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A developmental study of expanded learning time, norm-breaking, and antisocial behavior

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A Developmental Study of Expanded Learning Time, Norm-Breaking, and Antisocial Behavior

Joseph L. Mahoney

Abstract: Expanded learning time (ELT) refers to a longer school day, week, or year. ELT schools are becoming common in the United States and aim to provide all students with additional opportunities for learning, recreation, and enrichment. ELT schools differ from after-school programs that take place immediately following the regular school day and serve a select group of students. Research on ELT schools has tended to focus on academic outcomes. This study examines whether extended school time relates to norm-breaking (e.g., cheating) and antisocial behavior (e.g., violence). A nationally representative sample of 496 schools from the 2007 Trends in International Mathematics and Science Study (TIMSS) data was used and involved students in Grades 4 and 8. Results showed a longer school day predicted high norm-breaking behavior for 4th-graders. For 8th-graders, a longer school year predicted high norm-breaking and antisocial behaviors. Results underscore studying social outcomes to evaluate ELT schools.

Keywords: expanded learning time, antisocial behavior, developmental, out-of-school, school curriculum

Expanded learning time (ELT) refers to a longer school day, week, or year. In the United States, children spend an average of 6.5 hours a day, 5 days a week, and 180 days a year in school. That amounts to an average of 1,170 hours per year at school. After-school programs also provide educational and recreational services in the school setting, but this occurs immediately following the regular school day and services are directed primarily to select groups of children. In contrast, ELT schools are designed to seamlessly integrate school and after-school time with the goal of redesigning the school curriculum for the entire student body (Citizen Schools, 2013; Stonehill/Lauver/Donahue/Naftzer/MeElvain/Stephandis, 2011). There has been considerable debate between organizations advocating for the benefits of after-school programs (e.g., Afterschool Alliance, 2012) who maintain after-school should not be more school and those arguing in favor ELT (e.g., National Center on Time and Learning, 2011b) who contend all children deserve extended, individualized and engaging learning experiences.

Although decades of literature have explored the relation between the amounts of time children spend in school and developmental outcomes – primarily academic performance such as school academic achievement – a review of the evidence does not yield strong conclusions. Specifically, Patall, Cooper, and Allen (2010) summarized prior reviews, and conducted a synthesis of recent studies, on the link between ELT and academic achievement. The authors concluded that, despite weak methodo-

logical designs and mixed findings, with some program showing robust findings, the literature indicates there may be a small, positive effect of ELT on academic achievement. Moreover, the associated benefits of ELT might be most apparent for economically disadvantaged children. Finally, they note that only four studies examined non-academic achievement measures and recommended, "Future research should make efforts to empirically assess the impact of extending school time on various non-academic achievement outcomes." (p. 428). Nevertheless, the daily schedules and outcome assessments of ELT schools continue to focus on academic content (e.g., Herrera/Linden/Arbreton/Baldwin Grossman, 2011; Hoxie/DeBellis/Traill, 2011).

This paper begins to fill that gap by considering non-academic outcomes in relation to ELT; namely norm-breaking that involves less severe school infractions (e.g., skipping class, cheating, and profanity) and antisocial behaviors that involve more severe school infractions (e.g., vandalism, theft, and violence). The introduction is divided into three main parts. First, we discuss the recent expansion of ELT schools with particular attention to political issues and influences. Second, literature assessing whether ELT schools and after-school programs and activities such as sports, arts, and music relate to norm-breaking and antisocial behavior for young people is overviewed. Finally, following Patall et al. (2010), the potential moderating roles of age and socioeconomic status are considered in this relation.

