the retention composition in the case of social outcomes is consistent with macrostructural theory (Blau 1974; 1977). This theory holds that people prefer to associate similar others. For instance, people tend to prefer same-sex (Feiring 1999) or same-ethnic associations (Jugert et al. 2013; Van Houtte & Stevens 2009). Which characteristic is chosen as a similarity indicator depends upon the salience of the characteristic in a certain context (Blau 1974). For example, in some contexts, gender is an important marker for in-group association, while in other contexts, ethnicity is more predominantly chosen (see e.g. Demanet et al. 2012; Joyner & Kao 2000; McPherson et al. 2001). Moreover, association between out-group members depends upon status differentials: one will be less likely to associate with others who are not equal in status (Blau 1974; Joyner & Kao 2000). When applied to the topic of grade retention, this reasoning implies that retainees prefer to associate with other retainees. Moreover, if retainees are indeed stigmatized in adolescence as "incompetent" or "deviant" (see also Hong & Yu 2008), we may expect students to perceive a status difference, which renders associations between retainees and promoted students less likely to occur. A second principle of macrostructural theory is that structural conditions determine at least partly whether this preference for in-group association may be realized (Blau 1974). In simple terms, it is more easy to befriend in-group members when more in-group members are around. For instance, empirical research has shown that students tend to engage more readily in interethnic friendships when less same-ethnic peers are present at school (Joyner & Kao 2000; Van Houtte & Stevens 2009). Applied to grade retention, it seems that in a school with a higher percentage of retainees, it is easier for a retaineer to befriend fellow retainees than in a school with a lower percentage of retainees. Based on these viewpoints, we expect that the effect of grade retention on the number of same-grade friendships is less negative when more students have been retained in a school. As such, we may formulate a third hypothesis:

Hypothesis 3: The effect of grade retention on the number of same-grade friendships is less negative in schools with a higher percentage of retained students.

The Flemish educational context

Before we explain our methodological framework, a word is in order about the educational system in the Flemish context—Flanders is the Dutch-speaking, northern part of Belgium. Since 1988, the Flemish government has had the jurisdiction to implement and govern its own educational system, which limits the study to the students and schools in this region. First it should be kept in mind that every school in Flanders is state subsidized – public and private schools alike. With only a few exceptions, private schools are Catholic. Public schools are non-sectarian. The vast majority (around 70%) of students attend Catholic schools. Usually children go to nursery school from the age of two and a half. Education becomes compulsory when the child is six years old. After six grades of primary education, at the age of twelve, children transfer to secondary education. There are six grades of secondary education divided into three units, subdivided into two grades each. There are four main tracks in secondary education: academic education preparing for higher education; technical education; vocational education and artistic education (which is marginal in terms of number of students). Tracks are not only organized within but also, and mainly, between schools (Van Houtte et al. 2012). The Flemish school system can be categorized as “explicit school-level tracking to different school types catering to specific student groups”, using achievement as a selection criterion (Trautwein et al. 2006, p. 789). The different tracks are commonly classified hierarchically, placing vocational tracks at the lower end.

At the end of each secondary grade students receive a certificate indicating whether they can continue their current school career (certificate A), or not (certificate B or C). A certificate B indicates that the student may pass to the next grade but needs to join another track (usually lower); a certificate C indicates that the student had to repeat the current grade. These certificates are based on the GPA obtained, and there are no standardized tests (for example in the form of centrally administered standardized examinations (Stevens 2007)). A “cascade-effect” has originated, in which students start in higher tracks, but when they fail to gain the necessary academic credentials, they move to lower – and less valued – tracks. Moreover, students in vocational tracks are more likely to have been retained in the past (Juchtmans et al. 2011; for an extended discussion of the Flemish tracking system, see Van Houtte et al. 2012; Van Houtte & Stevens 2008).

METHODS

Research design

To test the hypotheses we used multilevel modeling (HLM6; Raudenbush & Bryk 2002). As is common in multilevel analyses, we first estimated unconditional models, which enabled us to determine the amount of variance in the number of same-grade friendships situated at the school level. We tested four models. In the first model, we assessed the role of grade retention in the number of same-grade friendships. Because schooling is organized into two different systems in Flemish education – a primary school system and a secondary school system – and previous studies suggested that retention in these systems may have different effects on student outcomes (Demagnet and Van Houtte 2013), we distinguished between retention in primary and secondary education in the analyses. Moreover, in the first model, we assessed the role of the retention composition – that is, the percentage of retainees at school. A compositional effect arises when the composite effect is found to be significant over and above the individual effect.

In the second model, a cross-level interaction term between the proportion of retained students in school and retention in secondary education was added. This enabled us to investigate whether the association between secondary grade retention and the number of same-grade friendships was dependent upon the retention composition, as stated in the third hypothesis.

