

Figure A1: Proportion of students reporting skipping/missing school at least once in the past two weeks, per country and PISA round.

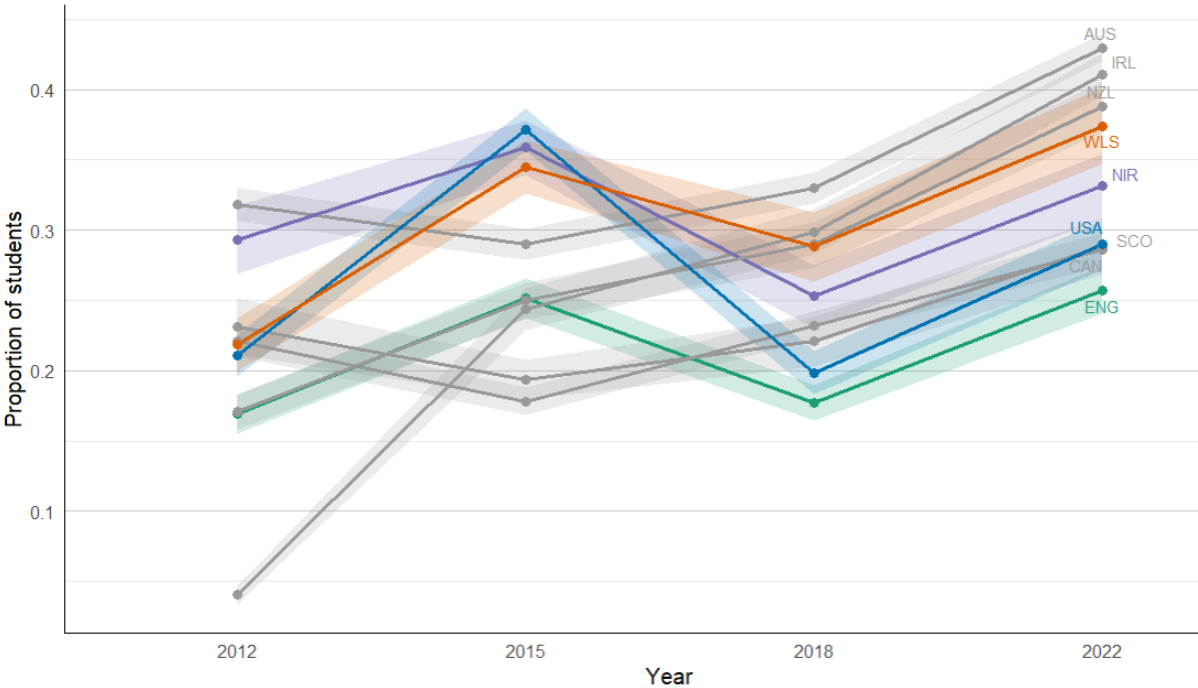


Figure A2: Predicted proportion of students reporting skipping/missing school at least once in the past two weeks, by sex.



Figure A2 V2: Proportion (Weighted mean):

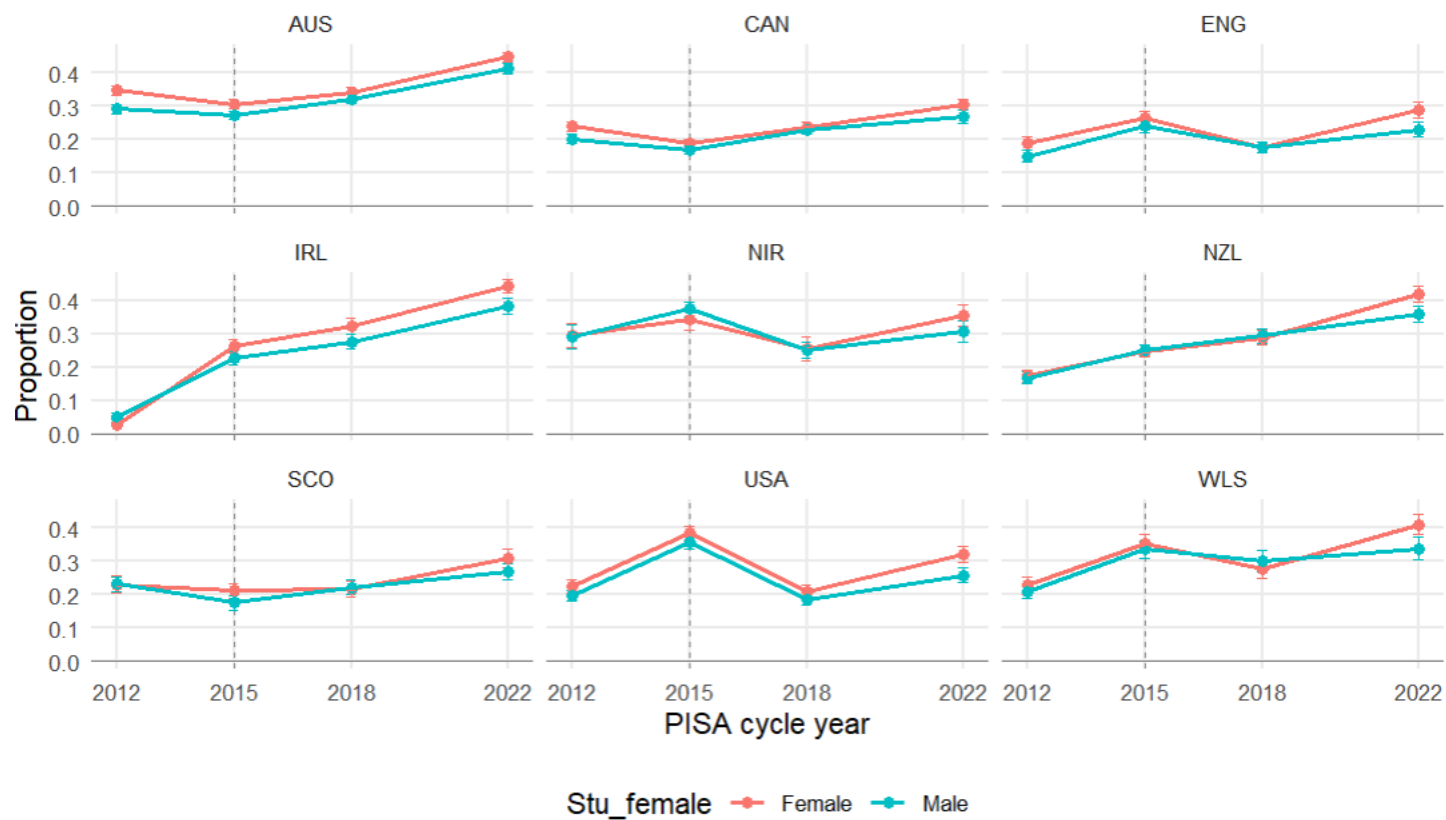


Figure A3: Predicted proportion of students reporting skipping/missing school at least once in the past two weeks, by migration status

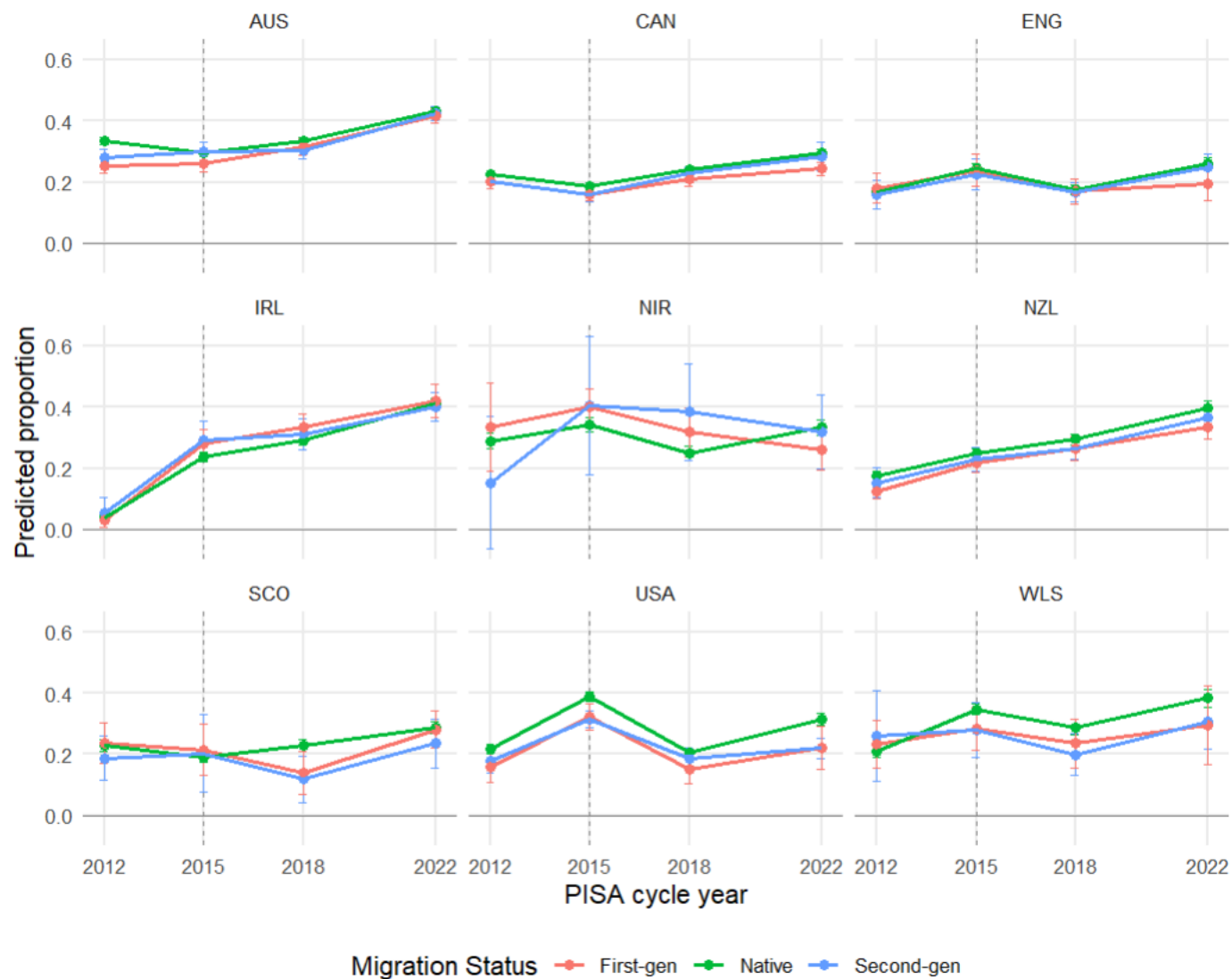


Figure A3 v2:

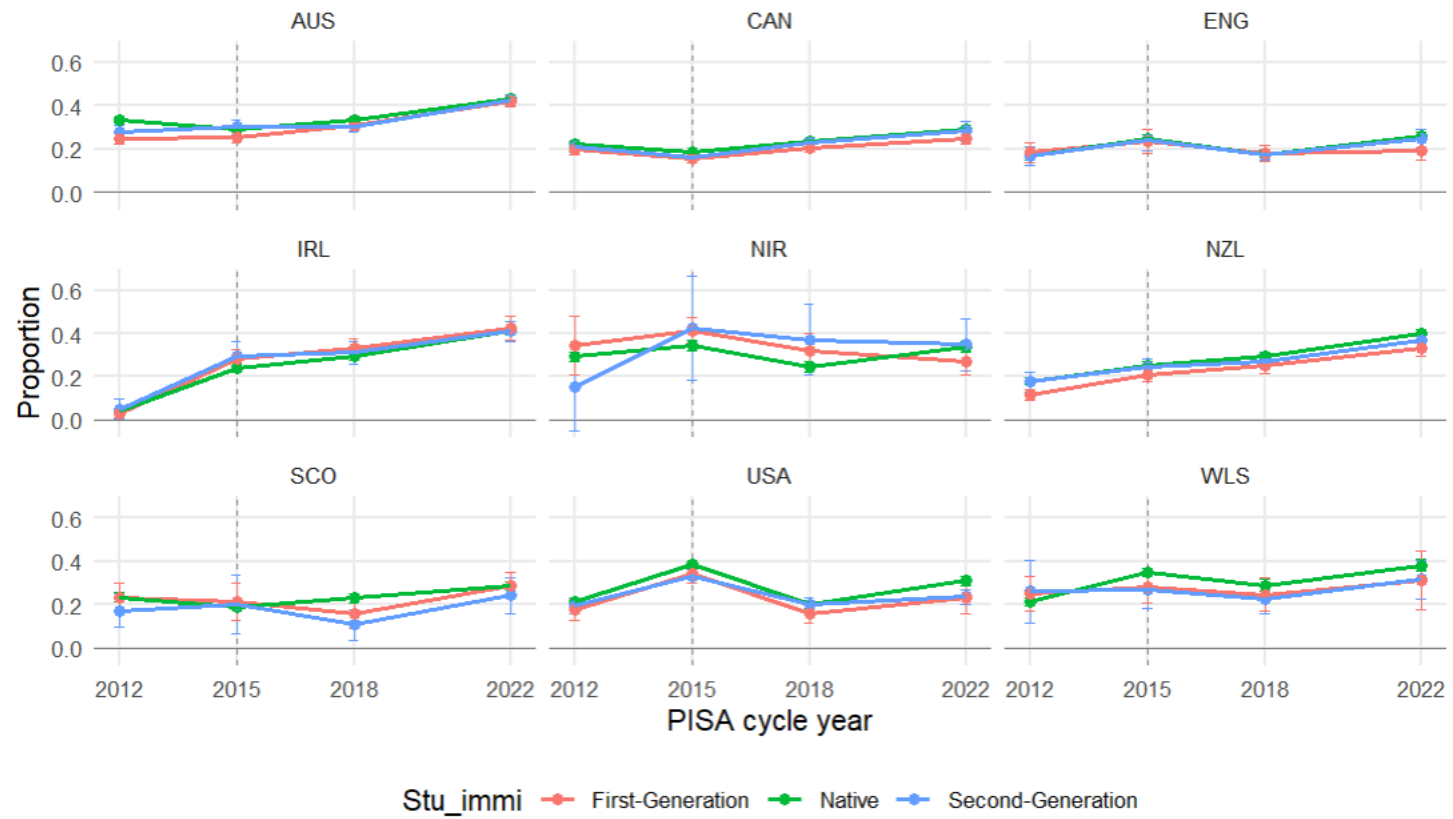


Figure A4: Predicted proportion of students reporting skipping/missing school at least once in the past two weeks, by Math score quartile:

