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Time Spent on Homework: Correlations Between Parents' and Teachers' Perceptions and Children's Performance

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Abstract. This study investigated differences in teachers' and parents' perceptions about homework and their correlations with children's achievement in Grade 4 – the end grade for primary school in Lithuania. Data were collected at the end of Grade 4 (February–March 2024). Teachers ($n = 39$) answered online questionnaires on homework frequency and expected homework time; parents ($n = 525$) completed paper questionnaires about homework frequency, time, and help. Children ($n = 576$) completed tests measuring literacy and math skills, and school administrations provided children's Grade 4 grades and results from national standardized testing. Most parents and teachers reported that homework was assigned daily. Teachers reported that children should spend around one hour daily on homework; parents reported children spending on average one hour and ten minutes daily on homework and a great variation in the amount of weekly homework help children received. Compared to teachers, parents reported more frequent homework and more homework time. Only parental reports of time spent and help received for homework significantly correlated to children's academic performance measures, albeit negatively. Overall, parents and teachers perceived homework time differently. Additionally, the less well Grade 4 students did academically, the more time they spent on homework, and the more help they required from family.

Keywords: homework, homework frequency, homework time, homework help, academic performance

Laikas, skirtas namų darbams: tėvų ir mokytojų namų darbų atlikimo laiko vertinimo ir vaikų pasiekimų ryšys

Santrauka. Šiame tyrime buvo analizuojamas ketvirtos klasės mokinių namų darbų atlikimo laikas mokytojų ir tėvų vertinimu, taip pat jo ir mokinių pasiekimų ketvirtoje klasėje sąsajos. Duomenys buvo renkami ketvirtos klasės pavasarį. Mokytojai (n = 39), naudojant internetinę apklausą, nurodė, kaip dažnai mokiniams skiria užduotis atlikti namuose ir kiek laiko jų atlikimas galėtų trukti. Tėvai (n = 525) pildė popierines anketas ir pateikė informaciją, kaip dažnai vaikui skiriami namų darbai, kiek laiko vaikui trunka juos atlikti ir kaip dažnai tenka padėti vaikui atlikti namų

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darbus. Vaikų (n = 576) lietuvių ir matematikos raštingumas buvo vertinamas keliomis užduotimis mažose grupėse. Mokyklų administracija pateikė mokinių ketvirtos klasės matematikos ir lietuvių kalbos akademinius įvertinimus ir nacionalinius mokinių pasiekimų patikrinimo rezultatus. Dauguma tėvų ir mokytojų nurodė, kad mokiniai namų darbus atlieka kasdien. Mokytojai nurodė, kad vaikai namų darbams turėtų skirti maždaug vieną valandą per dieną; tėvai nurodė, kad vaikai namų darbams per dieną skiria vidutiniškai 1 val. 10 min. Mokytojų ir tėvų nurodyto namų darbų atlikimo laiko palyginimas parodė, kad, tėvų manymu, vaikai skiria daugiau laiko namų darbams nei nurodė mokytojai. Tik tėvų (bet ne mokytojų) nurodytas namų darbų atlikimo laikas ir suteikta pagalba atliekant namų darbus reikšmingai siejosi su vaikų akademiniais pasiekimais, tačiau šis ryšys buvo neigiamas. Kuo prastesni ketvirtos klasės mokinių pasiekimai, tuo daugiau laiko jie skiria namų darbams ir tuo daugiau pagalbos jiems reikia iš savo šeimos narių.

Pagrindiniai žodžiai: namų darbai, namų darbų dažnumas, namų darbų atlikimo laikas, tėvų pagalba ruošiant namų darbus, akademiniai pasiekimai.

Homework – tasks assigned by teachers for completion outside school hours (Cooper et al., 2006) – is widely considered an important educational tool (Cooper et al., 2006; Fan et al., 2017; Fernández-Alonso et al., 2017; Ozyildirim, 2022). Homework has become an important, controversial topic because while interactions with learning materials are supposed to promote learning outcomes, some empirical research finds an opposite effect (zero or negative), suggesting that homework limits time for leisure activities and may be accompanied by negative emotions and attitudes toward school. This has sparked debate and continuous interest in homework research over recent decades (Cooper, 1989; Trautwein, 2007; Trautwein & Köller, 2003).