In the third model, we added control variables to rule out spurious relations and selection effects. At the school level, we controlled for school sector, SES (Socio-Economic Status) composition, ethnic composition, and size, as these variables are related to students' number of friendships (Demagnet et al. 2012; Moody 2001; Van Houtte & Stevens 2009). At the individual level, we controlled for gender, SES, ethnicity, and age (Barone et al. 1995; Demagnet & Van Houtte 2011). It was especially important to account for the latter, as we had to be careful not to confound retention effects with age effects (see also Byrd, Weitzman, & Auinger 1997). Additionally, we controlled for whether students attended the vocational track (see "context"-section).

In the fourth model we additionally controlled for students' prior achievement, as students with lower prior achievement are more likely to have been retained in the past, and achievement is related to friendships at school (Buhs et al. 2006; Jimerson & Ferguson 2007; McCoy & Reynolds 1999). This variable is only included in the last model, because the prior achievement measure should be considered carefully. As no standardised tests (for example, state administered tests) exist in Flemish education, it is hard to compare academic achievement measures across schools. Furthermore, as this is a self-reported measure, it could contain biases due to memory problems and cover-up strategies. As a result, it has a large number of missing values (9.8%). To ensure model stability, all independents but the dichotomous variables were grand mean centered.

Data

The data were part of the FIEA (Flemish Educational Assessment), gathered in the 2004–2005 school year in 85 Flemish secondary schools. We used multistage sampling. First we selected proportional-to-size postal codes, size being defined by the number of schools within each postal code, information provided by the Educational Department. From the 240 postal codes, we selected 48 at random. This resulted in the desired overrepresentation of larger municipalities. The aim was to survey students in the third and fifth grade of the Flemish secondary school system (these grades correspond to grade 9 and 11 in the US or UK school system). Consequently, we selected all regular secondary schools in the chosen postal codes that provided a third and fifth grade, yielding a response rate of 31%. This low response rate was due to schools in Flanders being swamped with research requests. Schools choose the research they take part in on a first-come, first-served basis. Analyses in which we compared our sample to the Flemish school population, based on information attained through the Flemish Educational Department, showed that the participating schools did not differ from those that opted out in terms of school sector, size or curriculum. Hence no systematic biases occurred, and the 85 schools in the sample were representative of the Flemish situation (Van Houtte et al. 2005).

In the participating schools, we asked all third and fifth grade students present at the time of the visit to fill out the questionnaire. Students filled out the questionnaire in class, supervised by members of the research team and a teacher. A few students were not present, due to absence or field trips. A total of 11,872 students provided valid surveys, which amounts to a response rate of 87%. Of the valid surveys, 6,081 (response rate: 90%) were from students in the third grade, 5,791 (response rate: 86%) came from students in the fifth grade. However, two schools in the

sample did not provide information on their school size. As multilevel analysis does not allow missing data at the second level, we had to remove these two schools from the analyses. Subsequently, the analyses were based on 11,759 students across 83 schools. The questionnaires were not anonymous because we needed to couple other data provided by the school with the students' responses. Ultimately we removed all names, so that all analyses are performed on anonymous data.

Measures

Outcome

The outcome of the current study, *number of friendships*, was assessed by a nomination procedure. This has been proven a successful method for gathering information on peer ties and interactions (for a discussion, see Coie, Dodge and Kupersmidt 1990). Students were handed a list of all the students in their school that attended their grade. Next to the names, we listed identification numbers of those students. Respondents were asked to provide us with the respondent identification number of their best friends. Using network analysis, we computed each student's *indegree* on this question, meaning that we counted the number of students by whom the respondent in question was indicated as a best friend. On average, the number of friendship nominations in the dataset was 6.03 (SD=3.27; see Table 1).

Student-level independent variables

The principal independent variables at the individual level were *primary school retention* and *secondary school retention*. We measured these by asking the respondents to report retrospectively on their history of grade retention. This resulted in two dichotomous variables (coding: 0=never retained; 1=at least once retained). Of our respondents, 14.8% indicated that they had been retained at least once in the course of primary education (see Table 1). Of the respondents, 19.7% had been retained at least once in secondary education. There was a moderate association between grade retention in primary education and retention in secondary education (Cramer's $V=0.028$; $p<0.01$). Of the students retained in secondary education, 16.3% were retained in primary education as well. Of all respondents, 3.3% were retained both in primary and secondary education.