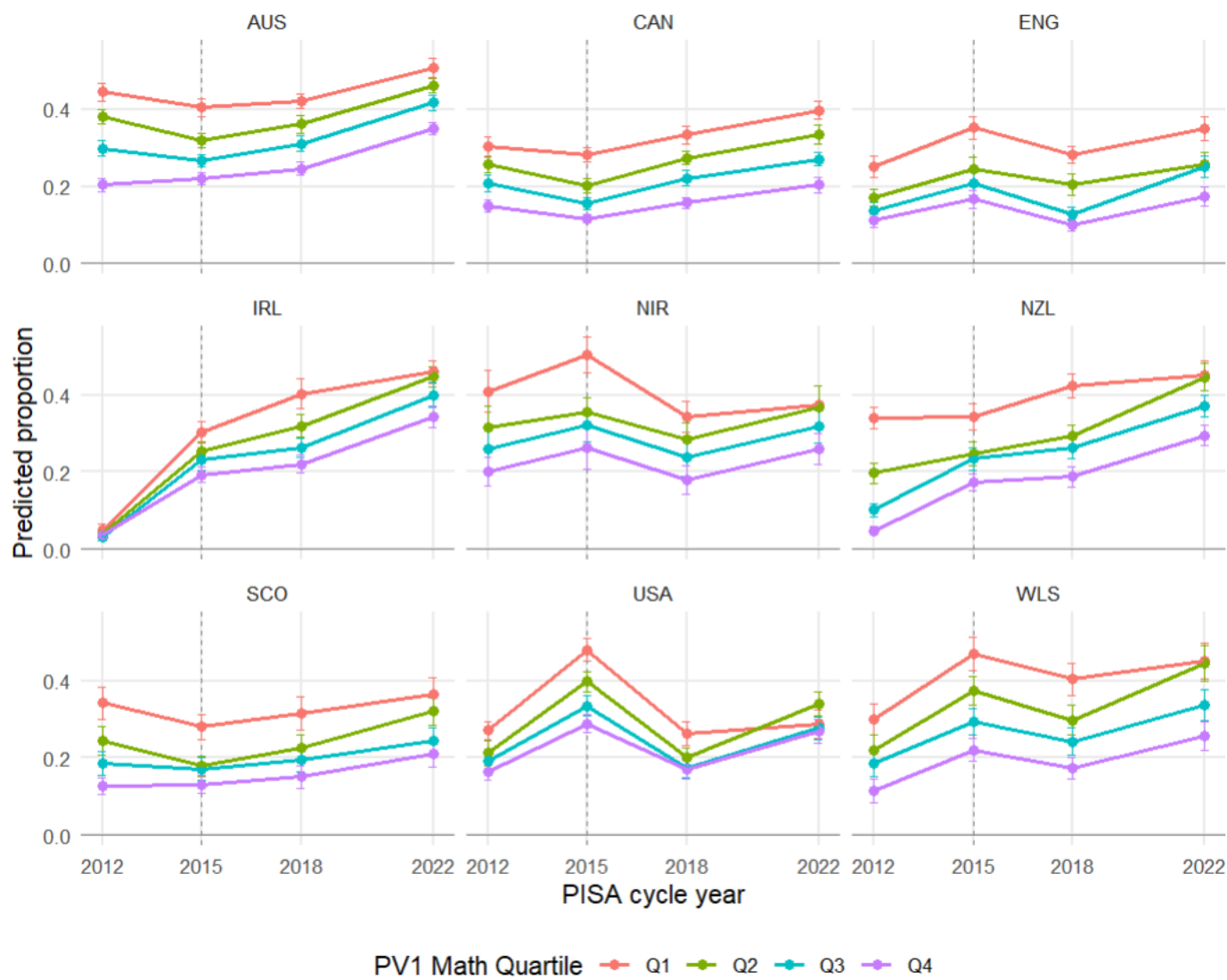


Figure A4 v2:

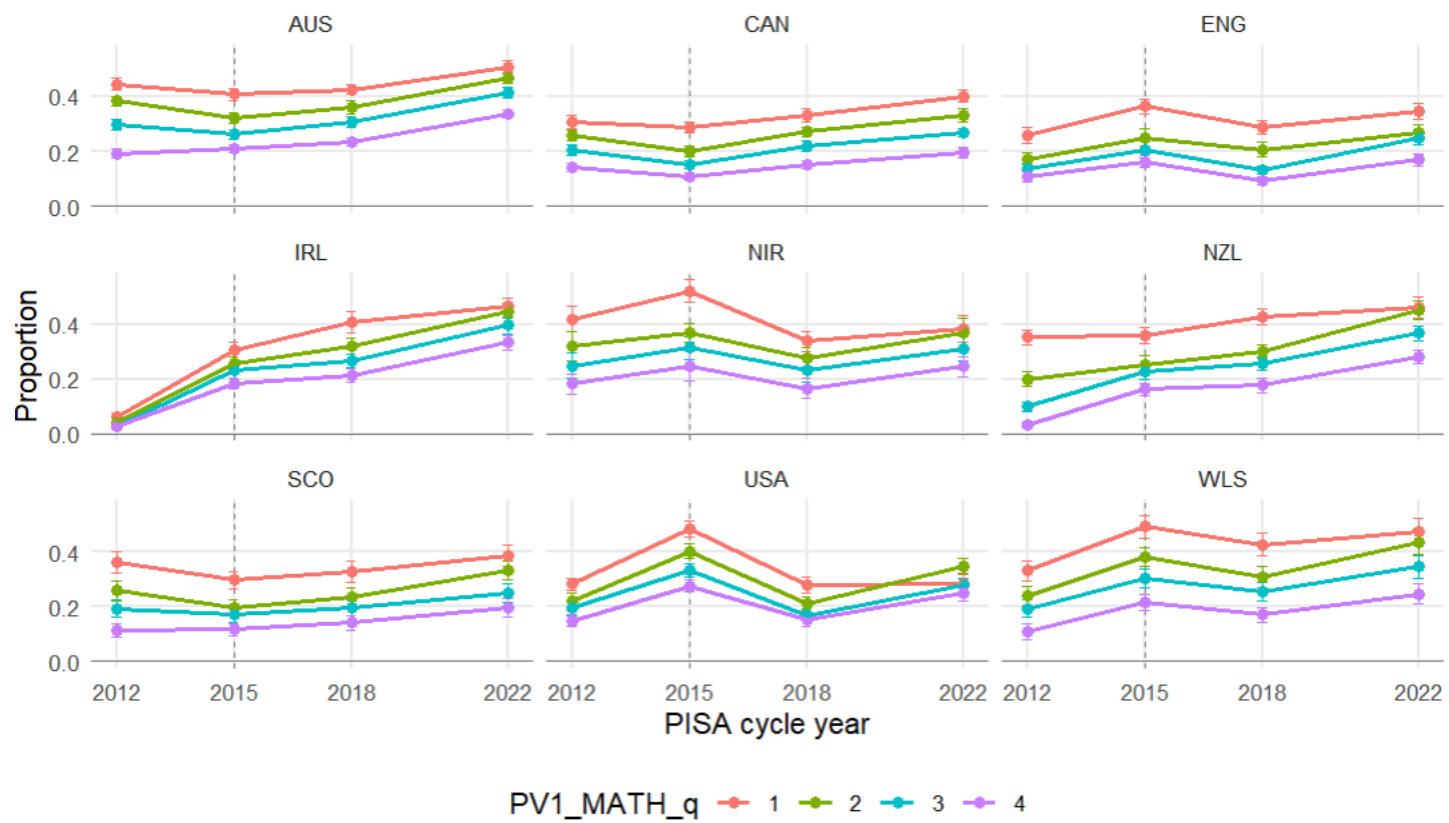


Figure A5: Predicted proportion of students reporting skipping/missing school at least once in the past two weeks, by ESCS quartile:

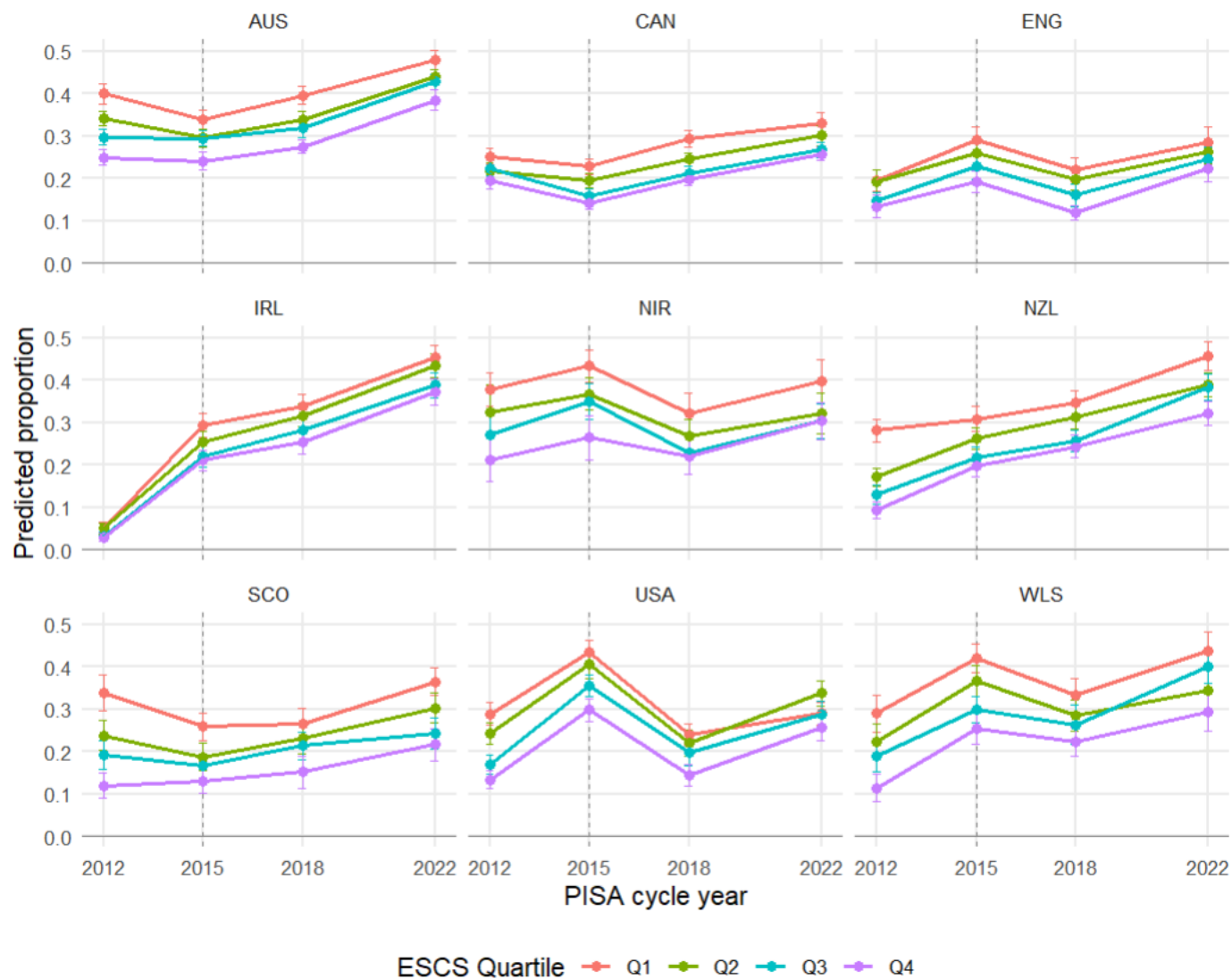


Figure A5 v2:

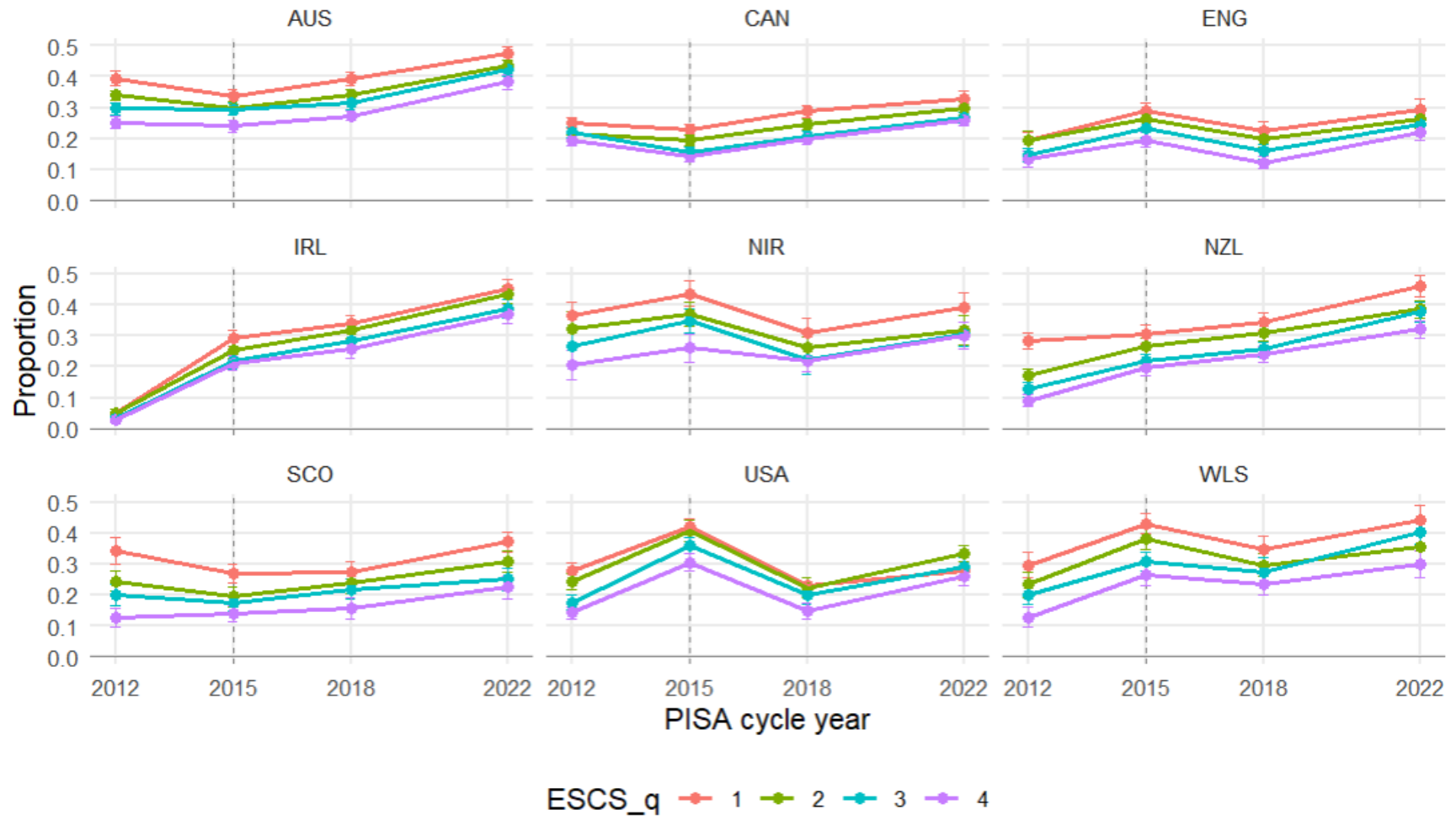


Table A1: Proportion of students reporting skipping/missing school at least once in the past two weeks, per country and PISA round

country	2012			2015			2018			2022		
	Mean	SE	N	Mean	SE	N	Mean	SE	N	Mean	SE	N
AUS	31.8	0.6	257,635	29.0	0.6	257,000	33.0	0.6	254,541	43.0	0.5	257,395
CAN	22.1	0.6	257,406	17.8	0.5	257,024	23.2	0.5	254,598	28.6	0.6	255,565
ENG	16.9	0.7	257,874	25.1	0.7	257,742	17.7	0.6	257,449	25.7	0.9	256,951
IRL	4.0	0.3	257,907	24.4	0.8	257,845	29.9	0.8	256,990	41.1	0.8	257,836
NIR	29.3	1.3	257,910	35.9	1.0	257,831	25.3	1.1	257,793	33.1	1.2	257,743
NZL	17.1	0.6	257,867	25.0	0.7	257,751	29.0	0.8	256,903	38.8	0.9	257,724
SCO	23.1	1.0	257,905	19.4	0.7	257,808	22.1	0.9	257,638	28.9	1.0	257,738
USA	21.1	0.8	257,883	37.2	0.8	257,768	19.9	0.8	257,708	29.0	0.9	257,670
WLS	21.9	0.9	257,914	34.5	1.0	257,800	28.8	1.3	257,678	37.4	1.4	257,559