1 Political Issues and Influences in the Expansion of ELT Schools

ELT schools have been present in the United States for decades (Patall et al., 2010). However, the number of ELT schools has increased in recent years. The increase makes the research aimed at understanding whether and how attending ELT schools relates to developmental outcomes timely and important. One reason for the increase is the suboptimal performance of the United States on international academic achievement tests such as the Program for International Student Assessment (PISA, 2009) and the Trends in International Mathematics and Science Study (TIMSS, 2011). Advocates of ELT schools suggest that the extra time can increase the use of existing facilities, provide more time for learning and enrichment activities, offer additional opportunities for staff professional development, and allow for comprehensive school reform that restructures the school day (e.g., Bishop/Worner/Weber, 1988; National Center on Time & Learning, 2011a). Whether ELT schools engaging in such practices are enough for American children to better compete in a global society has yet to be determined (Herrera et al., 2011). Although the United States' performance on international academic achievement tests has remained relatively stable, the ELT expansion has begun recently so it is premature to draw conclusions.

A second reason is the growing federal and local support for ELT schools (National Center on Time & Learning, 2012). There is bipartisan support for ELT schools in the U.S. Senate (U.S. Senate Health, Education, Labor, and Pensions (HELP) Committee, 2011) and President Obama's Administration (U.S. Department of Education, 2010). For example, the 21st Century Community Learning Center (21stCCLC) funds have historically been available to states for the purpose of fund-

ing after-school programs. However, because there are a large number of “failing schools” under the U.S. education policy known as the No Child Left Behind Act (NCLB; over 30,000 schools have failed to make adequate yearly progress (Stonehill et al., 2011)) alternative uses of educational funding have been explored.

In 2011, President Obama’s Administration began offering flexibility to states in the form of educational waivers that provide relief from aspects of NCLB in exchange for state plans that support components of the Administration’s college and career readiness goals. Among the flexibility options, states can choose to use 21st CCLC funds for the purpose of developing ELT schools or continue to maintain and develop after-school programs. This broadening in the use of the 21st CCLC funds represents an alternative effort to enhance learning and development. However, there is some debate as to whether adding more time or using existing time more effectively (or both) is the answer (Bishop et al., 1988; National Center on Time and Learning, 2011a).

In addition, ELT is now a component for turning around chronically low-performing schools in the U.S. (Stonehill et al., 2011). The most disadvantaged children attending the poorest schools frequently have the fewest opportunities for learning after 3 PM. The schools they do attend are often focused on remedial education instead of a well-rounded, whole child approach (The After-School Corporation (TASC), 2010). The U.S. Department of Education (2010) awards School Improvement Grants (SIGs) to states on a competitive basis. States must follow one of four models to improve their persistently low performing schools; namely, turnaround, restart, school closure, or transformation models. Approximately 92% of SIG schools choose the turnaround or transformation options that require extending school time. “Both the turnaround model and the transformation model require an LEA [local educational agency, often a school district] to provide increased learning time, which is generally defined as using a longer school day, week, or year schedule to significantly increase the total number of school hours to include additional time for instruction in core academic subjects; instruction in other subjects and enrichment activities; and teachers to collaborate, plan, and engage in professional development.” (U.S. Department of Education, 2010, p. 16).

Finally, at state and district levels, support for ELT schools has also increased. For example, in 2005 Massachusetts supported the Mass2020 ELT initiative that has added 300 hours to the school year (Mass2020, 2013). The program takes place in 19 schools serving over 10,000 students. Likewise, in partnership with community organizations, TASC’s ELT initiative involves 17 public schools in New York City and adds more than 60 days of school per year (Hoxie et al., 2011). A final example is the Citizen Schools that serves 4,300 children and is now located in states across the nation including California, Illinois, Massachusetts, North Carolina, New Jersey, New York, and Texas. These programs target low-income young people who experience an extended school day that ends around 6pm. Approximately 300 hours of instruction in homework, math, literacy, and apprenticeships are added to the school year (Herrera et al., 2011).

2 Relation between ELT with Norm-Breaking and Antisocial Behavior

The increase in ELT schools and related expenditures raises the question of whether they impact youth development. As noted earlier, a number of studies examined the link between ELT schools and academic achievement, but few have studied social behavior outcomes (Patall et al., 2010). Here we focus on two outcomes that, if reduced, have potential positive effects in terms of long-term financial and social returns for society. Specifically, there is reason to think that ELT schools could influence school-based norm-breaking (e.g., truancy, cheating) and antisocial behaviors (e.g., property offenses, violence). However, the influence of ELT schools in these domains may differ for children and adolescents.