As stated in the research design-section, we included the sociodemographic variables gender, SES, ethnicity, age, and attending a vocational track as individual-level control variables. The sample used for the analyses was quite equally divided by *gender* (51.3% girls). The *socio-economic status (SES)* of students' families was measured by the class scheme of Erikson, Goldthorpe, and Portocarero (1979), and is based on the students' parents' occupational status. For this, we considered the occupation of the father or the mother (Erikson et al. 1979), or, if they were unemployed, we took the last occupation into account. We used the highest ranked occupation to determine the occupational status of the family. Respondents originated from families that cover the entire range of SES (1=unskilled manual labor; 8=professionals and large proprietors). The mean SES was 5.22 (SD=2.09; see Table 1). The principal criterion for determining students' *ethnicity* was the birthplace of maternal grandmothers. Only 1% of the respondents did not answer that question. To determine the ethnicity of those students, we considered the nationality of students' mothers and fathers, as most immigrants are second- and third-generation citizens and have Belgian nationality.

Table 1. Descriptive statistics for variables: Frequencies (%), Means, Standard Deviations (SD), and N.

Variables		%	M	SD	N
<i>School level</i>					
Percentage of retained students			22.47	15.00	83
School sector	Public	49.40%			83
SES composition			4.86	1.2	83
Ethnic composition			15.5	21.05	83
School size			461.55	285.27	83
<i>Student level</i>					
Number of friendships			6.03	3.27	11,761
Primary school retention	Retained	15.10%			11,635
Secondary school retention	Retained	20.30%			11,439
Gender	Girls	51.30%			11,732
SES			5.22	2.09	11,050
Ethnicity	Ethnic minority	11.70%			11,759
Age			16.44	1.3	11,694
Track					11,761
	General	47.00%			
	Arts	2.80%			
	Technical	28.50%			
	Vocational	21.70%			
Prior achievement			69.43	9.23	10,612

As is common practice in European research, only West European birthplaces and nationalities were considered as native descent (e.g., Timmerman et al. 2002). This resulted in a dichotomous variable (0=ethnic majority student, 1=ethnic minority student). The majority of respondents were ethnic majority students (89.3%). Most ethnic minority students had Turkish or Moroccan backgrounds (both about 30%), some had Southern-European (10%), Eastern-European (8%), North-African (5%), or other (16%) backgrounds. The majority of students were 15 (35%) or 17 (32.6%) years old, with other students a little older than most in their grade, mainly due to grade retention (11.2% being 16 years old; 14.2% 18 years old; 4.5% 19 years old, and 1.3% being 20 years old). The mean age was 16.44 (SD=1.3). Most respondents attended the general *track* (47%), with 28.5% attending the technical, 21.7% the vocational, and 2.8% the arts track. The last individual-level control variable is *prior achievement*. To grade their students, Flemish high schools use a percentage, hence, grades ranged from 0% to 100%. In our sample, students' GPA (Grade Point Average) ranged from 41% to 100%, with a mean of 69.43% (SD=9.23; see Table 1).

School-level independent variables

To construct the measure for *retention composition*, we used the individual-level data to calculate the percentage of respondents in a school that were retained at least once during the course of secondary education. There was a substantial variation between schools in the percentage of retained students at school. School in our sample ranged from 0% (2 schools) to 58.33% (1 school) retained students. On average, schools enrolled 22.47% (SD=15.00; see Table 1) students who had been retained at least once during the course of secondary education.

We included four school-level control variables. In this sample, 49.4% of the schools belonged to the public *sector*, which is a slight overrepresentation of the Flemish situation. This is because we oversampled larger municipalities, where the majority of public schools in Flanders are situated. To construct the *SES composition*-measure, we calculated the mean SES per school, which is the customary way to construct this measure (see e.g. Opdenakker and Van Damme 2001). Schools had an average SES composition of 4.86 (SD=1.20). We measured the *ethnic composition* by the proportion of ethnic minority students in school. We asked the administrators to estimate this; however, 12 (14.12%) of the 85 administrators chose not to answer this question. Additionally, we computed the proportion of ethnic minority students at school using individual-level data (see above). The correlation of 0.88 ($p < 0.001$) between the two measures validates this aggregated measure. The schools covered the entire range of ethnic composition, from 0% (6 schools) to 88.20% (1 school) ethnic minority students. The mean ethnic composition was 15.50 (SD=21.05). We asked the administrators to provide us with the *school size* – that is, the number of students at school. However, we obtained information from only 83 of the 85 schools in our sample (see above). The mean school size in our sample was 461.55 (SD=285.27).

RESULTS

The unconditional “null” models showed that 8.97% ($\sigma^2=9.721$; $\tau_0=0.958$; $p<0.001$) of the variance in the number of friendships, was situated at school level. Hence, the unconditional model attested that it was warranted to perform multilevel analyses.

Table 2: The association between primary school retention, secondary school retention, percentage of retained students, and number of friendships. Results of stepwise multilevel analyses.