Extensive research analyzes the associations between homework time and its effects on academic achievement (Fan et al., 2017). Some studies assume that homework time facilitates various forms of academic development and reflects students' commitment. Thus, researchers expected and found a positive association between homework and performance (Cheema & Sheridan, 2015; Cooper, 1989; Cooper et al., 2006; Fan et al., 2017; Fernández-Alonso et al., 2017; Trautwein & Köller, 2003). Mau and Lynn (2000) reported positive correlations between homework time and achievement in Grade 8 (data from 1998). Positive associations between math homework time and math PISA 2012 scores were found in a USA sample among Grade 8–12 students. Four meta-analyses favor this positive association (Cooper, 1989; Cooper et al., 2006; Fan et al., 2017; Ozyildirim, 2022). For example, Ozyildirim (2022) found a weak but significant effect by which students spending a moderate amount of homework time (versus a small amount) were more successful on TIMSS exams.

Other studies have not found significant associations or have found negative associations between homework time and academic achievement (De Jong et al., 2000; Kitsantas et al., 2011; Núñez et al., 2015a, 2015b; Trautwein, 2007; Valle et al., 2015). For example, Kitsantas et al. (2011) found a negative association between homework time and achievement in math among fifteen-year-olds. This negative association suggests a different interpretation – students' agency and the characteristics they bring to homework, such as low cognitive and behavioral efficiency (skills, time management) or low motivation (interest, commitment) can explain negative associations. Thus, evidence on associations between homework time and academic performance is mixed.

Research on homework and academic performance has limitations. First, most homework studies focus almost exclusively on homework time, but some evidence suggests that other homework-related variables, such as homework frequency (Trautwein, 2007) or homework help (Silinskas et al., 2015), may also affect the homework–performance relationship. Second, previous research generally studies one type of student performance. However, some evidence suggests that homework's effect on performance can be a function of performance type (e.g., stronger associations with standardized tests than class grades) (Trautwein, 2007; Trautwein & Köller, 2003). Third, debates on the homework–performance relationship are mostly based on adolescent students, but results may differ in primary school. This expectation is further strengthened by meta-analyses reporting an increased effect with grade level: Cooper (1989) reported an effect of $d = 0.15$ for Grades 4–6 and $d = 0.31$ for Grades 7–9; Ozyildirim (2022) reported $d = –0.057$ for Grade 4 and $d = 0.256$ for Grade 8. Fourth, because most homework data rely on adolescents' self-reports, there is limited information about teachers' and parents' perceptions of homework. Moreover, studies rarely compare teachers' perceptions about expected homework frequency and time with parental perceptions of actual homework frequency and time. An exception is Cooper et al. (1998), who reported that, for lower grades (Grades 2 and 4), teacher and parent reports of homework frequency did not differ. However, studies in other domains have shown that teachers and parents often perceive the same phenomena differently (e.g., behavioral and emotional problems in preschool children; Jusiene & Raiziene, 2006). Gathering data from multiple sources offers a more comprehensive perspective, though potential mismatches in perceptions should be considered. Finally, previous data on homework came from many Western countries, but the associations between homework and performance, to our knowledge, have not been investigated in Lithuania.

Consequently, the main objective of this study is to investigate the differences between teachers and parents' perceptions about homework frequency, time, and help and how they relate to performance (academic skills, academic achievement, and national standardized test scores). We used data from children attending the end of Grade 4 – the end of primary school in Lithuania. First, our investigation compared teachers and parents' perceptions about homework. Due to a lack of previous research, this comparison was exploratory. Second, we tested competing hypotheses concerning teachers' and parents' perceptions about homework and their relationships with academic performance, particularly whether the correlation was positive (Hypothesis 1) (Cooper, 1989; Fernández-Alonso et al., 2017; Mau & Lynn, 2000) or nonexistent or negative (Hypothesis 2) (Kitsantas et al., 2011; Núñez et al., 2015a, 2015b; Ozyildirim, 2022; Trautwein, 2007).

Method

Participants and Procedure

Data were collected in Lithuania in February–March 2024 as part of a larger study, "*Get involved! Learning in primary school*" (Silinskas & Raiziene, 2021–2024), with ethical approval issued by the University of Jyväskylä, Finland (number: 1599/13.00.04.00/2020;

date: December 17, 2020). All participants provided written consent for participation in the study and for obtaining data from school records. Teachers (n = 39, all female) completed online questionnaires; parents (n = 525, 88.10% female) completed paper questionnaires; children turning ten in Grade 4 (n = 576, 48.37% female) were tested on their academic skills in small groups by school psychologists. In June 2024, the schools' administrations provided children's final grades and scores from national standardized tests.

Instruments

Teachers' and parents' perceptions about homework included views on homework frequency, time, and help (Núñez et al., 2015a, 2015b; Trautwein, 2007; Valle et al., 2015).