Levels of cognitive and psychological development are likely to shape the choices that young people make. Many fundamental cognitive skills emerge in childhood and continue to develop through adolescence. For instance, the prefrontal cortex that is involved in planning, judgment and decision-making is thought to mature into late adolescence (e.g., Steinberg/Scott, 2003). Executive functioning that includes aspects such as the initiation of activity, self-regulation, and goal setting that allows for the capacity to plan actions, and the ability to focus attention for prolonged periods of time, develops rapidly throughout childhood but is not fully mature until mid-adolescence or later (Anderson, 2002). Similarly, effortful control that includes the ability to inhibit tendencies to grow distracted, sit still and focus attention, and delay gratification, develops across childhood into adolescence. These abilities relate to children's success in school such that difficulties in these areas predict frustration and diminished school liking (Valiente/Lemery-Chalfant/Castro, 2007).

In ELT schools, the elongated school day may "wear down" children's cognitive abilities to focus on schoolwork, increase their frustration, diminish school liking, and detract from their ability to inhibit behavioral responses. The result may be increased levels of norm-breaking behavior during school such as "acting out", talking back to the teacher, and avoiding school. As is true in the United States, this may be particularly true when children attending ELT schools are aware that their peers are attending schools with a traditional schedule. By mid-adolescence these cognitive capacities may have matured somewhat permitting youth to demonstrate greater ability to manage their behavior and avoid misconduct as a result of an elongated school day.

ELT schools may have a different impact on more serious antisocial behaviors such as property crimes and violence. These behaviors are relatively uncommon in childhood but increase markedly in adolescence (Uniform Crime Reports, 2011). Attending an ELT school may reduce the likelihood that adolescents engage in antisocial behavior. For example, Fox and Newman (1997) showed that the hours following school dismissal are the peak time for juvenile violence. Adolescents attending ELT schools would be in school and supervised by adults during that peak time and therefore not involved in perpetrating (or witnessing) the violence in the school or community. In addition, some ELT schools devote time to enrichment activities such as music, sports, art, and apprenticeships as part of their daily schedule. These types of activities have been linked to a reduction in crime and antisocial behavior

(Mahoney, 2000; Mahoney/Stattin, 2000) and an increase in positive youth development (Larson, 2000; Lerner/Lerner/Almerigi et al., 2005).

There is some support that the summer months, characterized by warmer weather, may augment crime and violence (e.g., Rotton/Cohn, 2004). There is also support for Routine Activity Theory (RAT) which posits that young people are most likely to engage in risky behaviors when they are in unstructured situations with peers in the absence of adults (Hipp/Bauer/Curran/Bollen, 2013; Osgood, Wilson/Bachman/O'Malley/Johnston, 1996). Unsupervised time increases from childhood to adolescence. For youth in self-care, out-of-school and summertime afford opportunity for the components of RAT to occur. Accordingly, ELT schools that extend the length school year into the summer months may protect adolescents from these risks and reduce antisocial behavior (Parente/Sheppard/Mahoney, 2012).

Finally, for academic outcomes the impact of attending an ELT school has sometimes been greater for disadvantaged children (Patall et al., 2010). In the after-school activity literature, the associated reduction in antisocial behavior and crime has also been most apparent for high risk youth (e.g., Mahoney, 2000). However, the existing literature has not examined interactions between ELT, economic disadvantage, and norm-breaking or antisocial behavior outcomes. Possible interactions among these aspects are explored in this study with any associated benefits of ELT expected to be more apparent for economically disadvantaged youth compared with their more advantaged counterparts (Patall et al., 2010).

3 Summary and Significance of Expected Findings

Children are expected to show increased norm-breaking behaviors as the length of the school day increases. Adolescents are expected to show less antisocial behavior as the school day and school year lengthen. The possible benefits of ELT might be most apparent for economically disadvantaged youth. There are no expectations between a longer school week and either norm-breaking or antisocial behavior for children or adolescents.