		Model 1	Model 2	Model 3	Model 4
Intercept	γ	5.869***	5.851***	5.988***	6.103***
	SE	0.102	0.100	0.157	0.167
School level					
Percentage of retained students	γ	-0.027***	-0.037***	-0.026***	-0.026***
	γ^*	-0.125***	-0.171***	-0.120***	-0.119***
	SE	0.005	0.006	0.006	0.007
School sector	γ			0.003	-0.047
	γ^*			0.0001	-0.007
	SE			0.162	0.170
SES composition	γ			-0.121	-0.127
	γ^*			-0.044	-0.047
	SE			0.116	0.118
Ethnic composition	γ			-0.0001	0.003
	γ^*			-0.001	0.021
	SE			0.006	0.006
School size	γ			0.001*	0.001*
	γ^*			0.051*	0.050*
	SE			0.0001	0.0001
Individual level					
Retention Primary	γ	-0.249**	-0.221*	0.118	0.169°
	γ^*	-0.027**	-0.024*	0.013	0.019°
	SE	0.088	0.087	0.092	0.095
Retention Secondary	γ	-0.546***	-0.644***	-0.332**	-0.218°
	γ^*	-0.067***	-0.079***	-0.041**	-0.027°
	SE	0.110	0.102	0.112	0.114
Gender	γ			-0.122	-0.152*
	γ^*			-0.019	-0.023*
	SE			0.077	0.077
SES	γ			0.100***	0.091***
	γ^*			0.064***	0.058***
	SE			0.021	0.021
Ethnicity	γ			-0.006	-0.043
	γ^*			-0.001	-0.004
	SE			0.128	0.125

Age	γ		-0.224***	-0.221***
	γ^*		-0.089***	-0.088***
	SE		0.055	0.055
Vocational track	γ		-0.347*	-0.533***
	γ^*		-0.043*	-0.067***
	SE		0.146	0.149
Prior achievement	γ			0.015**
	γ^*			0.042**
	SE			0.004
Cross-level interactions				
Retention secondary				
* Percentage of retained students				
	γ		0.029***	0.021**
	SE		0.008	0.007
Variance components:				
Intercept	U_0	0.721***	0.685***	0.960***
Retention Primary	U_1	0.063	0.052	0.160
Retention Secondary	U_2	0.418	0.280**	0.288
Gender	U_3			0.148**
SES	U_4			0.012
Ethnicity	U_5			0.150
Age	U_6			0.159***
Vocational track	U_7			0.592***
Prior achievement	U_8			0.0001

Note: The unstandardized (γ) and standardized (γ^*) gamma coefficients are presented, with the standard errors (SE).
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$, ° $p \leq 0.1$

Individual retention and the number of same-grade friendships

The results of the multilevel analyses (shown in Table 2) indicated that grade retention was related to the number of same-grade friendships. First, not taking the control variables into account, retention in primary education ($\gamma^*=-0.027$; $p<0.01$; see model 1) was associated with a lower number of same-grade friendships in secondary education, which aligned with the hypotheses. When we controlled for the sociodemographic variables in the third model, however, the effect of primary school retention was no longer significant ($\gamma^*=0.013$; $p>0.05$). Further analyses (not shown) indicated that the effect of primary school retention was entirely mediated by vocational track enrollment. As such, it seems that students who were at least once retained during the course of primary education were more likely to have fewer same-grade friends in secondary education, because they tended to end up in the vocational track. Furthermore, secondary school retention was related to the number of same-grade friendships as well ($\gamma^*=-0.067$; $p<0.001$). When we took the control variables into account, this effect reduced ($\gamma^*=-0.041$; $p<0.01$ in model 3; $\gamma^*=-0.027$; $p<0.1$ in model 4) but stayed significant. This meant that, even when controlling for sociodemographic characteristics, having been retained during

secondary education yields a lower number of friendships to other students in the same grade, which aligned with hypothesis 1.

A school retention composition effect?

Furthermore, it seemed that the retention composition is related to students' number of same-grade friendships. We found a significant negative association between the percentage of retained students at school and students' number of friendships ($\gamma^*=-0.125$; $p<0.001$; see model 1), that was not accounted for by the control variables ($\gamma^*=-0.120$; $p<0.001$ in model 3; $\gamma^*=-0.119$; $p<0.001$ in model 4). Consequently, the second hypothesis was confirmed, as the retention composition of the school yielded an effect on the number of same-grade friendships, over and above the effect of individual secondary grade retention.