Homework Frequency

Teachers were asked how often they assigned homework in Lithuanian language and math (Cronbach's alpha = 0.783). Parents were asked how often homework was assigned in the same subjects (Cronbach's alpha = 0.965). For both groups, questions were rated on a five-point scale (1 = never, 2 = rarely, 3 = sometimes [1–2 times per week], 4 = frequently [a few times per week], and 5 = very frequently [every day]). For both groups, the mean score of the two items was calculated.

Homework Time

Teachers' perceptions about time that should be spent on homework were measured with an open-ended question: "In your opinion, how much time approximately should your students spend on homework every day? (Please specify how many minutes per day. If less than every day, please describe the situation)." Parents' perceptions of homework time were also measured with an open-ended question: "On average, how much time does your child spend doing his/her homework? (Please write down how many minutes every day. If less frequently than every day, please describe the situation)." For both groups, answers were coded into numeric values (minutes).

Homework Help

Parents were asked two open-ended questions about the help children received with homework: "On average, how much time do you spend helping your child do his/her homework (per week)?" and "On average, how much time do other people in the household spend helping your child do his/her homework (per week)?" The answers to both questions were coded into numeric values (minutes) and summed.

Academic Performance

Academic performance was measured by academic skills, academic achievement, and national standardized tests. All measures were standardized (z-scores) before calculating their means. Academic skills were assessed by four tests, developed for the current study

(based on the tests used in Silinskas et al., 2020, 2024, but adapted for Grade 4 level): word reading fluency, sentence reading fluency, addition, and subtraction (Cronbach's alpha = 0.838). Academic achievement was assessed by Grade 4 grades in Lithuanian language and math (Cronbach's alpha = 0.810). National standardized test results in Lithuanian language and math were obtained from school records (Cronbach's alpha = 0.626), and, due to somewhat low reliability, were analyzed separately.

Results

Descriptive analyses for homework-related variables revealed that teachers (n = 39) reported assigning literacy and math homework very frequently (*Mode* value 5 = very frequently [every day], M = 4.282, SD = 0.894, *Min* = 1.5, *Max* = 5) and that they expected students to spend, on average, one hour completing homework per day (*Mode* value 60.000 minutes, M = 60.270, SD = 26.079, *Min* = 25, *Max* = 120). Parents perceived that literacy and math homework was assigned every day (*Mode* value 5 = very frequently [every day], M = 4.410, SD = 0.658, *Min* = 2, *Max* = 5). Parents reported that children spent around one hour and ten minutes per day on homework (*Mode* value 60.000 minutes, M = 69.997, SD = 39.721, *Min* = 4, *Max* = 240). There was great variation in minutes per week that parents and others in the household helped with homework (*Mode* value 60.000 minutes, M = 131.144, SD = 184.170, *Min* = 0, *Max* = 1500). Normality tests detected deviation from normality for all study variables (Shapiro–Wilk, ps < 0.001) except children's academic skills; thus, we ran nonparametric tests in SPSS-28 to answer our research questions.

First, to compare teachers' and parents' perceptions of homework frequency and time, we ran a nonparametric related-samples test – Wilcoxon signed rank test. Teachers' and parents' perceptions of homework frequency statistically significantly differed (test statistic = 21534.500, standard error = 1567.008, standardized test statistic = –2.340, p = 0.019), suggesting that on average parents reported more homework (M = 4.410, SD = 0.658) than teachers (M = 4.300, SD = 0.863). We also compared parents' reports of the time children spent completing daily homework to teachers' perceptions of the time it should take to complete homework. The significant Wilcoxon signed rank test (test statistic = 34750.000, standard error = 2344.927, standardized test statistic = –2.625, p = 0.009) suggested that on average, parents perceived children spending more time on homework (M = 69.998, SD = 39.721) compared to teachers' reports of optimal homework time (M = 61.504, SD = 27.202).

Second, to investigate the associations between teachers' and parents' perceptions about homework and children's academic performance, we calculated Spearman correlations (Table 1). The results showed that parental perceptions of homework time and the frequency of homework help were consistently negatively and significantly related to performance measures. Further, the results revealed no relationship between teachers' and parents' perceptions of homework frequency, teachers' perceptions of homework time, and performance measures. Additional statistical comparisons of the significant correlations with each other did not reveal any significant differences. Finally, to confirm the robust-

ness of our results, we centered parental measures at the classroom level (cluster-level), but this did not change the results reported in Table 1.