Table A2: Estimates of the association between year and truancy for each country:

Country	AUS	CAN	ENG	IRL	NIR	NZL	SCO	USA	WLS
Year (ref= 2015)									
2012	0.028	0.042	-0.077	-0.204	-0.058	-0.078	0.037	-0.164	-0.131
	0.008	0.008	0.009	0.008	0.016	0.010	0.011	0.011	0.012
2018	0.039	0.056	-0.070	0.054	-0.094	0.044	0.030	-0.172	-0.059
	0.008	0.007	0.009	0.011	0.014	0.011	0.012	0.010	0.013
2022	0.139	0.109	0.010	0.168	-0.023	0.141	0.096	-0.079	0.034
	0.008	0.007	0.012	0.011	0.016	0.012	0.000	0.012	0.015
N	49,517	77,561	16,713	20,139	7,921	17,339	11,092	18,707	10,392

Note: Standard errors in parenthesis. Year was included as a categorical term, with 2015 as the reference year. The estimation adjusts for gender, migration status and socioeconomic status quartiles.

Table A3: Sample size of countries with and without wording change in each year

	Countries with wording change		
year	0	1	Total
2012	472,163	13,327	485,490
2015	502,576	16,758	519,334
2018	596,346	15,658	612,004
2022	599,477	14,267	613,744
Total	2,170,562	60,010	2,230,572

Note: Treated =1 for countries where the wording changed (ENG, NIR, WLS, USA).

Table A4: Dif en Dif estimates for different subsamples:

VARIABLES	stu_female==1	stu_female==2	stu_immi==1	stu_immi==2	stu_immi==3
treated = 1	0.083*** (0.012)	0.098*** (0.014)	0.098*** (0.011)	0.075** (0.035)	0.081** (0.032)
year = 2012	0.014** (0.006)	0.005 (0.005)	0.011** (0.005)	0.016 (0.012)	-0.001 (0.009)
year = 2018	0.043*** (0.006)	0.055*** (0.006)	0.048*** (0.004)	0.045*** (0.011)	0.048*** (0.011)
year = 2022	0.134*** (0.006)	0.121*** (0.006)	0.128*** (0.005)	0.128*** (0.017)	0.115*** (0.011)
1.treated#2012.year	-0.164*** (0.014)	-0.160*** (0.012)	-0.168*** (0.010)	-0.146*** (0.027)	-0.147*** (0.030)
1.treated#2018.year	-0.204*** (0.013)	-0.210*** (0.013)	-0.215*** (0.010)	-0.171*** (0.025)	-0.203*** (0.032)
1.treated#2022.year	-0.183*** (0.014)	-0.206*** (0.015)	-0.189*** (0.013)	-0.214*** (0.031)	-0.208*** (0.038)
Constant	0.083*** (0.012)	0.098*** (0.014)	0.098*** (0.011)	0.075** (0.035)	0.081** (0.032)
Observations	0.014**	0.005	0.011**	0.016	-0.001
R-squared	(0.006)	(0.005)	(0.005)	(0.012)	(0.009)

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Estimation adjusts for country fixed effects, gender, migration status and socioeconomic status quartiles.

Table A4 (Continuation): Dif en Dif estimates for different subsamples:

	PV1_MATH_q==1	PV1_MATH_q==2	PV1_MATH_q==3	PV1_MATH_q==4	ESCS_q==1	ESCS_q==2	ESCS_q==3	ESCS_q==4
VARIABLES								
treated = 1	0.145*** (0.019)	0.112*** (0.016)	0.072*** (0.017)	0.029** (0.013)	0.120*** (0.019)	0.090*** (0.018)	0.091*** (0.016)	0.066*** (0.015)
year = 2012	0.003 (0.008)	0.029*** (0.009)	0.011 (0.008)	-0.007 (0.006)	0.015* (0.009)	0.007 (0.008)	0.013* (0.008)	0.006 (0.008)
year = 2018	0.047*** (0.009)	0.060*** (0.008)	0.052*** (0.007)	0.034*** (0.006)	0.057*** (0.009)	0.050*** (0.008)	0.044*** (0.007)	0.045*** (0.008)
year = 2022	0.115*** (0.009)	0.148*** (0.009)	0.132*** (0.007)	0.110*** (0.007)	0.128*** (0.009)	0.130*** (0.008)	0.125*** (0.008)	0.128*** (0.008)
1.treated#2012.year	-0.197*** (0.018)	-0.199*** (0.020)	-0.145*** (0.018)	-0.110*** (0.014)	-0.155*** (0.019)	-0.157*** (0.022)	-0.184*** (0.016)	-0.157*** (0.017)
1.treated#2018.year	-0.243*** (0.020)	-0.234*** (0.018)	-0.205*** (0.017)	-0.147*** (0.016)	-0.235*** (0.018)	-0.220*** (0.022)	-0.189*** (0.018)	-0.191*** (0.018)
1.treated#2022.year	-0.283*** (0.024)	-0.197*** (0.021)	-0.177*** (0.018)	-0.127*** (0.019)	-0.252*** (0.020)	-0.189*** (0.023)	-0.180*** (0.020)	-0.163*** (0.020)
Constant	0.145*** (0.019)	0.112*** (0.016)	0.072*** (0.017)	0.029** (0.013)	0.120*** (0.019)	0.090*** (0.018)	0.091*** (0.016)	0.066*** (0.015)
Observations	0.003	0.029***	0.011	-0.007	0.015*	0.007	0.013*	0.006
R-squared	(0.008)	(0.009)	(0.008)	(0.006)	(0.009)	(0.008)	(0.008)	(0.008)

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Estimation adjusts for country fixed effects, gender, migration status and socioeconomic status quartiles.

Appendix B: Results on “How often in the past two weeks have you arrived late to school”

Figure B1: Proportion of students reporting arriving late to school at least once in the past two weeks for USA (blue) and AUS (red).

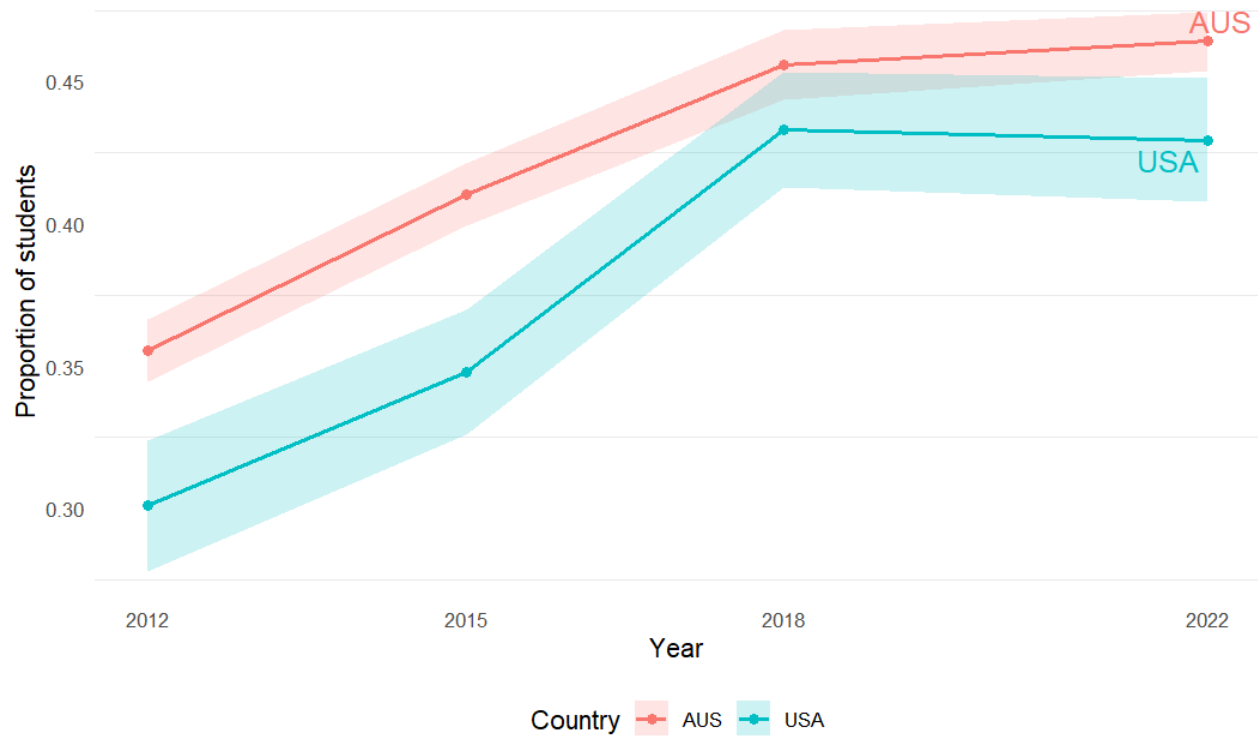


Figure B2: Proportion of students reporting arriving late to missing school at least once in the past two weeks for all countries in the analysis.

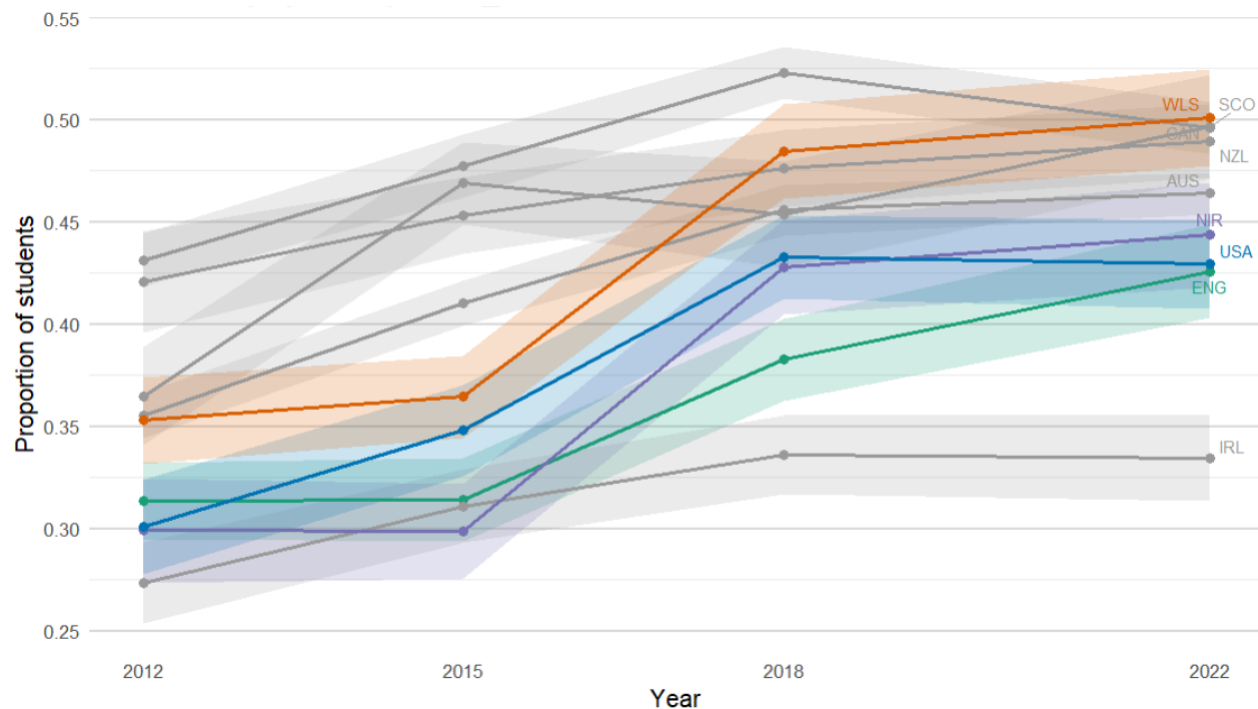


Table B2: Estimates of the association between PISA year and arriving late to school for each country and sample: 2012/2018 compared to 2022.

Country	All years			Excluding 2015		
	Coef.	SE	N	Coef.	SE	N
AUS	0.057	0.006	49,445			
CAN	0.018	0.008	77,740			
ENG	0.084	0.013	16,711	0.074	0.014	11,993
IRL	0.026	0.012	20,084			
NIR	0.100	0.016	7,924	0.073	0.016	5,743
NZL	0.039	0.011	17,378			
SCO	0.063	0.014	11,112			
USA	0.067	0.012	18,680	0.062	0.012	13,361
WLS	0.105	0.014	10,377	0.084	0.015	7,253

Note: Year was included as a binary term equal to 0 in years 2012, 2015 and 2018, and 1 in 2022. The estimation adjusts for gender, migration status and socioeconomic status quartiles.

Table B3: Differences in Differences estimation of wording change, all countries:

	Late to school
Countries with wording change = 1	-0.025** (0.011)
Year (ref=2015)	
year = 2012	-0.054*** (0.005)
year = 2018	0.035*** (0.005)
year = 2022	0.027*** (0.005)
1.WordingChange#2012.year	0.011 (0.014)
1. WordingChange#2018.year	0.048*** (0.015)
1. WordingChange#2022.year	0.055*** (0.015)
Constant	0.541*** (0.010)
Observations	229,451
R-squared	0.050

Note: Estimated using OLS. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Estimation adjusts for country fixed effects, gender, migration status, PVI Math score quartiles and socioeconomic status quartiles.