The moderating role of the retention composition

Having established that the retention composition exerted an effect on the number of same-grade friendships, we still had to investigate whether the composition moderated the effect of individual retention in secondary education (hypothesis 3). It seemed that the effect of secondary school retention on the number of friendships was moderated by the retention composition. The cross-level interaction term, namely, was consistently significant across all models ($\gamma=0.029$; $p<0.001$ in model 2; $\gamma=0.021$; $p<0.01$ in model 3; $\gamma=0.024$; $p<0.01$ in model 4). As such, it seemed that individual retention is less detrimental for the number of same-grade friendships in schools where more retainees are present.

This moderation effect required closer attention. The effect size, namely, suggested that the effect of individual secondary school retention becomes positive in schools with a high percentage of retained students, which means that retained students would have more same-grade friends than promoted students in schools with a high retention rate. More specifically, the analyses suggested that the effect becomes positive when the measure for retention composition – which is centered around the grand mean – is higher than 9, or in other words, once schools reach a threshold of 32.47% ($=9+\text{the mean of } 22.47$) retained students.

One may question whether the effect of individual secondary school retention keeps on rising linearly with the percentage of retained students at school, or whether there is a tipping point where the effect reaches a maximum. To investigate this, we performed additional analyses in which the continuous variable for retention composition was broken down into its quintiles. As such, the retention composition variable became a categorical one, with the values indicating the quintile of retention composition a school belonged to. The five quintiles had the following boundaries: Qu₁: [0-9.12]; Qu₂:]9.12; 16.15]; Qu₃:]16.15;25.62]; Qu₄:]25.62;36.35]; Qu₅: [36.35; 58.33]. Taking Qu₁ as the reference category, we constructed four dummy variables indicating which of the four other quintiles a school belonged to and added these dummy variables to the models. To investigate the linearity of the cross-level interaction effect, we added cross-level interaction terms of individual secondary school retention with the dummies for Qu₂, Qu₃, Qu₄, and Qu₅, respectively. We performed the same four steps as in the previous analyses.

Table 3: The association between primary school retention, secondary school retention, percentage of retained students (categorical), and number of friendships. Results of stepwise multilevel analyses.

		Model 1	Model 2	Model 3	Model 4
Intercept	γ	6.667***	6.836***	6.661***	6.791***
	SE	0.244	0.255	0.287	0.286
School level					
Percentage of retained students (Ref Cat Qu ₁)					
Qu ₂	γ	-0.900**	-0.924**	-0.561*	-0.640*
	γ^*	-0.113**	-0.116**	-0.070*	-0.080*
	SE	0.277	0.297	0.276	0.266
Qu ₃	γ	-0.839*	-1.005**	-0.652*	-0.653*
	γ^*	-0.103*	-0.123**	-0.080*	-0.080*
	SE	0.323	0.346	0.317	0.291
Qu ₄	γ	-0.929**	-1.353***	-0.858*	-0.831*
	γ^*	-0.114**	-0.166***	-0.105*	-0.102*
	SE	0.348	0.349	0.342	0.338
Qu ₅	γ	-1.328***	-1.661***	-1.231***	-1.215***
	γ^*	-0.166***	-0.208***	-0.154***	-0.152***
	SE	0.282	0.305	0.325	0.322
School sector	γ			-0.035	-0.097
	γ^*			-0.005	-0.015
	SE			0.156	0.159
SES composition	γ			-0.128	-0.141
	γ^*			-0.047	-0.052
	SE			0.118	0.121
Ethnic composition	γ			-0.001	0.002
	γ^*			-0.003	0.016
	SE			0.006	0.006
School size	γ			0.001*	0.001*
	γ^*			0.059*	0.061*
	SE			0.0001	0.0001
Individual level					
Retention Primary	γ	-0.249**	-0.229*	0.115	0.164°
	γ^*	-0.027**	-0.025*	0.013	0.018°
	SE	0.088	0.088	0.092	0.096
Retention Secondary	γ	-0.543***	-1.629***	-1.137***	-1.039***
	γ^*	-0.066***	-0.199***	-0.139***	-0.127***
	SE	0.110	0.299	0.272	0.276
Gender	γ			-0.126	-0.157*