If these findings hold, then they have implications for the policy debate surrounding the expansion of after-school programs and/or ELT schools. Specifically, because after-school programs and activities have shown associated reductions in antisocial behaviors (Darling, 2005; Fredricks/Eccles, 2006; Gottfredson/Gerstenblith Soulé/Worner/Lu, 2004; Mahoney, 2000), then support for these types of programs might increase if ELT schools are found to be associated with increased norm-breaking and antisocial behavior. At the least, the findings would suggest that investments in ELT schools need to be undertaken with an eye towards understanding and preventing the occurrence of problematic social behaviors. These issues have heretofore not been explored. Therefore, beginning to develop a knowledge base around the social aspects of ELT schooling should help to develop schools that benefit the whole child.

4 Method

Dataset and Participants

Data for this study come from the Trends in International Mathematics and Science Study (TIMSS) which began in 1995 and provides a rich source of information. TIMSS reports every four years on 4th- and 8th-grade students in 59 countries worldwide. Data for this study come from the most recent, available wave of data collected in 2007 for 4th- and 8th-grade students in the United States. The U.S. sample included both public and private schools, randomly selected and weighted to be representative of the nation. In total, 257 4th-grade U.S. schools and 7,896 4th-grade students, along with 239 8th-grade U.S. schools and 7,377 8th-grade students participated in TIMSS 2007. School-level data for TIMSS 2007 was used for this study (i.e., the unit of analysis is the school). Additional details on the research sample and design are available from the TIMSS 2007 Technical Report (U.S. Department of Education, 2009)

Procedure

All data were collected through questionnaires completed by a school principal or administrator. Parallel questions were asked at the 4th- and 8th-grade.

Measures

Expanded learning time was assessed through three questions: (1) How many days per year is your school open for instruction? (2) What is the total instruction time, excluding breaks, in a typical day? (3) In one calendar week, how many days is the school open for instruction. Little variability existed in the length of the school week (e.g., 97% of 4th-grade schools and 98% of 8th-grade schools followed a 5-day school week). As a result, this variable was not included in the analyses.

Norm-breaking involved the average of seven items rated on a 5-point scale (1 = never, 5 = daily). The items were as follows: arriving late at school, absenteeism, skipping class, violating dress code, classroom disturbance, cheating, and profanity. These items form an index, not a scale, and therefore alpha reliability was not assessed.

Antisocial behavior involved the average of six items rated on a 5-point scale (1 = never, 5 = daily). The items were as follows: vandalism, theft, intimidation or verbal abuse of other students, physical injury to other students, intimidation or verbal abuse of teachers or staff, physical injury to teachers or staff. These items form an index, not a scale, and therefore alpha reliability was not assessed.

Demographic Controls: Several control variables were included to account for potential school-level differences in norm-breaking and/or antisocial behavior as well as extended learning time (e.g., Kellam/Ling/Merisca/Brown/Ialongo, 1998; Olweus, 1994; Patall et al., 2012).

Economic disadvantage was determined by principals' responses to the question "Around the first of October, 2006, what percentage of students at this school was eligible for free or reduced-price lunches through the National School Lunch Program?" Responses were coded on a 5-point scale (1 = less than 10%, 5 = more than 75%).

Three additional school-level demographic variables were included in the analyses to control for aspects related to ELT and the outcomes of interest (e.g., Leithwood & Jantzi, 2009; Uniform Crime Reports, 2011). *Geographic population* was assessed as the number of people in the geographic area where the school was located and was coded on a 6-point scale (1 = 3000 people or fewer, 6 = more than 500,000 people). *School enrollment* was assessed as the number of students enrolled in the school and ranged from 41 to 1,831 (Grade 4) and 90 to 2,175 (Grade 8). *Public or private school* was coded dichotomously (1 = public school, 2 = private school). Collectively these variables predict rates of crime and violence, curricular diversity, attendance, discipline problems, and student participation in voluntary activities.