Appendix C: Results on “How often in the past two weeks have you missed classes within a school day”

Figure C1: Proportion of students reporting skipping/missing classes within a school day at least once in the past two weeks for USA (blue) and AUS (red).

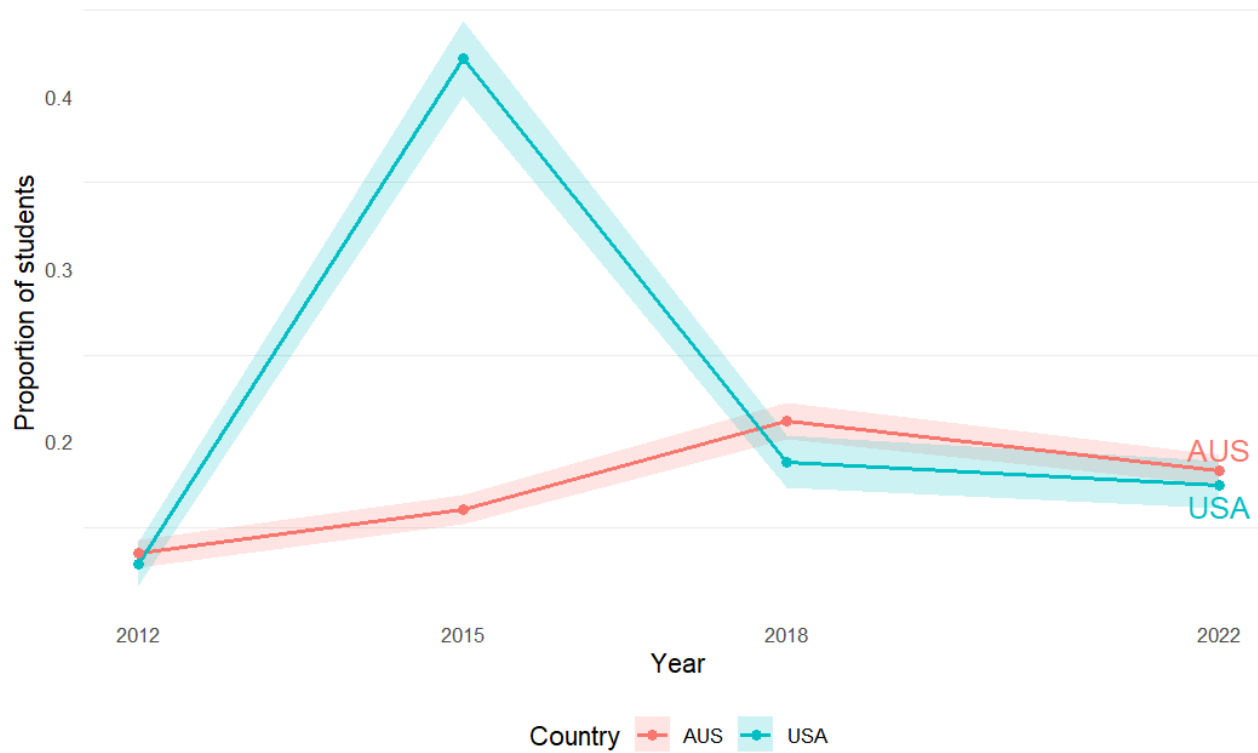


Figure C2: Proportion of students reporting skipping/missing classes within a school day at least once in the past two weeks for all countries in the analysis

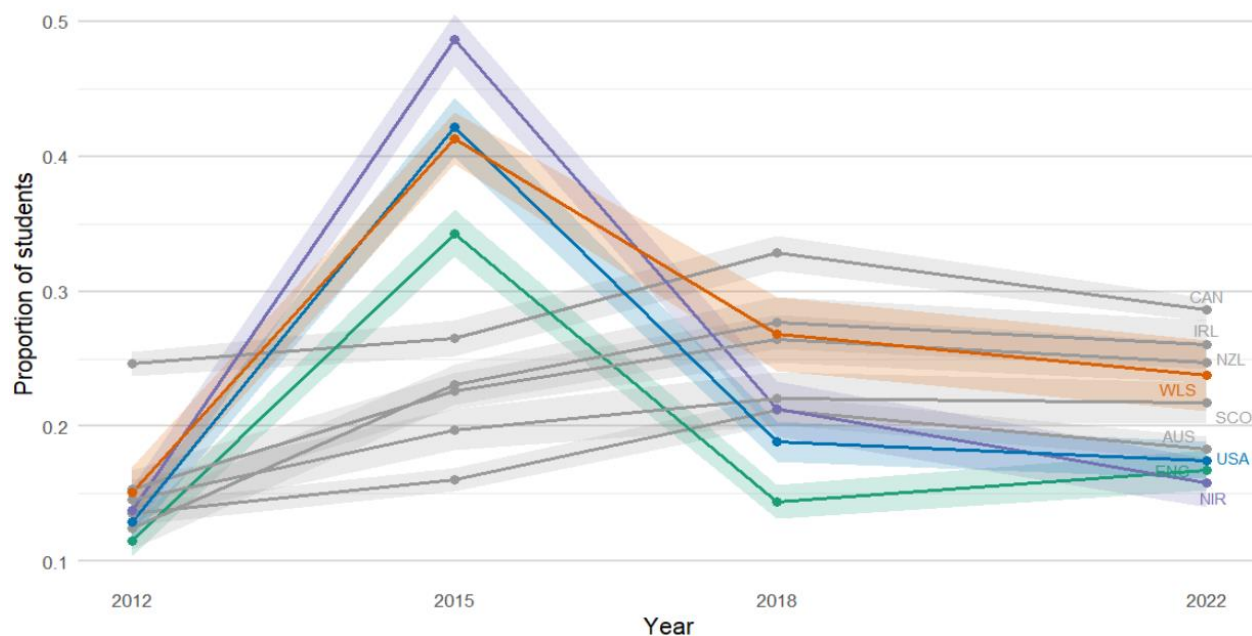


Table C2: Estimates of the association between PISA year and missed classes within a school day for each country and sample: 2012/2018 compared to 2022.

Country	All years			Excluding 2015		
	Coef.	SE	N	Coef.	SE	N
AUS	0.016	0.005	49,214			
CAN	0.010	0.005	77,604			
ENG	-0.034	0.009	16,688	0.036	0.009	11,972
IRL	0.052	0.010	20,048			
NIR	-0.138	0.009	7,901	-0.026	0.010	5,716
NZL	0.035	0.009	17,294			
SCO	0.031	0.009	11,051			
USA	-0.070	0.009	18,659	0.018	0.008	13,339
WLS	-0.042	0.015	10,355	0.034	0.016	7,244

Note: Year was included as a binary term equal to 0 in years 2012, 2015 and 2018, and 1 in 2022. The estimation adjusts for gender, migration status and socioeconomic status quartiles.

Table C3: Differences in Differences estimation of wording change, all countries:

	Late to school

Countries with wording change = 1	0.290*** (0.010)
Year (ref=2015)	
year = 2012	-0.034*** (0.004)
year = 2018	0.054*** (0.005)
year = 2022	0.022*** (0.003)
1.WordingChange#2012.year	-0.254*** (0.011)
1. WordingChange#2018.year	-0.284*** (0.012)
1. WordingChange#2022.year	-0.262*** (0.011)
Constant	0.248*** (0.008)
Observations	228,814
R-squared	0.076

Note: Estimated using OLS. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Estimation adjusts for country fixed effects, gender, migration status, PVI Math score quartiles and socioeconomic status quartiles.

Appendix D. Prompt schedule used in CHAT-GPT 5 Deep Research

PROMPT 1. ASKING CHAT-GPT FOR GENERAL METHODOLOGICAL ADVICE.

Prompt 1:

I am thinking of writing an academic paper. I am planning to use data from the OECD PISA study. I want to use these data to investigate changes in school truancy rates over time. Please could you highlight to me any important methodological points I should consider in my analysis, including issues of data quality. (In conducting your search and making recommendations, please ignore anything that you find that has been published by *Author*).

Response received:

Could you clarify a few points to help me tailor the recommendations?

1. What time span are you planning to analyze (e.g., all available PISA cycles since 2000 or a specific subset)?
2. Are you focusing globally, on specific countries, or particular regions?
3. Do you plan to disaggregate by student characteristics (e.g., gender, socioeconomic status)?
4. Are you mainly interested in methodological critiques, statistical techniques, or both?

Once I have this information, I'll gather the most relevant methodological considerations and data quality issues, excluding anything by *Author*.

Answers provided to questions:

1. I am interested in looking at the PISA cycles starting from 2012.
2. I am interested globally, but particularly English-speaking countries.
3. Yes. By gender, socio-economic status and immigrant status
4. Mainly in methodological or data-related challenges I may face, rather than statistical techniques.

Response received:

Methodological considerations for PISA truancy analysis

- **Survey content:** PISA includes a student questionnaire asking about recent truancy. Since 2012, it has asked 15-year-olds “In the last two full weeks of school, how often did you skip a whole school day?” (and also about skipping classes or arriving late)journals.plos.org. Responses are on an ordinal scale (None; 1–2 times; 3–4 times; 5+ times), which can be dichotomized (e.g. any skip vs none)journals.plos.org. Note the 2-week window is short, so this measures sporadic absenteeism rather than long-term dropoutjournals.plos.org. Because the phrasing has been kept identical in 2012, 2015, 2018 and 2022 (PISA 2000 used a different wording and is usually excluded), the skip question is broadly comparable across these cyclesjournals.plos.org. (After 2012 the mode shifted to computer delivery, but the question text remained the same.)

- **Sampling design and weighting:** Each PISA cycle samples a nationally representative cluster sample of 15-year-old students (school stratified, then classes). Participating countries' samples vary in size but are typically large (in many countries, thousands of students)journals.plos.org. Analysts must use the PISA student sampling weights and replicate weights to account for stratification and clusteringjournals.plos.orgjournals.plos.org. Software like OECD's IDB Analyzer or statistical packages (with PISA-provided weights) ensure correct standard errors via Balanced Repeated Replicationjournals.plos.orgjournals.plos.org. Because PISA is school-based, **students absent on test day (e.g. chronically truant or long-term dropouts) may not be captured**, which can understate very high absence rates. In short, PISA truancy estimates reflect the *enrolled* 15-year-old population present at testing, not youth who have left school or were absent that day.
- **Variable definitions (SES, immigrant, gender):** PISA provides standard background indices. Socio-economic status is measured by the **ESCS index**, a composite of family income, parents' education, and home possessionsjournals.plos.org. ESCS is continuous (often analyzed in country-specific quintiles/quartiles), but note that it is a relative index (scaled across OECD), so country differences in wealth distributions can affect comparisons. Immigrant status is classified by country of birth of the student and parents (non-immigrant vs first- or second-generation)journals.plos.org. Gender is binary (male/female) in PISA. (PISA does *not* include race/ethnicity variables, which limits exploration of those factors.) When comparing subgroups, be aware that PISA's ESCS is standardized per country and cycle, so one usually compares e.g. lowest vs highest quartile within each countryjournals.plos.org.
- **Self-report and bias considerations:** Truancy in PISA is **self-reported**, so various biases can affect data quality. Studies of school absenteeism note that students often under-report unauthorized absences compared to school recordspubmed.ncbi.nlm.nih.gov. For example, one study found that *boys, low-SES students, and students with a non-native language background* had substantially more unexcused absences in administrative records than they self-reportedpubmed.ncbi.nlm.nih.gov. This suggests culturally or socio-economically patterned reporting bias: disadvantaged or immigrant students may understate truancy. In addition, social desirability (not admitting to misbehaving) and recall error can vary by country and culture. There may be **cross-country differences in interpreting "skip"** – e.g. some systems distinguish authorized vs unauthorized absence, which PISA's item does not explicitly do. These issues mean between-country differences in reported skip rates could partly reflect reporting styles as well as true behavior.
- **Time-trend analysis caveats:** Comparing PISA waves over time is appealing but has limits. First, PISA is **cross-sectional** – each cycle surveys a new cohort of 15-year-olds, not the same individuals. So "trends" reflect population snapshots, not tracked students. Second, only four cycles (2012, 2015, 2018, 2022) exist, so detecting changes is difficult. Indeed, analyses have found it "difficult to find any trends" over 2012–2018, given just three wavesjournals.plos.org. Small year-to-year fluctuations or cyclical effects (e.g. 2015 vs 2018) may not indicate sustained change. With the 2022 cycle coming after COVID disruptions, one must be cautious attributing causes

(school closures varied by country, which may affect truancy differently). In sum, any observed increase or decrease in skip-rates should be interpreted cautiously: the short series and intervening events (pandemic) limit the ability to attribute real “trend” vs noise.

- **Cross-country comparability:** PISA’s protocols aim for standardization, but local context matters. The large variation reported across countries (e.g. prior work found ~24% of UK students reporting a skip-day in 2015 vs only ~1.5% in Japan [journals.oslomet.no](#)) means cultural, policy, or definitional differences are likely. For an anglophone focus (e.g. UK, USA, Australia, New Zealand, Canada, Ireland, etc.), it’s important to compare like with like: ensure each country’s sample fully follows PISA procedures. Differences in compulsory schooling age or school discipline policies may affect skip behavior and reporting. When contrasting Anglophone vs other nations, note that previous analyses have flagged Anglophone countries among the highest in self-reported truancy [journals.oslomet.no](#), but it’s unclear if this reflects true behavior or measurement context. We should also check whether all targeted English-speaking countries participated in each wave and whether any national sample changes (e.g. school selection) occurred.
- **Data quality and missing data:** Check the PISA dataset for item non-response. Missing answers on truancy items should be handled (e.g. excluded or analyzed with appropriate methods). PISA’s international datasets are generally high quality, but translation errors or data entry mistakes (rare for a simple question) could occur. Consider verifying any out-of-range values (though the skip question has fixed categories). Because the skip-question yields a low frequency of “yes” responses in many countries, the effective sample size of truant students is small in some countries – careful with estimates for subgroups (e.g. if <50 skippers in a subgroup, confidence intervals are wide).
- **Analysis approach:** In analyzing PISA truancy, apply survey analysis techniques. Use the provided sampling weights so that estimates reflect the national 15-year-old population [journals.plos.org](#). Compute standard errors with the replicate weights (PISA uses BRR) [journals.plos.org](#). If modeling (e.g. logistic regression), incorporate weights and design as Fredriksson et al. did [journals.plos.orgjournals.plos.org](#). Because SES and immigrant status are continuous or categorical indices, decide on meaningful coding (e.g. compare lowest vs highest ESCS quartiles, or use ESCS as a continuous predictor). Always document that the outcome is “skipped ≥ 1 day in last 2 weeks” (a relatively high threshold) so interpretation focuses on *any* recent truancy.