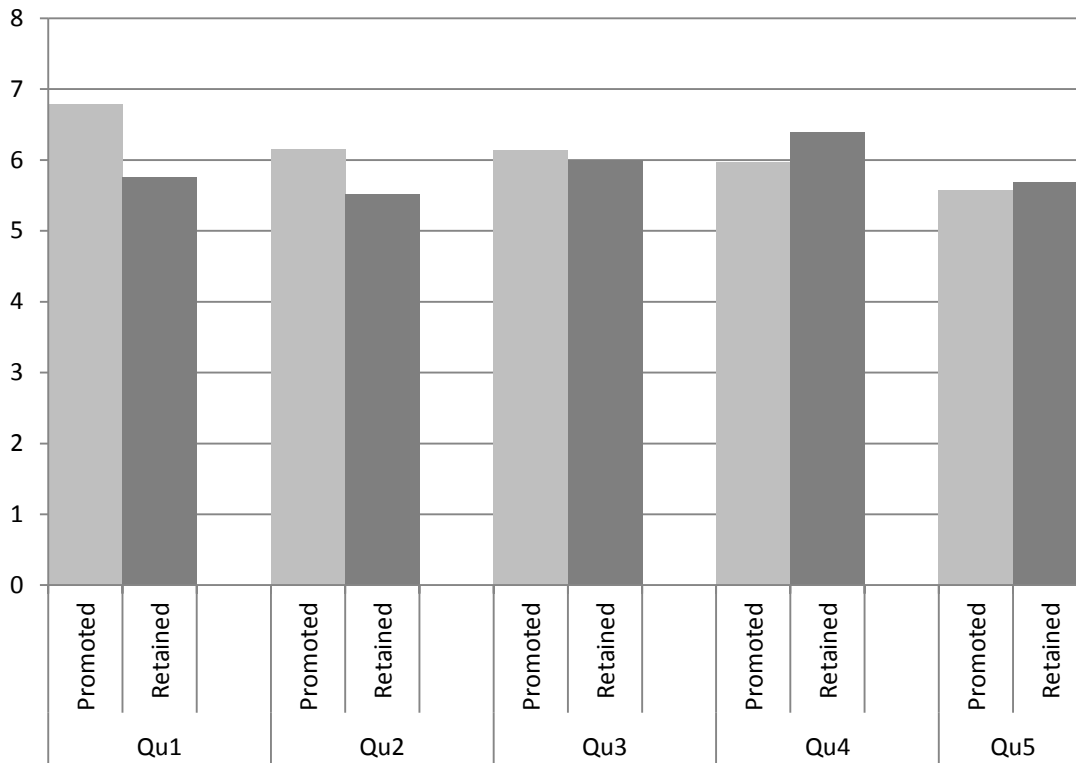
		γ^*		-0.019	-0.024*
		SE		0.077	0.077
SES		γ		0.102***	0.092***
		γ^*		0.065***	0.059***
		SE		0.021	0.021
Ethnicity		γ		-0.004	-0.044
		γ^*		-0.0004	-0.004
		SE		0.129	0.126
Age		γ		-0.226***	-0.222***
		γ^*		-0.090***	-0.088***
		SE		0.055	0.055
Vocational track		γ		-0.326*	-0.516***
		γ^*		-0.041*	-0.065***
		SE		0.144	0.147
Prior achievement		γ			0.015**
		γ^*			0.041**
		SE			0.004
<hr/>					
Cross-level interactions					
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Retention secondary					
* Percentage of retained students					
	Qu ₂	γ	0.584	0.467	0.404
		SE	0.396	0.362	0.347
	Qu ₃	γ	1.053**	0.830**	0.889**
		SE	0.340	0.305	0.312
	Qu ₄	γ	1.675***	1.422***	1.466***
		SE	0.326	0.307	0.313
	Qu ₅	γ	1.406***	1.110***	1.150***
		SE	0.350	0.303	0.315
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Variance components:					
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Intercept	U ₀	0.710***	0.682***	1.058***	1.005***
Retention Primary	U ₁	0.047	0.044	0.152	0.111
Retention Secondary	U ₂	0.406***	0.170°	0.246	0.264
Gender	U ₃			0.153**	0.114*
SES	U ₄			0.012	0.012°
Ethnicity	U ₅			0.138	0.143
Age	U ₆			0.160***	0.146***
Vocational track	U ₇			0.587***	0.654**
Prior achievement	U ₈				0.0001

Note: The unstandardized (γ) and standardized (γ^*) gamma coefficients are presented, with the standard errors (SE).
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$, ° $p \leq 0.1$

The results of these analyses showed that the effect of secondary school retention on the number of same-grade friendships was the same in schools in the first and second quintile of retention composition ($\gamma=-1.039$; $p<0.001$; see table 3, model 4). For schools in the third quintile, the effect was much smaller ($\gamma=-0.150$ ($=-1.039+0.889$); $p<0.01$), but still significantly negative. For schools in the fourth quintile, then, the effect was significantly positive ($\gamma=0.427$ ($=-1.039+1.466$); $p<0.001$). While for schools in the fifth quintile, the effect was still significantly positive ($\gamma=0.111$ ($=-1.039+1.150$); $p<0.001$), the size of the effect shows that the difference between retained and promoted students in schools in the highest quintile of retention composition, was virtually zero.