5 Results

Descriptive Statistics

Table 1 shows correlations, means, and standard deviations for all study variables. Norm-breaking and antisocial behaviors during 4th- and 8th-grade were significantly related to the demographic controls (i.e., area population, school enrollment, public/private school, and free/reduced lunch) in the expected directions. In terms of the main study questions, for 4th-graders, length of the school year showed a positive and significant correlation with norm-breaking. For 8th-graders, length of the school day showed a positive and significant correlation with norm-breaking and antisocial behaviors. However, given the significant associations between control variables and outcomes, a regression analysis where ELT predicts norm-breaking and anti-social behavior and accounts for the control variables was called for. This analysis can also test the hypothesized interaction between school economic status and ELT.

Regression Analyses

Ordinary least squared regressions were performed to predict norm-breaking and antisocial behavior for 4th- and 8th-graders, respectively. The analysis accounted for control variables and included a term for the interaction between school economic status and ELT. For Grade 4 schools, Table 2 shows that beyond controls, length of the school day and the free/reduced lunch x length of the school day interaction were significant predictors of norm-breaking. These results indicate that *for 4th-graders longer school days relate to more norm-breaking and the association is stronger for schools with a lower proportion of children receiving free/reduced lunch*. For antisocial behavior ELT was not a significant predictor.

For Grade 8 schools, Table 3 shows that the length of the school year and the free/reduced lunch x length of the school year interaction were significant predictors

of norm-breaking. These results indicate that for 8th-graders a longer school year relates to more norm-breaking and this association is stronger for schools with a lower proportion of adolescents receiving free/reduced lunch. For antisocial behavior in Grade 8, like norm-breaking, the length of the school year and the free/reduced lunch x length of the school year interaction were also significant predictors of antisocial behavior. *These results indicate that, for 8th-graders, a longer school year relates to more norm-breaking and antisocial behavior and this association is stronger for schools with a lower proportion of adolescents receiving free/reduced lunch.*

6 Discussion

This was one of few studies to use a nationally representative dataset to evaluate relations between school-level ELT and non-academic achievement outcomes. It is one of the only studies on this topic to employ a developmental design to examine norm-breaking and antisocial behavior in two cohorts of young people. The length of the school day and year were examined in relation to the externalizing behavior outcomes. The length of the school week was also considered, but found to vary little between schools. This indicates that ELT may primarily occur through adjusting the length of the school day or year.

The main finding is that, according to school principal or administrator reports and controlling for several school-level demographic factors, *ELT schools were not associated with a reduction in norm-breaking or antisocial behavior for Grade 4 or Grade 8 schools. In contrast, there was significant evidence that a longer school day or year was linked to increased norm-breaking and/or antisocial behavior.* Thus, in a clarification to Patall and colleagues' (2010) conclusion that ELT programs "do no harm" with respect to academic achievement, the associations may be different for some social behavior outcomes. That the same context may have different impacts depending on the outcome considered has been found in other studies of out-of-school time (e.g., Mahoney, 2011).

Evaluation of Study Expectations

Before discussing the findings in relation to study expectations, it is important to note that this study represents a first step toward understanding the relation between ELT and behavioral outcomes. As such, the study is limited to assessing whether an association exists. Subsequent steps would require more rigorous designs (e.g., longitudinal, experimental), replication, generalization to different populations, and comparison of different approaches to time use in ELT schools.