In summary, using PISA data for truancy studies is feasible but requires attention to survey design and context. Key issues include the self-report nature of the skip measure (with cultural biases [pubmed.ncbi.nlm.nih.gov](#)), the cross-sectional design with few time points [journals.plos.org](#), and the need to use PISA’s sampling weights and replicate procedures [journals.plos.orgjournals.plos.org](#). Document all assumptions (e.g. how SES and immigration are coded) and be cautious about between-country or trend comparisons. With careful handling of these methodological aspects, PISA can provide valuable comparative insight into truancy by gender, SES and migrant background across countries.

Sources:

Fredriksson, H., Östergren, O., & Almquist, Y. (2024). *Socioeconomic position and school truancy among 15-year-olds: A cross-national study using the PISA 2018 survey*. Scandinavian Journal of Public Health. Advance online publication. <https://doi.org/10.1177/14034948241235612>

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OECD. (2017). *PISA 2015 technical report*. OECD Publishing. <https://www.oecd.org/pisa/data/2015-technical-report/>

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OECD. (2023). *PISA 2022 technical report*. OECD Publishing. <https://www.oecd.org/pisa/data/pisa2022technicalreport/>

Ramberg, J., Låftman, S. B., Almquist, Y. B., & Modin, B. (2019). School effectiveness and truancy: A multilevel study of upper secondary schools in Stockholm. *International Journal of Adolescence and Youth*, 24(2), 185–198. <https://doi.org/10.1080/02673843.2018.1492114>

END OF CHAT
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PROMPT 2. ASKING CHAT-GPT FOR SPECIFIC ADVICE.

Prompt 2:

I am thinking of writing an academic paper. I am planning to use data from the OECD PISA study. I want to use these data to investigate changes in school truancy rates over time. Please could you highlight to me any important issues regarding the comparability of these data over time and across countries, particularly with respect to the truancy question. (In conducting your search and making recommendations, please ignore anything that you find that has been published by *Author*).

Initial response received:

To help with your paper, could you please clarify a few details:

1. Which years of the PISA study are you planning to include in your analysis?
2. Are you focusing on all participating countries, or only a specific subset?
3. Are you interested in any particular age group, gender, or socioeconomic status?
4. Would you like analysis focused solely on the wording and structure of the truancy question, or should it also cover data collection methods and response biases over time?

Answers provided

1. 2012, 2015, 2018 and 2022
2. I am interested in all countries, but plan to focus on English-speaking countries.
3. I plan to investigate differences in trends across demographic groups (gender, socioeconomic status, immigrant background)
4. I am particularly interested in the wording and structure of the wording of the truancy question. But please do also cover other issues as you see fit.

Final response:

PISA truancy item and its consistency

The OECD PISA student questionnaire includes a standard truancy item, asking about absences in the **last two full weeks of school**. For example, the 2018/2022 questionnaire asks: *“In the last two full weeks of school, how often did the following things occur? – I skipped a whole school day.”* with response choices “Never; One or two times; Three or four times; Five or more times”journals.plos.org/oeecd.org. (The same three items – skip whole day, skip some classes, arrive late – appear together.) This wording (first person: “I skipped”) may differ slightly from earlier cycles (the 2012/2015 forms used “did you skip?”), but the content and answer categories are effectively identicaljournals.plos.org/oeecd.org. Importantly, the **question wording and response scale have been unchanged in 2012, 2015, 2018 and 2022**journals.plos.org/oeecd.org, so the basic measure is directly comparable across those years. (By contrast, PISA 2000 asked about skipping “a whole day” in a different phrasing and no related item was included in 2003–2009journals.plos.org, so only 2012–2022 form a consistent time series.)

- **Question phrasing:** All cycles ask about a 2-week timeframe and use the same four frequency categories [journals.plos.org](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0158888). As Fredriksson *et al.* note, this corresponds to defining truancy as “having skipped a whole school day at least once in the two full weeks before” the test [journals.oslomet.no](https://journals.oslomet.no/article/view/10101). (OECD commentary on PISA 2012 even specifies that this means skipping “without authorisation” oecd.edu/2012/04/12/pisa-2012-technical-report/, i.e. truancy rather than excused absence.) Because the item is standardized, direct comparisons of the percentage of students who report ≥ 1 skip-day are valid across cycles.
- **Translations:** The question is translated into each country’s language (e.g. Appendix S1 shows German, Japanese, Swedish versions [journals.plos.org](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0158888)). Small translation nuances or cultural differences in interpreting “skipped a whole school day” could affect cross-national comparison. In practice, PISA uses rigorous translation checks, but researchers should be alert to any known anomalies.

Trends over time

Because the question has been consistent since 2012, **trends 2012→2015→2018→2022 can be compared directly**. Data show, for example, that overall truancy rates rose or fell in some countries during this period (Fredriksson *et al.* 2024). However, a few time-related caveats apply:

- **Baseline changes:** PISA did not ask about skipping in 2003–2009, and only partly in 2000 [journals.plos.org](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0158888). Thus 2012 is the first year of a clean series (2012, 2015, 2018, 2022 all use the same question). Any interest in longer-term trends must account for this gap.
- **2022 (COVID context):** The 2022 assessment was conducted after major COVID disruptions. Though the survey item remained identical [oecd.org](https://oecd.org/pisa/2022/), actual school schedules were irregular. “Two full weeks of school” may have been interpreted differently (e.g. in some places few or no full weeks of in-person classes occurred just before testing). This could **artificially lower reported truancy** (if students had few school days to skip) or otherwise distort comparisons. Any trend analysis must note that 2022 figures may partly reflect pandemic-related schooling patterns rather than ordinary behavior.
- **Administration mode:** Earlier cycles (2012–2018) were paper-based, while PISA 2022 moved largely to a digital format. The questionnaire content was preserved, but any mode effect (e.g. how students respond on screen vs paper) should be considered. In particular, PISA 2022 used “core” questionnaires similar to 2018, but timing or testing conditions may have varied due to health measures.

Cross-country comparability

PISA’s standardized items enable international comparison, but several factors can affect comparability of truancy rates across countries:

- **Definition and scope:** PISA defines truancy strictly as skipping without authorization, but does not *explicitly* say “without permission” in the question. The term “skipped” implies unauthorized absence. National definitions vary (some

systems only count “unexcused” absences) and cultural norms may differ. OECD notes that 15% of students (across OECD) reported skipping a day “without authorisation”oecd.edutoday.com. Researchers should confirm that “skip” was consistently understood as unexcused in each language.

- **Sampling frame:** PISA samples 15-year-olds in school. Students who have already dropped out or are so chronically absent that they were not present on test day are **excluded**. Thus, in countries with high dropout or grade-repetition rates, the PISA truancy rate may understate true absenteeism. Fredriksson *et al.* caution that because truants are a small subgroup, the representative sample may not fully capture themjournals.plos.org. In short, PISA rates apply only to enrolled 15-year-olds.
- **Cultural response bias:** Willingness to admit skipping school likely varies by culture (social-desirability bias). Some students may under-report truancy if they fear repercussions, others may over-report as a form of bravado. As Fredriksson *et al.* note, “tendencies to overstate or understate may balance each other, but there can be systematic pattern of under- or overestimation”journals.plos.org. This is a general risk in self-reported survey data and could differ by country or demographic subgroup.
- **School calendar differences:** The phrase “two full weeks of school” assumes a contiguous block of days. School calendars vary (some countries have half-days, multi-shift schools, etc.), so “full week” may not be uniform. If the PISA test falls near the end of a term, students may interpret “last two full weeks” differently (e.g. skipping a partial week may not count). This is a subtle issue, but worth noting in cross-country work.

Demographic subgroup trends

When analyzing truancy by gender, socio-economic status (SES) or immigrant background, note:

- **Definition stability:** PISA’s gender variable is binary (male/female) and consistent. SES is measured by the ESCS index (a standardized socio-economic composite)journals.plos.org – the index is constructed similarly each cycle (so relative SES comparisons are valid over time). Immigrant background is defined by student/parents’ birth country (non-immigrant, first-generation, second-generation)journals.plos.org, and this classification has also been stable in PISA 2012–2022. Thus subgroup definitions do not change.
- **Gender differences:** On average, PISA data do not show a consistent gender gap in truancy. Fredriksson *et al.* report that gender patterns “are not consistent between countries or time”journals.plos.org. Some countries may find boys skip slightly more often, others see no gap or even higher rates for girls. This implies that any observed gender trend should be interpreted cautiously and in context.
- **SES (advantaged vs disadvantaged):** OECD reports that across countries the gap by SES is modest: for example, 18% of disadvantaged students versus 12% of advantaged students report skipping at least one dayoecd.edutoday.com. Thus, at the aggregate level the disadvantage gap is small (though it is statistically significant). In specific countries, SES-related differences may be larger; Fredriksson *et al.* note that

SES was the most consistent predictor (poorer students more likely to skip)journals.plos.org. In any analysis, use the ESCS index from PISA and apply the supplied student weights to compare groups properly.

- **Immigrant background:** Patterns vary. In Sweden and Germany (for example), second-generation immigrant students reported higher truancy than native-born studentsjournals.plos.org; in the UK the pattern was less clear. It's prudent to check how "immigrant background" is constructed (PISA considers even one foreign-born parent as immigrant-background) and remember that the meaning of this category differs by country. Compositional changes (e.g. large influx of immigrants from particular regions between cycles) could affect observed trends.

Other measurement issues

Several additional points bear on the comparability and interpretation of PISA truancy data:

- **Focus on short-term absence:** The PISA item captures only the 2-week period before the test. This is a *short* window and identifies mostly sporadic truancy. Students who skip more frequently or over longer spans (e.g. months at a time) may not be captured. Fredriksson *et al.* emphasize that PISA's threshold (≥ 1 day in 2 weeks) "assume[s] to capture sporadic truancy, but possibly also other categories of school attendance problems"journals.plos.org. In other words, PISA is well-suited to measure short-term skipping but may **underestimate chronic absenteeism**.
- **Sample weights and precision:** Always use the provided replicate weights when estimating truancy rates or differences. The proportion of truants is relatively small, especially in high-performing countries, so sample variability can be large. For subgroup trends (e.g. by SES or immigrant status) the standard errors can be substantial. Check that any apparent year-to-year change is statistically significant before drawing conclusions.
- **Skipping vs classes:** PISA actually asks about both skipping whole days and skipping some classes. Research tends to focus on whole-day skipping as "truancy". If desired, one could analyze the "skipped some classes" item similarly; but be careful not to confuse the two measures when comparing countries. (For example, some students might skip a few periods but not a whole day, which PISA would count differently.)
- **Data linkage:** PISA is a repeated cross-section, not a panel. Comparisons over time are between independent samples of 15-year-olds. There is no student-level linkage across cycles. This is not a problem for aggregate rates, but important if you intend to track cohorts or do longitudinal inferences (you can't).
- **OECD documentation:** Finally, note that the *PISA Technical Reports* (available from OECD) provide the official wording and any country-specific notes for each cycle. These should be consulted for any subtle changes. In particular, the PISA 2018 Technical Report explicitly confirms that the same skip questions were used in 2012, 2015, 2018 (and describes item coding)journals.plos.orgjournals.plos.org. For PISA 2022, check the OECD report on data collection for any remarks on the truancy items (especially in light of COVID).

Key sources: The PISA dataset itself (publicly downloadable) is the primary source of these items. Fredriksson *et al.* (2024) provide a detailed analysis of PISA truancy questions and note the consistency of wording in 2012–2018 [journals.plos.org](https://journals.plos.org/journals.plos.org). The OECD has also summarized that across countries about 15% of students report skipping at least one full day in two weeks oecd.edutoday.com. The above issues should guide any cross-country or over-time analysis of PISA truancy data to ensure valid comparisons journals.oslomet.no/journals.plos.org.

OECD documents

- OECD. (2014). *PISA 2012 Results: What Students Learn at School: Student Engagement, Drive and Self-Beliefs (Volume III)*. OECD Publishing. <https://doi.org/10.1787/9789264201170-en>
- OECD. (2019). *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*. OECD Publishing. <https://doi.org/10.1787/acd78851-en>
- OECD. (2020). *PISA 2018 Technical Report*. OECD Publishing. Retrieved from <https://www.oecd.org/pisa/data/pisa2018technicalreport/>
- OECD. (2023). *PISA 2022 Technical Report*. OECD Publishing. Retrieved from <https://www.oecd.org/pisa/publications/pisa-technical-reports.htm>

Academic literature

- Fredriksson, P., Öckert, B., & Vlachos, J. (2024). Measuring school absenteeism: Evidence from PISA. *Economics of Education Review*, 99, 102466. <https://doi.org/10.1016/j.econedurev.2023.102466>

END OF CHAT
#####

PROMPT 3: I am thinking of writing an academic paper. I am planning to use data from the OECD PISA study. I want to use these data to investigate changes in school truancy rates over time. Please could you highlight to me any important issues regarding the comparability of these data over time and across countries, particularly with respect to the truancy question. (In conducting your search and making recommendations, please ignore anything that you find that has been published by *Author*).

GPT clarification questions asked:

To help with your investigation into changes in school truancy rates using PISA data, could you please clarify a few details:

1. Which years of PISA data are you planning to analyze (e.g., 2000, 2003, 2006, etc.)?
2. Are you interested in all participating countries, or a specific subset (e.g., OECD countries only, or particular regions)?
3. Will you be analyzing only the student-reported truancy questions, or also linking this with school-level data or other background questionnaires?

Once I have this information, I can look into comparability issues over time and across countries, excluding work by *Author* and Ulf Fredriksson as you requested.

Answers provided:

1. 2012, 2015, 2018 and 2022
2. All countries, but particularly those that are English-speaking.
3. Student reported data only. But I am interested in demographic differences, such as by gender, socioeconomic status and immigrant background.

Final CHAT-GPT RESPONSE:

PISA Truancy Survey Items and Trends (2012–2022)

PISA has included identical truancy items in each cycle since 2012, asking 15-year-olds how often they “**skipped a whole school day**” and “**skipped some classes**” in the last two full weeks of school. For example, the 2012 student questionnaire (Form B) asks: “In the last two full weeks of school, how many times did you skip a whole school day?” and “...skip some classes?” with response options {None, 1–2 times, 3–4 times, 5+ times} [oecd.org](https://www.oecd.org/pisa/data/pisa2012/questionnaires/). The same wording and scale appear in PISA 2015 and 2018. PISA 2022 likewise uses “In the last two full weeks of school, how often did [you] skip a whole school day” and “skip some classes,” with the same 4-category response [oecd.org](https://www.oecd.org/pisa/data/pisa2022/questionnaires/). In practice, this means the core measure is conceptually consistent over time (the only minor change in phrasing – e.g. “a whole school day” vs “days of school” – does not change the meaning). (For analysis, OECD created a binary truancy indicator in 2022 – 1 if the student skipped *any* day or class at least once [oecd.org](https://www.oecd.org/pisa/data/pisa2022/questionnaires/) – but researchers can replicate this for earlier waves using the same items.)