In short, this more fine-grained analysis gave more insight into the nature of the cross-level interaction effect. It showed that the difference in number of same-grade friendships between retainees and promoted students was largest in low-retaining schools (see Figure 1). With rising percentages of retainees at school, the difference grew smaller, and the retainees even surpassed the promoted students in schools in the fourth quintile of the retention composition distribution. In the highest-retaining schools, then, the difference between retainees and promoted students was negligible again.

Figure 1: Number of friendships: Cross-level interaction effect between retention composition and individual secondary school retention. Results of multilevel analyses



DISCUSSION

The aim of the current study was to investigate the implications of grade retention for the number of same-grade friendships in adolescence. This study is unique in three respects. First, by investigating these issues in adolescence, we focus on a neglected developmental period in retention research. Second, we investigate the actual number of same-grade friendships as an outcome of grade retention, an outcome which has, to the best of our knowledge, not yet been linked empirically to grade retention. Third, we adopted a multilevel approach, as we investigated whether the percentage of retained students at school affects the number of same-grade friendships directly, and whether the retention composition determined the impact of individual retention on the number of same-grade friendship relationships.

First, the analyses showed that students retained in primary education have fewer friendships in secondary education, but this appeared to be due to their placement in the vocational track. It is likely that this finding is due to the specific nature of the Flemish secondary school system, which groups students in a stringent tracking system. The specific nature of the tracking system in Flanders has resulted in a tendency to start in more academically oriented tracks and change over the course of secondary education to more vocationally oriented tracks. Because of this, this system is also referred to as the cascade system. Van Praag and colleagues (2013) found that this has led to a very heterogeneous student body in the lower tracks in terms of followed educational trajectories. It may be that students therefore have difficulties of establishing friendship relations to one another – at any rate, we may expect them to have more difficulties than students in the homogeneous context of the higher tracks. The fact that primary school retention does not exert a direct influence on friendships in secondary school, moreover, seems to suggest that these students are not labeled as “retainees” anymore, or that this label is not to that extent stigmatizing that it influences their friendships. These findings are consistent with previous research. For instance, Hong and Yu (2008) suggest that retention in kindergarten does not have negative effects on outcomes in primary education because the retention stigma has eroded by then. As such, it seems that the stigma of grade retention may “wash away” over the years (Demanet & Van Houtte 2013; Hong and Yu 2008, p. 418).

Retention in secondary education was, as expected (hypothesis 1), associated with the number of same-grade friendships. Not taking into account the role of the retention composition, namely, individual grade retention in secondary schools yielded less friendships. As such, the analyses support the assumption that retention has implications for the friendships of retained students to others in their grade (Pierson & Connell 1992; Stearns et al. 2007). An important addition of the current study, however, is that the nature of the effect depends upon the retention composition of the school (see Figure 1). As such, the analyses support the third hypothesis. More specifically, the negative effect of grade retention on the number of friendships only showed in low-retaining schools. In school with many retainees, retainees even had more friends than promoted students, although we should note that this difference was small and became even negligible in the highest retaining schools in our sample. As such, we conclude that grade retention has implications for one’s position in the social group of the students in the same grade, but the exact implications are dependent upon the percentage of retainees in the attended school.

These findings may be explained by the basic tenets of macrostructural theory (Blau 1974). As discussed above, this theory is guided by two principles. First, people prefer to associate with in-group members, and, second, structural properties of a context determine the extent to which this preference may be realized. According to the first principle, retainees may be expected to prefer friendships with other retainees. The second principle, then, might explain why the impact

of grade retention on the number of friendships is dependent upon the retention composition. In low-retaining schools, it may be difficult for retainees to realize their preference to establish friendships with other retainees, as they are less prevalent in such schools. In high-retaining schools, then, retainees are much more readily found, so the in-group preference may be realized. Another possibility is that the distinction between retainees and promoted students is more salient for retained students as a marker for in-group association than it is for promoted students. If so, retainees would especially choose friendships based on the retainee-promoted student distinction, while promoted students would continue to select on other characteristics, such as gender or ethnicity. In that case, the retention composition would especially impact upon retainees' chances for associating with in-group members, which might explain the finding that retainees have slightly more friends than promoted students in high-retaining schools. In the highest retaining schools, then, there may be so many retainees that the label loses its salience as marker for in-group association, which renders the differences between retainees and promoted students obsolete. We must state, however, that this reasoning remains tentative and that, as the current study is a unique effort in trying to reconcile individual and school-level influences of retention, further research on this topic is needed to test some of this post-hoc theory's propositions.