With respect to norm-breaking the study expectations were supported. For Grade 4, schools with a longer school *day* positively predicted norm-breaking behavior. In contrast, by Grade 8, norm-breaking was no longer associated with a longer school day. This is consistent with the proposal that executive functions and cognitive skills involved in regulating attention and behavioral inhibition continue to mature through adolescence. It appears that youth reach a point of maturity allowing them tolerate the longer school day. Also as expected, in Grade 4 schools, antisocial behavior was

unrelated to ELT. This was anticipated by the fact that more serious deviant behavior is relatively uncommon in childhood but increases rapidly across adolescence. However, contrary to expectations, in Grade 8, norm-breaking and antisocial behaviors were positively predicted by a longer school year. It was expected that ELT for Grade 8 schools would be related to relatively low norm-breaking and antisocial behavior. The effect sizes for each finding ranged from moderate to strong. The results suggest that although ELT may have a small, positive association with student academic achievement (Patall et al., 2010), the social behavioral consequences of adding time to the school day for young people could be more substantial and warrants further study.

Why should a longer school year differentially relate to externalizing behavior for children and adolescents? As a post-hoc explanation, the elongated school year may relate to youth norm-breaking and antisocial behavior for social, rather than cognitive, reasons. An expanded school year ordinarily involves extending school into the summer months (e.g., one school in the sample added 60 days to the calendar year). As noted in the introduction, summer can be a season of risk and adolescents are more likely to engage in antisocial behaviors than their childhood counterparts. A longer school year could aggravate these circumstances. Specifically, a school year that cuts into summer (ordinarily the longest period of discretionary time) would restrict the autonomy, freedom, and opportunities that come with the transition to adolescence (e.g., more self-care, hanging out with peers, diversity of extracurricular activities, work, and romantic relationships). Schools that extend the length of the school year need to offer a curriculum that is at least as interesting as the alternative ways that youth like to spend their free time during the summer. Moreover, because youth are often aware that other adolescents their age have finished the school year weeks or even months earlier, this may accentuate the frustration and desire to “act out” at school in minor and more severe ways.

However, we do not know what proportions of youth are responsible for the relatively more frequent occurrence of norm-breaking and antisocial behavior in ELT schools during Grade 8. For example, approximately 5–6% of offenders are responsible for about 50% of crime (e.g., Farrington/Ohlin/Wilson, 1986; Moffit, 1993). It may be a fraction of youth in ELT schools that are aggravated by a longer school year. If so, the ELT school curriculum needs to be organized so that it fits the needs, abilities, and interests of all students during the summertime.

Associations and interactions between economic disadvantage and ELT with norm-breaking and antisocial behavior were also explored. For both Grades 4 and 8 schools with a greater proportion of students receiving free/reduced lunch had substantially higher norm-breaking and, for Grade 8, antisocial behaviors as well. However, these findings interacted with ELT. For Grade 4, a longer day predicted norm-breaking more strongly for schools with lower proportion of students receiving free/reduced lunch. Likewise, for Grade 8, norm-breaking and antisocial behaviors were higher in schools with lower proportion of students receiving free/reduced lunch. The effect sizes for these results were strong and likely reflect the powerful role of economic disadvantage on the development of externalizing behavior problems in young people.

Although analyses of these interactions were exploratory, the higher levels of externalizing problems in ELT schools with a lower proportion of disadvantaged students may seem counter-intuitive. One explanation is that advantaged students

would, on average, have higher academic performance than their disadvantaged counterparts (e.g., Alexander/Entwisle/Olson, 2001). As a result, they may feel the extended school year – particularly if it merely extends the school day curriculum – is unnecessary. ELT could be seen as preventing them from participating in more desirable summer opportunities such as organized activities (e.g., sports), paid employment, etc. leading to frustration and externalizing behaviors. In contrast, disadvantaged students report wanting to participate in out-of-school programs that emphasize opportunities to complete homework, stay off the streets, learn new skills, and meet with peers (e.g., Borden/Perkins/Villarruel/Stone, 2005). ELT programs likely offer such opportunities and, therefore, could be desirable for disadvantaged youth. However, this post-hoc explanation is speculative and more work is needed to replicate and understand the interactions. Indeed, this study could not determine whether ELT is associated with greater benefits for schools with more disadvantaged youth, greater risks for schools with more advantaged youth, or both.