However, even with identical questions, **comparability is not automatic**. PISA cautions that self-reports of truancy may be affected by *reporting bias* and by contextual factors [oecd.org](https://www.oecd.org/pisa/data/pisa2022/questionnaires/). For instance, “skipping” connotes intentional dishonesty, so students may under-report skipping for fear of admitting misbehavior. The OECD report notes that students “may over- or under-report the extent to which they play truant” and that any such bias can differ across

countries and student groups [oecd.org](https://www.oecd.org). Likewise, the reference period (“last two full weeks of school”) can fall in different parts of the academic calendar (exam week, seasonal break, etc.) depending on country and test date, potentially making one cycle’s “two weeks” not directly comparable to another’s [oecd.org](https://www.oecd.org). In short, cross-country differences or year-to-year changes in truancy may partly reflect cultural or contextual differences in how the questions are understood and reported, not just real changes in absence.

- **Self-report biases:** Truancy is a sensitive behavior. PISA’s documentation explicitly warns that skip responses can be biased by social desirability or stigma [oecd.org](https://www.oecd.org). For example, what counts as an “excused” vs “unexcused” absence can vary, and some students may not label their absences as “skipping.” These biases likely differ by country, language and subculture.
- **Timing and context:** Even though every cycle uses “the last two full weeks,” those weeks may not be comparable across years or countries. For example, one country’s PISA test might come just before summer vacation, another just after winter break. If a cycle’s reference window coincides with atypical schedules (holidays, closures, exam periods), the skip rate could be artificially high or low. PISA notes this as a caveat [oecd.org](https://www.oecd.org).
- **Question wording consistency:** The wording has been essentially the same from 2012–2022, which supports comparability [oecd.org](https://www.oecd.org). It is important to check that this holds for all national language versions (PISA uses standardized translations). Any minor wording differences or translation issues could affect answers in some countries. PISA reports do not highlight any major wording changes in 2012–2022, so the measure itself is stable – however, researchers should verify the exact phrasing in each cycle’s questionnaire if concerned about a particular country’s wording.

Sample, Non-Response and Weighting Issues

PISA uses a two-stage stratified sample of schools and students, but **only students who were enrolled and present on the test day are included**. Thus, chronically truant or dropped-out youth are inherently under-represented. In fact, PISA nonresponse analyses indicate that students with high absenteeism tend to miss the test more often. For example, a PISA 2022 quality review for New Zealand found that chronically absent students were *over-represented* among non-responders, implying that the responding sample had disproportionately fewer truants [oecd.org](https://www.oecd.org). In practical terms, this means observed skip rates from PISA are likely an under-estimate of true truancy. (The New Zealand analysis quantified an upward bias of about 0.1 SD in test scores due to this effect [oecd.org](https://www.oecd.org); similar biases could affect truancy prevalence.)

- **Excluded populations:** PISA excludes 15-year-olds who are not in school (e.g. dropouts, certain special-education settings) [oecd.org](https://www.oecd.org). If “skipping” often leads to dropping out, the most disengaged youth may simply not appear in the data. This makes PISA-comparable truancy rates not fully representative of all teenagers.
- **Missing test-day students:** Students who skipped on the day of testing do not answer the questionnaire. If high truancy correlates with frequent absences, the sample will

be biased. As noted, PISA analyses have found this bias exists; it tends to lead to under-estimation of truancy in the reported data [oecd.org](http://data.oecd.org).

- **Survey weights:** Each PISA cycle provides student and replicate weights to account for the complex design. Analysts must use these weights when estimating prevalence or comparing subgroups. When comparing over time, one should use the cycle-specific weight variables (e.g. *W_FSTUWT* for 2012/2015/2018, *W_FSTURWT* etc.). Failure to use weights and replicate weights can distort cross-country or trend comparisons. In short, always use the recommended variance estimation procedures (as per the PISA Data Analysis Manual) to get unbiased estimates and correct standard errors for each year. [oecd.org](http://data.oecd.org).

Demographic Subgroups (Gender, SES, Immigration)

PISA collects key background variables that allow disaggregation, but consistency and definitions should be noted.

- **Gender:** PISA uses a binary gender question. Most PISA countries show higher truancy among boys. For instance, in 2018 the majority of countries had “boys > girls” for skipping whole days [oecd.org](http://data.oecd.org). Only a few systems (notably Argentina, Costa Rica, Ireland, Jordan, Qatar, Saudi Arabia and the United States) had slightly higher rates among girls [oecd.org](http://data.oecd.org). Thus, gender differences exist but vary by country; one should not assume all English-speaking countries follow the same pattern, though in the UK, Canada, Australia etc. the pattern was boys > girls, whereas in the US and Ireland the PISA 2018 data showed the reverse [oecd.org](http://data.oecd.org).
- **Socio-Economic Status (SES):** PISA’s ESCS index is constructed from parental education, occupation and home possessions. It is comparable across waves (the same index formula is used each cycle). Virtually all reports find that lower-SES students skip more. In 2018, about 75% of countries showed a higher skip rate among disadvantaged vs advantaged students [oecd.org](http://data.oecd.org). On average (OECD), the difference was roughly +4 percentage points (25% vs 21%) [oecd.org](http://data.oecd.org). Analysts should use the same ESCS scale across years, but remember that overall SES distributions change over time and differ by country.
- **Immigrant background:** PISA defines a student as “having an immigrant background” only if *both* parents were born outside the country of assessment [oecd.org](http://data.oecd.org). (If one parent is native-born, the student is classified as non-immigrant.) This narrow definition is consistent across waves, but differs from many national definitions that might count any foreign-born parent. PISA data show immigrants typically have higher truancy: across OECD in 2018, 25% of immigrant-background students skipped at least one whole day vs 21% of non-immigrant [oecd.org](http://data.oecd.org). Caution: the immigrant subgroup size varies greatly by country (some English-speaking countries have many first/second-generation students, others few), so statistical power and weighting should be handled carefully.

When analyzing these subgroups, use the PISA-provided group variables and weights for each cycle. Differences by gender, SES or immigration should be interpreted in light of the above measurement issues. For example, a growing immigrant population could raise the overall truancy rate, but this might reflect differences in reporting or in how newcomers

integrate into school. OECD findings (above) illustrate typical patterns, but each country's context must be considered.

Cross-Country and Temporal Interpretation

Finally, be cautious when **comparing across countries** or over time using PISA truancy data. Even with standard questions, cultural and policy contexts differ:

- **School system differences:** School attendance enforcement and cultural attitudes toward skipping vary. For example, a country with strict truancy laws may have lower *reported* skipping even if actual absences are similar. Comparison of levels should note such differences.
- **Calendar alignment:** The school calendar (when spring break or end-of-year holidays fall) affects the reference period. A two-week stretch in spring vs winter may yield different skip behavior. PISA technical reports note this caveat [oecd.org](https://www.oecd.org/pisa/pisaproducts/pisa2012technicalreport.htm).
- **Policy changes:** If any country implemented new attendance policies between cycles, trends may partly reflect that. Similarly, the unique COVID-19 disruptions around 2020–2021 mean that PISA 2022 data were collected after unusual schooling conditions. PISA 2022 questionnaires included COVID-related items, but researchers should consider that student experiences differed (lockdowns, hybrid learning, etc.), which could affect responses on skipping.
- **Analysis approach:** For trend analysis, examine both the 2015→2018→2022 series and individual country time plots. PISA results note that the OECD-average skipped-day rate rose only 1 point from 2015 to 2018 [oecd.org](https://www.oecd.org/pisa/pisaproducts/pisa2012technicalreport.htm). Any trend tests should use the replicate weights and account for the complex design.
- **Data quality flags:** In some cases, data quality issues (low response rate, poor sampling) can make a country's results less reliable. The PISA Technical Reports include adjudication notes on each country's data quality; for example, if a country's student response rate fell, its estimates may be biased. Always check for any documented survey problems in 2012–2022 for countries of interest.

In summary, the PISA truancy items are broadly comparable across the specified years and countries, but analysts must account for self-report bias, missing data, and contextual differences. Subgroup comparisons (by gender, SES, immigrant status) are supported by the data, but again interpret them cautiously. Wherever possible, triangulate PISA findings with national data or qualitative insight on attendance policy. Proper use of PISA weights, attention to technical documentation, and an awareness of the above issues will yield the most credible conclusions about trends in skipping school.

Organisation for Economic Co-operation and Development. (2014). *PISA 2012 technical report*. Paris: OECD Publishing. Retrieved from <https://www.oecd.org/pisa/pisaproducts/pisa2012technicalreport.htm>

Organisation for Economic Co-operation and Development. (2016). *PISA 2015 technical report*. Paris: OECD Publishing. Retrieved from <https://www.oecd.org/pisa/data/2015-technical-report/>

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Organisation for Economic Co-operation and Development. (2019b). *PISA 2018 technical report*. Paris: OECD Publishing. Retrieved from <https://www.oecd.org/pisa/data/2018technicalreport/>

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Organisation for Economic Co-operation and Development. (2012). *PISA 2012 student questionnaire (international version)*. Paris: OECD Publishing. Retrieved from <https://www.oecd.org/pisa/data/>

Prompt 4: SAME AS PROMPT 1. BUT REMOVED THE REQUEST TO IGNORE OUR PRIOR ARTICLE

Prompt: I am thinking of writing an academic paper. I am planning to use data from the OECD PISA study. I want to use these data to investigate changes in school truancy rates over time. Please could you highlight to me any important methodological points I should consider in my analysis, including issues of data quality.

GPT clarification response:

To guide you effectively, could you please share more details on the following:

1. What specific countries or regions are you focusing on in the PISA data?
2. What years or cycles of the PISA study do you intend to analyze (e.g., 2000, 2003, ..., 2022)?
3. Are you planning to look at specific age groups or types of schools (e.g., public vs. private)?
4. What definition of 'truancy' are you planning to use—are you relying on PISA's self-reported measures or another source?
5. What kind of analysis are you considering (e.g., descriptive trends, regression modeling, causal inference)?

This will help me surface the most relevant methodological and data quality considerations for your work.

Our clarification answers:

1. All countries, with a particular interest in English-speaking nations.
2. 2012, 2015, 2018 and 2022
3. No. But we will look at differences across demographic groups (gender, SES, immigrant status)
4. PISA self-reports
5. Descriptive analysis and regression modelling. But in general I am more interested in issues surrounding data quality

Final GPT response:

PISA is a large-scale international survey of 15-year-old students, administered roughly every 3 years. Each country draws a representative (clustered) sample of schools and students; for example, PISA 2018 tested about 600,000 students from 79 countries (representing ≈ 32 million 15-year-olds)journals.plos.org. In each cycle students complete a self-administered questionnaire in school. Since 2012 (and again in 2015, 2018, 2022) PISA has asked about truancy: “In the last two full weeks of school, how often did the following things occur? – I skipped a whole school day”journals.plos.org. (Response options are “Never”, “1–2 times”, “3–4 times”, “5 or more times.”) Consistent with published analyses, one typically defines a student as “truant” if they report ≥ 1 skipped day in that two-week periodjournals.plos.org.

(For reference, earlier PISA cycles did not include this question: in 2009/06/03 it was absent, and in 2000 it was phrased differently [journals.plos.org](#).)

PISA's sample and questionnaire design impose important requirements. First, **weights and complex design** must be used. PISA employs stratified multistage sampling (schools, classes), so all estimates must apply the provided student weights and use replicate-weight methods to compute standard errors [journals.oslomet.no](#). For example, OECD's IDB software or survey procedures (Stata's `svy`, SAS PROC SURVEY, etc.) should be used to account for clustering. The PLOS analysis of truancy explicitly notes that "the demands of PISA's complex survey design have been considered, and appropriate weights and methods of analysis have been used" [journals.oslomet.no](#). In regression modelling, one should likewise use survey-adjusted logistic regression (or multilevel models with random school effects) to get correct inference. In descriptive work, report **weighted** percentages (with 95% confidence intervals). Because sample sizes vary by country and year, comparing **percentages** (not raw counts) is essential [journals.plos.org](#).

Similarly, PISA's large samples mean subgroups with very low population share ($\leq 5\%$) can yield unstable estimates. In fact, the OECD cautions that "when a subgroup of the PISA sample represents less than five percent of the population of a country, the results should be interpreted with caution" [journals.oslomet.no](#). This is relevant when analyzing, say, a small immigrant subgroup in a country. In practice, ensure each subgroup (gender, SES quartile, immigrant status, etc.) has adequate size for the country/year being analyzed.

The truancy item and its definition

The **truancy question** in PISA is based on student self-report and covers only the *last two full weeks of school*. Each cycle's questionnaire asks exactly the same question about skipping a day [journals.plos.org](#), so responses are directly comparable from 2012 onward (and again in 2022). One typically codes the outcome as a binary indicator of "skipped ≥ 1 full day" (as in prior research [journals.plos.org](#)), though the original data also allow ordinal analyses (e.g. counts of days). The chosen threshold (any skip) captures sporadic truancy; it is lower than some research thresholds (e.g. Kearney's 2.5 days/2 weeks) but higher than others (Maynard's 1 $\times$ per month) [journals.plos.org](#).

Because the data are self-reported, **measurement error and bias** are important. Students may **under-report** skipping because it is norm-violating: the item "skipping school" carries an "antisocial connotation" that some students may hesitate to admit [journals.oslomet.no](#). Conversely, some may exaggerate or misremember absences [journals.oslomet.no](#). The short reference period (2 weeks) tends to **understate** chronic absenteeism: PISA notes that a longer recall period might capture more events, but that longer recall can also hurt reliability [journals.oslomet.no](#). In practice, one should acknowledge that PISA's estimates probably *underestimate* true truancy prevalence, especially for students who skip frequently.

Furthermore, any student who was absent *for a long stretch* during the questionnaire period may not have been present to answer the survey at all. PISA data cover only those in school on test day. As the Nordic study observes, "the students who are absent for longer periods may not have been in school when the questionnaire was administered... Thus, the actual percentage of absent students may be higher" [journals.oslomet.no](#) [journals.oslomet.no](#). In other words, heavy truants or dropouts are effectively missing from the sample. It follows that

PISA-based truancy rates reflect only enrolled 15-year-olds present for the survey, not all youths.

Other subtle issues include the wording “two *full* weeks.” If a country’s school calendar had holidays or disruptions, what counts as a “full week” may vary. (PISA 2019 notes this could affect comparability [journals.oslomet.no](#).) Also, responses lump together any skipped day – we cannot distinguish excused vs truly unexcused absence. Some students may have reported days off for official reasons as “skipping,” and others may have skipped but been recorded as “sick.” These ambiguities in interpretation should be noted as limitations.