Table 1

Spearman Correlations Between Teachers' and Parents' Perceptions of Homework and Children's Academic Performance (n = 525)

	Academic skills	Academic achievement	National standardized tests	
			Lithuanian language	Math
Homework frequency				
Teachers' perceptions	–0.001	0.080	–0.050	–0.066
Parents' perceptions	0.048	0.016	0.009	0.021
Homework time				
Teachers' perceptions	–0.039	0.016	–0.093	–0.027
Parents' perceptions	–0.252***	–0.198***	–0.217***	–0.184***
Homework help				
Parents' perceptions	–0.349***	–0.262***	–0.249***	–0.328***

*** $p < .001$

Discussion

We investigated the differences between teachers' and parents' perceptions of homework and their associations with children's academic performance. Two main findings emerged: Parents reported greater homework frequency and time than teachers, and only parents' perceptions of homework time and help were negatively correlated with academic performance.

Our descriptive analyses suggested that teachers and parents perceived homework as being assigned every day. Both teachers and parents reported that homework time should be one hour per day (mode); however, on average, parents reported that children spend one hour and ten minutes, significantly more than the teachers reported (one hour). These are interesting and important results that have not been previously published in a Lithuanian context, highlighting that children in Grade 4 are assigned daily homework and expected to spend approximately one hour on it. Although teachers' and parents' descriptives (modes and means) appear similar, formal statistical tests of mean comparisons revealed that parents reported statistically significantly higher homework frequency and time. This could be due to a greater variation in parental reports compared to teachers' reports. This becomes even more obvious concerning homework help, for which we revealed a large difference between the mode (sixty minutes per week) and the mean (two hours and eleven minutes per week). This suggests that a significant portion of children spend extensive time on homework, and family members spend extensive time on homework help. This

emphasizes the mismatch between teachers' expectations and reality as reported by parents. Additionally, the results suggest that students experience homework differently. The reasons for such variety and associations with academic performance are described next.

One of the main results of our study was that parental reports of homework time and help were negatively related to academic performance. Similar results were found in previous studies on homework time (De Jong et al., 2000; Kitsantas et al., 2011; Trautwein, 2007) and homework help (Núñez et al., 2015b, Silinskas et al., 2015). Reasons for negative associations may relate to diverse student characteristics (e.g., cognitive and motivational) and habits and behaviors (e.g., time management, self-regulation). First, some students spend less time on homework because they learn and complete homework quickly, while others may spend less time on homework simply because they give up and leave it unfinished. Others put much effort and dedication into completing homework, or they spend much time on homework because of learning difficulties. Our results support the explanation by earlier research that students performing well academically do not need to spend excessive time on homework (Trautwein, 2007; Trautwein & Köller, 2003). Similarly, children succeeding academically do not require extensive homework help (Silinskas et al., 2015).

Second, excessive homework time might result in decreased motivation, exhaustion, and negative emotions (Silinskas et al., 2015; Trautwein, 2007). This can be exacerbated if family members frequently help with homework in controlling versus autonomy-supporting ways (Núñez et al., 2015b, Silinskas et al., 2015). Third, unlike previous studies among adolescents, our sample comprises primary school children. As some young children may be less likely to ignore distracting stimuli (e.g., spending time on screens, playing), they may spend more time on homework. Similarly, young students have less-developed study habits and overall self-regulation (e.g., self-monitoring, self-control, staying on task) (Xu & Corno, 1998; Zimmerman et al., 1996) than older students (Xu, 2009).

This study has limitations. First, we used cross-sectional data collected during the second half of Grade 4. While this provides a solid starting point, longitudinal and experimental studies would be needed to confirm our findings' robustness. Second, only thirty-nine Grade 4 teachers took part in our study, limiting the possibility for sophisticated analyses and generalizability. Third, our analysis method (Spearman's correlation) assumes linear dependency between the variables. However, while a certain amount of homework may enhance the knowledge and competencies learned at school, excessive homework may indicate academic difficulties. Applying statistical methods that explore nonlinear relations is an important task for future research. Finally, the lack of positive associations between homework and academic performance can be related to confounding variables not considered in this study (e.g., student/teacher characteristics, homework purpose, task difficulty/quality, physical conditions at home) and other potential outcomes of homework (e.g., self-regulation, motivation) (Eren & Henderson, 2008; Trautwein & Köller, 2003; Valle et al., 2015). These factors should be incorporated into future research.

Practically, parents, teachers, and other school professionals should acknowledge that more homework time does not necessarily mean better academic achievement. This

calls for a differentiation between quantity (e.g., homework time) and quality (e.g., how time is used, time management) in homework. Homework is a powerful educational tool but also highly individual concerning time, learning management strategies, and effort (Trautwein, 2007). As primary school students are still learning to handle homework effectively, teachers and parents can help not only with homework tasks but also by eliminating distractions and encouraging effective learning strategies. It is necessary to improve overall academic self-regulation, that is, planning, monitoring, and regulating homework time (Xu & Corno, 1998; Zimmerman et al., 1996).

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