Curriculum Content and Organization

It is generally agreed that adding time to the school year is not necessarily the key to improving student outcomes. The time must also be used well (NCTL, 2011). For example, quality organized activities are linked to improved social outcomes not because they take up time, but because they offset risks and build social-academic skills (Durlak/Weissberg/Pachan, 2010; Smith/Akiva/Sugar/Devaney/Peck et al., 2013). The content of ELT schools is also important. Ideally, ELT schools will offer a diverse curriculum across the school day that includes organized activities such as sports, music, and art that are integrated with more traditional academic subjects. This diversity may be most beneficial if it occurs regularly and is provided by individuals trained to deliver quality programming.

For example, in divvying up the responsibilities for different areas of the curriculum, it has been argued that community partners may have greater skill in providing quality organized activities compared to school-day classroom teachers (e.g., Jacobsen/Blank, 2013). As a result, some have concluded that school-community partnerships are desirable for ELT schools and this idea received bipartisan support from the U.S. Senate HELP Committee (2011). Nonetheless, the stated contribution of school-community partnerships within ELT schools comes primarily from Internet reports and anecdotal evidence. ELT schools are not organized after-school programs and counter arguments to school-community partnerships can be made. For example, school-day teachers often lead extracurricular activities and can offer sports, arts, music, dance, cheerleading, etc. within an ELT framework. Thus, the key is whether ELT schools have a quality, well-rounded curriculum. Ultimately, we need empirical research that yields publishable, verifiable results demonstrating the effectiveness of school-community partnerships.

This study was seldom able to look beyond school-level estimates of time. For instance, school schedules, estimates of availability and participation in organized activities, or whether school-community partnerships had been established were not provided in the dataset. Including this information may elucidate the conditions under which ELT schools are, and are not, likely to be associated with positive social (and academic) outcomes. This may also shed light on how best to organize the

school curriculum for young people – particularly those at-risk for poor developmental outcomes such as economically disadvantaged youth. If a longer school day or year leads to burnout, fatigue, aggravation and misconduct, then providing active, engaging activities during those periods of peak problem behavior may reduce their occurrence.

Overall, we need to follow an ecological approach to the study of ELT schools. The approach emphasizes the study of individuals in context (Bronfenbrenner/Morris, 2006) and is concerned with the “fit” between individual needs and interests at different developmental levels and how well the context is able to match those needs (Eccles/Midgley/Wigfield et al., 1993). From this perspective, individuals are viewed as integrated systems and, for example, academic functioning and social behavior co-affect one another. Thus, ELT schools aiming to boost academic achievement cannot ignore the role that student conduct plays in the learning process. More broadly, the approach calls for simultaneous examination of the diversity of curricula, young people, and developmental outcomes linked to a variety of ELT schools. This information should enhance our understanding of different models of effective ELT schools for different young people and outcomes.

Limitations

There are limitations to this study. First, the TIMSS dataset is cross-sectional and causal interpretations are not warranted. Despite employing a nationally representative sample and making developmental comparisons of two age cohorts, the analyses could not control for prior adjustment or past school attendance. Moreover, although youth are unlikely to select the school they attend, their parents may influence school choice. Schools that offer longer school days or years may differ in other ways that could affect how students behave. In general, the selection process into ELT schools or features that differentiate ELT and non-ELT schools are not well understood and represent an area for further study.

Second, principals or school administrators completed the surveys and reported norm-breaking and antisocial behaviors occurring in the school context. They may be the single best source for reporting school-level phenomena and norm-breaking or antisocial behaviors related to ELT that occur in the school context. But, they did not report school-level information on students’ behavior outside of the school. It is possible that in-school and out-of-school externalizing behaviors linked to ELT may differ and could even be inversely related. For example, Osgood and colleagues (1996) found that youth antisocial behavior was highest in out-of-school settings without an agenda, involving peers, and lacking adult supervision. Students attending schools with shorter school days or years would probably have more opportunities to experience these risky out-of-school conditions. Thus, overall levels of norm-breaking and antisocial behaviors in the lives of these students are unknown. Ideally the timing of these behaviors both within and beyond the school setting as reported by multiple informants would help to isolate the role of ELT in the development of norm-breaking and antisocial behaviors.