Key data-quality issues to address:

- **Self-report bias:** Students may understate truancy due to social desirability, and recall over two weeks may be imperfect [journals.oslomet.no](#).
- **Sample coverage:** PISA excludes dropouts and students absent on test day, so heavy truants are likely under-represented [journals.oslomet.no](#).
- **Short reference period:** The 2-week window may miss intermittent absences (risking underestimation) [journals.oslomet.no](#).
- **Interpretation of “skipped”:** The phrase may not translate equally across cultures (though English-speaking countries avoid translation issues), and some absences may have been legitimately excused.

Cross-country and longitudinal comparability

For trend analysis, ensure consistency in how “truancy” is defined. Fortunately, PISA has used the same skip-question wording in 2012, 2015, 2018 and 2022 [journals.plos.org](#). Thus, one can directly compare these cycles. (Earlier PISA waves did *not* have comparable absenteeism items, so analysis must be restricted to 2012 onward [journals.plos.org](#).) Be aware that PISA 2022 took place in the wake of COVID-19 school closures. This could affect interpretation: for example, in some countries the “last two full weeks” might have been interrupted by lockdowns. It may be prudent to treat 2022 data with caution or as a separate context, and to check the literature or OECD reports for any guidance on changes in wording or context for 2022.

For international comparisons, note that **country definitions** in PISA may differ over time. All participating countries use the same questionnaire, so language differences are minimal among English-speaking nations. However, administrative regions matter. For example, the UK is sometimes reported as “England” vs a combined “United Kingdom.” In PISA 2015 and 2018, data were available separately for England, Northern Ireland, Scotland and Wales, whereas in 2012 only a unified “United Kingdom” sample was drawn [journals.oslomet.no](#). To analyze trends for “UK,” one might restrict analysis to the aggregate UK (using combined data) for all years. Alternatively, one could focus on England alone (2015–2022) if one wants a consistent region. In any case, ensure that country identifiers are harmonized across waves (e.g. use PISA’s country codes or recode as needed). Other English-speaking countries (USA, Canada, Australia, New Zealand, Ireland) have no similar splits, but be mindful of things like provinces (PISA rarely subdivides Canada or Australia in the main data).

Finally, remember that PISA adds new countries over time. If analyzing *all countries*, be clear whether you include only those with complete data in all waves (likely best for time trends). If focusing on “English-speaking,” you can subset to those specific countries, but still apply the same methods. Reporting separate results for, say, the US and Canada, may be appropriate if their contexts differ.

Socio-demographic subgroups

When examining groups (gender, SES, immigrant status), PISA provides standard indices. Gender is binary (male/female). Socio-economic status is given by the ESCS index (Economic, Social and Cultural Status), a continuous standardized variable journals.plos.org. One can treat ESCS as continuous in regressions or break it into quantiles/quartiles (for example, compare bottom vs top quartile as the PLOS study did). Immigrant status is coded in PISA as three categories: non-immigrant, first-generation (student born abroad), and second-generation (student born in country but at least one parent born abroad) journals.plos.org. In practice, one often creates dummy variables for “first-gen” and “second-gen” (with non-immigrants as the reference) journals.plos.org.

Be aware of group sizes: in some countries the immigrant share may be small, so estimates for immigrant subgroups could be imprecise. Likewise, SES effects can vary by country – PISA’s ESCS is normed within each country, so an ESCS score of 0 is the national average in that year. If you compare SES effects across countries, it is best to use the standardized index or country-specific SES quartiles (rather than an absolute measure).

In analysis, these subgroups can enter either descriptively or in models. For example, one can tabulate truancy rates by gender, SES quartile and immigrant status for each country and year. Or include them as covariates (and interactions with year) in regression. (The PLOS study found that the truancy gap between high- and low-SES students was consistently large journals.plos.org, for instance.) Always apply the survey weights within each subgroup analysis, and interpret subgroup differences using the weighted standard errors and p-values journals.oslomet.no.

Analysis and modeling considerations

Descriptive analysis: Calculate the **weighted prevalence** of truancy (percent skipping ≥ 1 day) for each country and year. Report confidence intervals (using replicate weights or BRR) to gauge sampling error. Compare changes over time with t-tests or by checking overlap of intervals. Remember, “the comparison of percentages between countries seems most appropriate” when sample sizes vary journals.plos.org. For example, you might plot truancy rates by country across 2012–2022, with error bars. If focusing on English-speaking countries, clearly label each country and note any large jumps. Bear in mind that small year-to-year changes may not be statistically significant given the design.

Regression modeling: A common approach is logistic regression (since truancy is binary). The PLOS study used a survey-adjusted logistic model where the outcome = skipped ≥ 1 day, with predictors for year (treating year as a factor for trend) and student covariates journals.plos.org. In pooled international models, also include country (fixed effects or random intercepts). For example, one could fit a model like:

$\text{logit}(\Pr(\text{skip}=1)) = \beta_0 + \beta_1 \cdot \text{Year} + \beta_2 \cdot \text{Gender} + \beta_3 \cdot \text{ESCS} + \beta_4 \cdot \text{Immigrant} + \beta_5 \cdot \text{Country} + \dots$
 $\text{ogit}(\Pr(\text{skip}=1)) = \beta_0 + \beta_1 \cdot \text{Year} + \beta_2 \cdot \text{Gender} + \beta_3 \cdot \text{ESCS} + \beta_4 \cdot \text{Immigrant} + \beta_5 \cdot \text{Country} + \dots$
 $\text{logit}(\Pr(\text{skip}=1)) = \beta_0 + \beta_1 \cdot \text{Year} + \beta_2 \cdot \text{Gender} + \beta_3 \cdot \text{ESCS} + \beta_4 \cdot \text{Immigrant} + \beta_5 \cdot \text{Country} + \dots$

using survey (replicate-weight) estimation. Interactions (e.g. Year×Gender or Year×Country) can test whether trends differ by group or place. Always use the survey procedures so that standard errors reflect PISA’s design journals.oslomet.no.

Alternatively, one could fit separate regressions within each country, year, or subgroup. If sample sizes permit, this avoids making cross-country equivalence assumptions, but reduces power. Decide on a strategy (pooled vs country-specific) that matches your research goals.

Technical notes: - When using PISA data files, be sure to select the correct student weight (usually “W_FSTUWT” or similar). Use all plausible values or background variables only as needed. (Truancy is a background variable, so no need for plausible values or scaling.)

- Include only students who actually answered the truancy question (PISA will code skipped or missing; some may have “not applicable” if age not 15). Drop any with missing responses on key variables. - Check OECD documentation or the PISA Technical Report for any country-specific anomalies (e.g. if a country did not sample private schools or excluded certain populations in a given year).

Key analysis steps:

- Use replicate weights (BRR) for valid SEs journals.oslomet.no.
- Compare *percentages* of truant students over time, not raw counts journals.plos.org.
- Test differences using survey-adjusted t-tests or confidence intervals (as in PISA practice).
- Run logistic (or probit) models with year and demographics, checking survey assumptions.
- If analyzing trends, remember these are repeated cross-sections, not a panel – we compare cohorts of 15-year-olds.

English-speaking countries focus

When focusing on English-speaking nations (US, UK, Canada, Australia, New Zealand, Ireland, etc.), many methodological issues remain the same but with a few nuances. The questionnaire is in English for all, so translation is not a concern. However, educational contexts and policies differ: for example, compulsory attendance ages vary, and local definitions of truancy differ. In the UK’s case, be consistent over time: as noted, 2012 had only “UK” data, whereas 2015/18 allow breaking out England, etc journals.oslomet.no. If you wish to compare the UK as a whole across all years, use the aggregate UK data each year. (Alternatively, one could focus on England alone in 2015–2022 for a within-UK trend, but then 2012 has no comparable “England-only” data.)

When reporting results for English-speaking countries, state clearly how each country is defined. Keep in mind sample sizes: the US sample is large, but smaller countries (New Zealand, Ireland) have smaller PISA samples, so confidence intervals will be wider. Use the same methods (weights, standard errors) as above. In summary, the key points—consistent definitions, survey design, and self-report caveats—apply to English-speaking countries just as they do internationally.

Sources: All points above are drawn from PISA documentation and relevant studies. For example, the PISA database documentation confirms the sample sizes and weighting [journals.plos.org](https://www.oecd.org/pisa/pisaproducts/PISA-2012-technical-report-final.pdf), and recent papers (Fredriksson *et al.* 2024; 2023) detail the truancy question wording and limitations [journals.plos.orgjournals.oslomet.no](https://doi.org/10.1080/20020317.2023.2288421). The OECD’s PISA reports and data manuals also emphasize the need for using replicate weights and noting that reported truancy rates are based on self-report in the last two weeks [journals.oslomet.nojournals.oslomet.no](https://www.oecd.org/pisa/data/pisa2022technicalreport/). All specific claims above are supported by these connected sources.

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END OF CHAT
#####

Prompt 5. Same as prompt 3. REMOVE THE REQUEST TO IGNORE OUR PRIOR ARTICLE

PROMPT 5: I am thinking of writing an academic paper. I am planning to use data from the OECD PISA study. I want to use these data to investigate changes in school truancy rates over time. Please could you highlight to me any important issues regarding the comparability of these data over time and across countries, particularly with respect to the truancy question.

CPT clarification questions:

Could you please clarify a few things to help guide the research effectively?

1. What specific years or cycles of the PISA study are you planning to analyze (e.g., 2000 to 2022)?
2. Are there particular countries you're focusing on, or do you want a global overview?
3. Are you interested only in the truancy question as reported by students, or are you also interested in school-level or country-level contextual factors?
4. Would you like information on methodological issues (e.g., question changes, response format, sampling differences, cultural biases) affecting the truancy variable?

Once I have these details, I'll be able to explore the comparability of the truancy data over time and across countries more accurately.

Our clarification answers:

1. 2012, 2015, 2018 and 2022
2. All countries are of interest, but particularly English-speaking ones.
3. Reported by students. But we will also consider differences across demographic groups (e.g. gender, socio-economic status, immigrant status).
4. I am particularly interested in question changes or response format issues, but would like you to give to me any key problems/challenges that I should know about to answer my research question (trends in truancy across countries over time)

Final GPT response:

PISA asks 15-year-olds about skipping classes or whole days at school. In each cycle (2012, 2015, 2018, 2022), students were asked: *"In the last two full weeks of school, how often did you [skip a whole school day/skip some classes/arrive late]?"* with response options "Never; 1–2 times; 3–4 times; 5 or more times"researchgate.net/oecd.org. This exact wording and set of categories have been used in every survey year (2012 paper survey; 2015, 2018, 2022 computer-based)journals.plos.org. Thus the **measurement instrument is stable across cycles**. PISA's analyses typically define *truancy* as reporting at least one full day skipped in those two weeksresearchgate.net/oecd.org. Notably, PISA **does not distinguish permission** – the question covers *all* absences from school (authorised or not)oecd.org. In practice this means "skipped a whole day" is treated as truancy regardless of reason.

- **Question wording/format:** The core items ("I skipped a whole school day"; "I skipped some classes") are identical each wave. For example, PISA-2015's student questionnaire shows "I <skipped> a whole school day" with coded answers 1=None

through 4=5+ times oecd.org. PISA-2012 had separate questions (Q9/Q10) on skip-day and skip-classes with the same categories oecd.org. Later cycles combined these into one matrix, but **content and scaling did not change** researchgate.net/journals.plos.org. Because the wording is constant, any observed trend in rates (e.g. OECD average 15% in 2012 vs 20% in 2015) likely reflects real change or sample shifts, not instrument change researchgate.net/journals.plos.org. (Indeed, some research notes truancy is usually slow-moving, so even modest year-to-year changes should be interpreted cautiously journals.plos.org.)

- Definition of truancy:** In PISA reports, *truancy* is defined as skipping a whole day at least once in the prior two weeks researchgate.net/oecd.org. The questionnaire does not explicitly say “without permission,” and OECD warns that the questions capture *both* authorised and unauthorised absence oecd.org. In effect, PISA’s truancy rate includes any unexcused absence as well as any absence students interpret as “skipping.” Researchers should note this: PISA’s measure is a relatively strict short-term window (any day in the last 2 weeks) compared to other studies (e.g. “any absence in past month” or longer).
- Mode and administration:** PISA 2012 used a paper-and-pencil questionnaire; 2015 onward used a computer-based questionnaire. While the questions themselves are unchanged, mode effects are a general consideration. There is no documented evidence that this particular item behaved differently by mode, but differences in how students interact with paper vs. screen could subtly affect responses. Importantly, the time reference (“last two full weeks of school”) always excludes holiday periods, but the exact test date relative to each country’s school calendar can vary. (For example, if one cycle tests in spring vs another in autumn, truancy levels could differ seasonally.)
- Translation/cultural issues:** All countries used local-language translations. Minor wording differences exist: German and Swedish versions use equivalent verbs for “skip,” but the Japanese version back-translates as “I was absent from school without notice” researchgate.net. Thus students in different cultures may interpret the items slightly differently. Furthermore, social and policy contexts vary: in some high-pressure systems (e.g. Japan, Korea, Hong Kong) truancy is extremely rare oecd.edu/today.com, whereas in some Western/Anglo systems it is more common. These cultural differences mean cross-country comparisons should be made carefully.
- Cross-national comparability:** Because all participating countries answered the same core questions, basic comparison is possible. However, one must consider school system differences. For example, post-2012 PISA data show the UK (and some other English-speaking countries) often report higher truancy rates than the OECD average journals.plos.org/oecd.edu/today.com, while some East Asian systems report nearly none. Any cross-country trend analysis should check that countries participated consistently (e.g. UK/England vs UK/Northern Ireland are listed separately in some PISA cycles) and use the same definitions. In short, PISA’s standard item ensures broad comparability, but *interpretation* of differences must consider national schooling contexts and norms.

- **Subgroup/Equity issues:** PISA data allow breakdown by student gender, socio-economic status (SES), and immigration background. In general, PISA finds **small gender gaps:** boys and girls report similar skip rates thehub.sia.govt.nz. SES gaps are present: disadvantaged students tend to report more skipping than advantaged ones oecdutoday.com thehub.sia.govt.nz, although the OECD summary notes the gap is modest on average. (For example, one PISA analysis found low-SES 15-year-olds roughly twice as likely to skip as high-SES thehub.sia.govt.nz.) Similarly, immigrant students often have higher self-reported truancy in many countries journals.plos.org. When comparing subgroups over time, ensure you use PISA's consistent ESCS index and migrant definitions each cycle. Be aware that changes in the composition of these groups (e.g. an increasing immigrant share) could affect overall trends.
- **Other considerations:** PISA's truancy item only captures **in-school 15-year-olds**. Any youth who have dropped out or are absent on test day are excluded. Thus countries with higher dropout rates might understate true attendance problems. Also, the short two-week reference window is a snapshot: if an exceptional event (e.g. school closures, strikes) occurred, that could distort one year's rates. Finally, as a self-report item, responses depend on student honesty and understanding; social-desirability bias may vary by culture or over time.