Next to having a moderating influence, the results point out that the retention composition has a direct effect on the number of same-grade friendships as well. More specifically, we found all students in higher-retaining schools to have fewer same-grade friendships, which supported hypothesis 2. These results on students' social outcomes align with research that investigated the impact of the retention composition on school misconduct (Demagnet & Van Houtte 2013). These findings have implications for educational policy. If the percentage of retained students in school can be seen as an indicator of a school's retention policy, as other authors have argued (see Hong & Raudenbush 2006; Shepard & Smith 1988), we can state that our findings do not endorse the widespread use of grade retention in secondary schools. Indeed, if the practice of grade retention may foster social isolation, it may bring a host of unwanted side effects, such as decreased school liking, lower performance, and increased school avoidance (Hartup 1996; Ladd 1990). While we did find that the negative effect of grade retention is moderated by the retention composition, we should note that the negative social repercussions are only absent when a very high number of students in school – namely at least 30 % – has been retained. Taking into account the studies that show the ineffectiveness of grade retention as a practice for remedying poor academic results (e.g., Holmes 1989; Jimerson, 2001), and the studies that point to the negative non-cognitive side-effects of grade retention (Goos et al. 2013; Jimerson et al. 1997; Pagani et al. 2001), we argue for the abandonment of the practice of grade retention. In secondary education, it seems appropriate to search for other strategies to remedy poor educational performance. Other programs have been suggested, including summer schools, increased positive parental involvement, remedial activities during and after school hours, individualized educational programs, and so forth (for an extended discussion see Jimerson, 2001; McCoy & Reynolds, 1999, p. 295).

It is important to acknowledge the limitations of the current study and propose some directions for future research in this area. First, we should reiterate that this study does not use a longitudinal design. Therefore, we cannot be sure whether grade retention invokes social outcomes, or the other way around. For instance, it has been suggested that retainees are already overrepresented among the socially isolated students prior to retention (Hong & Yu 2008, p. 415). However, most previous studies into the social outcomes of retention have utilized a

longitudinal design (see e.g. Bonvin 2008; Wu et al. 2010). As they demonstrated differing short- and long-term outcomes of grade retention, it is likely that the social outcomes are affected by whether or not the student is retained, and are not only due to some pre-existing social situation. Furthermore, using longitudinal designs that span the beginning of primary education through to adolescence usually have to deal with attrition, resulting in small sample sizes which limit the generalizability of the results (Jimerson & Ferguson 2007, p. 332). Indeed, most previous retention studies have been limited by small sample sizes and unrepresentative data (Ehmke et al. 2010). Here we have accounted for this well-known critique of retention research by using an extensive dataset which is representative for the Flemish situation. Moreover, we account for another well-established critique of retention research by demonstrating that the multilevel nature of the school context should be taken into account when determining grade retention effects (Demagnet & Van Houtte 2013; Hong & Raudenbush 2005). However, we do propose that future longitudinal research tries to replicate these multilevel findings. A second limitation of the current study has to do with its outcome. As we only focus on the number of same-grade friendships, we do not take account of the friendships retainees might have with their former classmates. While other scholars have forwarded that grade retention largely breaks these cross-grade friendships (Pierson & Connell 1992; Stearns et al. 2007), it is possible that retainees still adhere to their former friends outside the regular lessons, for example, during breaks or after school hours. While we assume with other scholars that especially same-grade friendships are important for beneficial school-related outcomes such as achievement, school liking, and school avoidance (see e.g. Hartup 1996; Ladd 1990), and that students tend to be limited in the number of cross-grade friendships (see e.g. Moody 2001), it might be important for future research to compare the number of cross-grade and same-grade friendships of retainees. Furthermore, by our exclusive focus on friendship quantity, we have not provided insight into the qualitative aspects of retainees' friendships which deal, for example, with the level of received support or the relationship cohesion (see e.g. Claes 1992; Demagnet et al. 2012). It could be important to compare the quantity and quality of retainees' friendship relationships. For instance, it might be true that retainees eventually end up with fewer friendships, but these need not necessarily be less cohesive. At the other extreme, it is possible that retainees' friendships to same-grade students are less cohesive because of the age difference and the fact that the friendships are relatively new. As such, we propose that future research distinguishes between the quantity and quality of retainees' friendships.

Conclusion

This study is unique in investigating the association between grade retention and the number of same-grade friendships in adolescence, and in researching multilevel questions with regard to the social outcomes of grade retention. First, we have found that, while retention in secondary education was related to a the number of same-grade friendships, retention in primary education was unrelated to same-grade friendship quantity in secondary education. Furthermore, the retention composition of the school was found to exert a compositional effect, as all students had fewer same-grade friendships in schools with a higher percentage of retainees. Third, the retention composition should be taken into account when investigating the nature of the retention effect at the individual level. We have found that the effect of retention in secondary school on the number of same-grade friendships is dependent upon the retention composition, being negative in low-retaining schools, but becoming less negative and eventually positive in schools with higher percentages of retained students.

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