Third, data on the length of the school year does not specify the time at which the extra days were added. Although this ordinarily means a longer school year that

extends into the summer, it is not possible to tell. For example, some additional days could reflect shortened holiday or seasonal breaks occurring during the school year.

Finally, we note that the data came from the 2007 TIMSS survey – the most current one available. However, the 2011 TIMSS is scheduled to be released soon. Given recent changes in ELT policies described earlier, a comparison of these results between 2007 and 2011 datasets would be of interest.

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Table 1. *Study variables correlations for 4th grade (bottom diagonal) and 8th grade (top diagonal) schools.*

	1	2	3	4	5	6	7	8
1. Area Population	1.00	.37***	.34***	-.19**	.11	.08	.08	.17*
2. School Enrollment	.30***	1.00	-.30***	.15*	.24***	.16**	.38***	.44***
3. Private School	.15*	-.27***	1.00	-.57***	.02	-.11	-.56***	-.54***
4. Free Lunch	.02	.18**	-.50***	1.00	.05	.10	.42***	.44***
5. Length of School Year	.05	.19**	-.29***	.27***	1.00	.10	-.00	.08
6. Length of School Day	.06	.03	.11	.03	.03	1.00	.16*	.14*
7. Norm-breaking	.21**	.20**	-.17**	.40***	.21**	.10	1.00	.77***
8. Anti-social Behavior	.15*	.13*	-.31***	.44***	.20**	.05	.68***	1.00
<i>M</i> Grade	2.98	437.40	1.17	3.01	179.01	5.56	2.32	1.73
<i>SD</i>	1.66	252.58	.37	1.38	4.53	.68	.56	.46
Range	1-6	41-1831	1-2	1-5	165-215	4-7	1.29-4.71	1.00-4.50
<i>M</i> Grade 8	2.86	489.97	1.27	2.96	179.39	5.80	2.71	1.94
<i>SD</i>	1.62	333.92	.44	1.32	7.77	.65	.80	.51
Range	1-6	104-2175	1-2	1-5	167-240	4-8	1.43-4.86	1.00-3.83

* $p < .05$, ** $p < .01$, $p < .001$

Table 2. *Ordinary least squares regression models (N = 257) predicting norm-breaking and antisocial behavior for Grade 4 schools. Standardized coefficients are shown.*

Variables	Norm-breaking		Antisocial Behavior	
	β	SE	β	SE
Area Population	.19**	.02	.17**	.02
School Enrollment	.14	.00	-.03	.00
Private School	-.02	.12	-.16	.10
Free/Reduced Lunch	1.99***	.22	.39	.18
Length of School Year	.07	.01	.06	.01
Length of School Day	.55**	.14	.06	.11
Length of School Day x Free/Reduced Lunch	-1.74**	.04	-.04	.03
R^2	.26		.24	

* $p < .05$, ** $p < .01$, *** $p < .001$

Note. The interaction between school year x reduced/free lunch term was dropped from the equation due to multi-collinearity with the school day x reduced/free lunch term.

Table 3. *Ordinary least squares regression models (N = 239) predicting norm-breaking and antisocial behavior for Grade 8 schools. Standardized coefficients are shown.*

Variables	Norm-breaking		Antisocial Behavior	
	β	SE	β	SE
Area Population	.20**	.03	.28***	.02
School Enrollment	.16*	.00	.18*	.00
Private School	-.36***	.15	-.38***	.10
Free/Reduced Lunch	7.72***	1.30	5.12*	.85
Length of School Year	.70**	.02	.50*	.02
Length of School Day	.07	.06	.02	.04
Length of School Year x Free/Reduced Lunch	-7.58***	.01	-4.93*	.01
R^2	.47		.48	

* $p < .05$, ** $p < .01$, *** $p < .001$

Note. The interaction between school day x reduced/free lunch term was dropped from the equation due to multi-collinearity with the school year x reduced/free lunch term.