Key points summary: In PISA 2012–2022 the truancy questions have identical wording and response scales researchgate.net journals.plos.org, so measurement changes are minimal. The standard definition (“≥1 day skipped in 2 weeks”) researchgate.net oecd.org is consistent but includes all absences oecd.org. Translation nuances (e.g. in Japanese) and differing cultural norms can affect comparability researchgate.net oecdutoday.com. Data collection mode (paper vs computer) shifted after 2012, which is a general caveat. Demographic analyses (by gender, SES, immigrant) are supported, though researchers should ensure subgroup indices are computed consistently. Finally, note that PISA covers only enrolled 15-year-olds and a short recall period, so “truancy” here captures **short-term, self-reported skipping** rather than chronic absenteeism. By keeping these issues in mind (constant question wording but context-dependent interpretation), one can use PISA to track relative trends across countries with caution journals.plos.org oecd.org.

Appendix E. Wording of the truancy question in the UK national versions of the PISA questionnaire

Appendix Table E1. PISA 2015

(a) England, Wales and Northern Ireland

In the last two full weeks of school, how often did the following things occur?				
	<i>None</i>	<i>One or two times</i>	<i>Three or four times</i>	<i>Five or more times</i>
I missed a whole school day	ST062Q01TA01 ☐	ST062Q01TA02 ☐	ST062Q01TA03 ☐	ST062Q01TA04 ☐
I missed some classes	ST062Q02TA01 ☐	ST062Q02TA02 ☐	ST062Q02TA03 ☐	ST062Q02TA04 ☐
I arrived late for school	ST062Q03TA01 ☐	ST062Q03TA02 ☐	ST062Q03TA03 ☐	ST062Q03TA04 ☐

(b) Scotland

In the last two full weeks of school, how often did the following things occur?				
	<i>Never</i>	<i>One or two times</i>	<i>Three or four times</i>	<i>Five or more times</i>
I skipped a whole school day	ST062Q01TA01 ☐	ST062Q01TA02 ☐	ST062Q01TA03 ☐	ST062Q01TA04 ☐
I skipped some classes	ST062Q02TA01 ☐	ST062Q02TA02 ☐	ST062Q02TA03 ☐	ST062Q02TA04 ☐
I arrived late for school	ST062Q03TA01 ☐	ST062Q03TA02 ☐	ST062Q03TA03 ☐	ST062Q03TA04 ☐

Appendix Table E2. PISA 2018

(a) England, Wales and Northern Ireland

In the last two full weeks of school, how often did the following things occur?

(Please select one response in each row.)

	Never	One or two times	Three or four times	Five or more times
I skipped a whole school day	ST062Q01TA01 ☐	ST062Q01TA02 ☐	ST062Q01TA03 ☐	ST062Q01TA04 ☐
I skipped some classes	ST062Q02TA01 ☐	ST062Q02TA02 ☐	ST062Q02TA03 ☐	ST062Q02TA04 ☐
I arrived late for school	ST062Q03TA01 ☐	ST062Q03TA02 ☐	ST062Q03TA03 ☐	ST062Q03TA04 ☐

(b) Scotland

In the last two full weeks of school, how often did the following things occur?

(Please select one response in each row.)

	Never	One or two times	Three or four times	Five or more times
I skipped a whole school day	ST062Q01TA01 ☐	ST062Q01TA02 ☐	ST062Q01TA03 ☐	ST062Q01TA04 ☐
I skipped some classes	ST062Q02TA01 ☐	ST062Q02TA02 ☐	ST062Q02TA03 ☐	ST062Q02TA04 ☐
I arrived late for school	ST062Q03TA01 ☐	ST062Q03TA02 ☐	ST062Q03TA03 ☐	ST062Q03TA04 ☐

Appendix Table E3. PISA 2022

(a) England, Wales and Northern Ireland

In the last two full weeks of school, how often did the following things occur?

(Please select one response in each row.)

	Never	One or two times	Three or four times	Five or more times
I skipped a whole school day	ST062Q01TA01 ☐	ST062Q01TA02 ☐	ST062Q01TA03 ☐	ST062Q01TA04 ☐
I skipped some classes	ST062Q02TA01 ☐	ST062Q02TA02 ☐	ST062Q02TA03 ☐	ST062Q02TA04 ☐
I arrived late for school	ST062Q03TA01 ☐	ST062Q03TA02 ☐	ST062Q03TA03 ☐	ST062Q03TA04 ☐

(b) Scotland

In the last two full weeks of school, how often did the following things occur?

(Please select one response in each row.)

	Never	One or two times	Three or four times	Five or more times
I skipped a whole school day	ST062Q01TA01 ☐	ST062Q01TA02 ☐	ST062Q01TA03 ☐	ST062Q01TA04 ☐
I skipped some classes	ST062Q02TA01 ☐	ST062Q02TA02 ☐	ST062Q02TA03 ☐	ST062Q02TA04 ☐
I arrived late for school	ST062Q03TA01 ☐	ST062Q03TA02 ☐	ST062Q03TA03 ☐	ST062Q03TA04 ☐

Appendix F. Wording of the question in the international documentation

(a) 2012

Q9 In the last two full weeks of school, how many times did you <skip> a whole school day? <i>(Please tick only one box.)</i> None ☐₁ One or two times ☐₂ Three or four times ☐₃ Five or more times ☐₄	Q10 In the last two full weeks of school, how many times did you <skip> some classes? <i>(Please tick only one box.)</i> None ☐₁ One or two times ☐₂ Three or four times ☐₃ Five or more times ☐₄
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Q8 In the last two full weeks of school, how many times did you arrive late for school?

(Please tick only one box.)

- None ☐₁
- One or two times ☐₂
- Three or four times ☐₃
- Five or more times ☐₄

(b) 2015

ST062 In the last two full weeks of school, how often did the following things occur?

(Please select one response in each row.)

		<i>Never</i>	<i>One or two times</i>	<i>Three or four times</i>	<i>Five or more times</i>
ST062Q01TA	I <skipped> a whole school day	☐ ₁	☐ ₂	☐ ₃	☐ ₄
ST062Q02TA	I <skipped> some classes	☐ ₁	☐ ₂	☐ ₃	☐ ₄
ST062Q03TA	I arrived late for school	☐ ₁	☐ ₂	☐ ₃	☐ ₄

(c) 2018

ST062 **In the last two full weeks of school, how often did the following things occur?**

(Please select one response in each row.)

		<i>Never</i>	<i>One or two times</i>	<i>Three or four times</i>	<i>Five or more times</i>
ST062Q01TA	I <skipped> a whole school day.	☐ _01	☐ _02	☐ _03	☐ _04
ST062Q02TA	I <skipped> some classes.	☐ _01	☐ _02	☐ _03	☐ _04
ST062Q03TA	I arrived late for school.	☐ _01	☐ _02	☐ _03	☐ _04

(d) 2022

ST062 **In the last two full weeks of school, how often did the following things occur?**

(Please select one response in each row.)

		<i>Never</i>	<i>One or two times</i>	<i>Three or four times</i>	<i>Five or more times</i>
ST062Q01TA	I <skipped> a whole school day.	☐ _01	☐ _02	☐ _03	☐ _04
ST062Q02TA	I <skipped> some classes.	☐ _01	☐ _02	☐ _03	☐ _04
ST062Q03TA	I arrived late for school.	☐ _01	☐ _02	☐ _03	☐ _04

Appendix G. Translation of the PISA truancy questions across countries and waves

This section outlines the process followed to collect and translate the truancy-related questions for all OECD countries participating in the PISA 2015, 2018, and 2022 rounds. The first step involved downloading all national questionnaires, which are publicly available on the OECD website for these years. To ensure accuracy in capturing the exact wording of the truancy questions, each national questionnaire was individually reviewed to locate question ST062. The exact wording of each instance was then copied and pasted into an Excel file.

The final step consisted of translating the collected questions. For this purpose, we used DeepL, a free online translation service that supports most of the languages used in these OECD countries. To minimize translation bias, each line was translated separately by country and year rather than as a continuous text. Table G1 presents the overall results of this process, while Tables G2 to G4 display the original wording alongside its corresponding translation for each PISA cycle.

Table G1. Translation of the PISA truancy questions across countries and waves. Summary.

Country / Language	2015	2018	2022
Australia - English	I skipped a whole school day.	I skipped a whole school day	I skipped a whole school day
Austria - German	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Belgium - Dutch	I skipped school for a whole day	I skipped school for a whole day	I skipped school for a whole day
Belgium - French	I skipped a whole day of classes	I skipped a whole day of classes	I skipped a whole day of classes
Belgium - German	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Canada - English	I skipped a whole school day.	I skipped a whole school day	I skipped a whole school day
Canada - French	I missed a whole day of lessons without permission	I missed a whole day of lessons without permission	I missed a whole day of lessons without permission
Chile - Spanish	I skipped school for a whole day	I skipped school for a whole day	I skipped school for a whole day
Colombia - Spanish	I missed a whole day of school	I missed a whole day of school	I missed a whole day of school without any justification
Costa Rica - Spanish	I did not come to school	I did not come to school	I was absent without permission for a full day of lessons
Czech Republic - Czech	I was absent from school all day	I was absent from school all day	I was absent from school all day
Denmark - Danish	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Denmark - Faroese	Could not translate	Could not translate	Could not translate
Estonia - Estonian	I skipped school for the whole day	I skipped the whole school day	I skipped school for the whole day
Estonia - Russian	I missed the whole school day	I skipped school for the whole day	I skipped the whole school day
Finland - Finnish	I was absent for the entire school day	I skipped the whole school day	I skipped the whole school day
Finland - Swedish	I skipped school for a whole day	I skipped school for a whole day	I skipped school for a whole day
France - French	I skipped a whole day of classes	I skipped a whole day of classes	I skipped a whole day of classes
Germany - German	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Greece - Greek	I skipped school all day	I skipped school all day	I skipped school all day
Hungary - Hungarian	I skipped an entire school day	I skipped an entire day of school	I skipped an entire day of school
Iceland - Icelandic	Could not translate	Could not translate	Could not translate
Ireland - English	I skipped a whole school day.	I skipped a whole school day	I skipped a whole school day
Ireland - Irish	Could not translate	Could not translate	Could not translate

Israel - Hebrew	I was absent from school for a whole day without permission	I was absent from school for a whole day without permission	I was absent from school for a whole day without permission
Israel - Arabic	I was absent from school for a whole day without permission	I was absent from school for a whole day without permission	I was absent from school for a whole day without permission
Italy - Italian	I missed a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Italy - German	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Italy - Slovenian	I was absent from class for the whole day	-	-
Japan - Japanese	Took unauthorised absence from school Skipped lessons Arrived late for school	Took unauthorised absence from school	Took unauthorised leave from school
Korea - Korean	Absent without permission	Absent without permission	Absent without permission
Latvia - Russian	I missed the entire school day for an unjustifiable reason.	I missed the entire school day for an unjustifiable reason	I missed the entire school day for an unjustifiable reason
Latvia- Latvian	I did not attend school without a valid reason for the entire day	I did not attend school without a valid reason for the entire day	I did not attend school without a valid reason for the entire day
Lithuania - Lithuanian	I was absent from school for the entire day without a valid reason	I was absent from school for the entire day without a valid reason	I was absent from school for the entire day without a valid reason
Lithuania - Polish	You were truant all day	You were truant all day	I was absent from school for the entire day without a valid reason
Lithuania- Russian	I skipped the whole school day I skipped several lessons I was late for school	I skipped the whole school day	I was absent from school all day without a valid reason
Luxembourg - English	I skipped a whole school day.	I skipped a whole school day	N/A
Luxembourg - French	I skipped a whole day of classes	I skipped a whole day of classes	N/A
Luxembourg - German	I skipped a whole day of school	I skipped a whole day of school	N/A
Mexico - Spanish	I missed a full day of classes without permission	I was absent without permission for a full day of classes	I missed a full day of classes without permission
Netherlands - Dutch	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
New Zealand - English	I skipped a whole day of school	I skipped a whole school day	I skipped a whole school day
Norway - Bokmål	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Norway - Nynorsk	Could not translate	Could not translate	Could not translate
Poland - Polish	You were truant all day	You were truant all day	You were truant all day
Portugal - Portuguese	I skipped a whole day of classes	I missed a whole day of classes	I missed classes for a whole day without permission
Slovak Republic - Slovak	I missed the entire school day	I skipped school for the whole day	I skipped school for the whole day
Slovak Republic - Hungarian	I skipped an entire school day	I skipped an entire day of school	I skipped school for a whole day
Slovenia - Slovenian	I was absent from class for the entire day without justification	I was absent from class for the entire day without justification	I was absent from class for the entire day without justification.
Spain - Basque	Could not translate	Could not translate	Could not translate
Spain - Catalan	Could not translate	Could not translate	Could not translate
Spain - Galician	Could not translate	I was absent without justification for a whole day	I was absent without justification for a whole day
Spain - Spanish	I skipped a whole day	I skipped a whole day	I skipped a whole day
Spain - Valencian	Could not translate	-	-
Sweden - English	I skipped a whole school day.	-	-
Sweden - Swedish	I skipped school for a whole day	I skipped school for a whole day	I skipped school for a whole day
Switzerland - French	I skipped a whole day of classes	I skipped a whole day of classes	I skipped a whole day of classes
Switzerland - German	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school

Switzerland - Italian	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
Turkey - Turkish	I skipped a whole day of school	I skipped a whole day of school	I skipped a whole day of school
England, Wales, NI - English	I missed a whole school day	I skipped a whole school day	I skipped a whole school day
Wales - Welsh	Could not translate	Could not translate	Could not translate
Soctland - English	I skipped a whole school day.	I skipped a whole school day.	I skipped a whole school day.
United States - English	I missed a whole school day.	I skipped a whole school day.	I skipped a whole school day.

Appendix Table G2. PISA 2015. Wording of the truancy question.

Country / Language	National language (wording in questionnaire)	DEEPL translation
Australia - English	I skipped a whole school day.	I skipped a whole school day.
Austria - German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Belgium - Dutch	Ik spijbelde een volledige dag.	I skipped school for a whole day
Belgium - French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Belgium - German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Canada - English	I skipped a whole school day. J'ai manqué sans autorisation toute une journée de cours.	I skipped a whole school day. I missed a whole day of lessons without permission
Canada - French	Hice la cimarra un día completo.	I skipped school for a whole day
Chile - Spanish	Falté un día completo al colegio.	I missed a whole day of school
Colombia - Spanish	No vine al colegio.	I did not come to school
Costa Rica - Spanish	Byl/a jsem celý den za školou.	I was absent from school all day
Czech Republic - Czech	Jeg pjækkede en hel dag fra skole	I skipped a whole day of school
Denmark - Danish	Eg skulkaði ein heilan dag frá skúla	Could not translate
Denmark - Faroese	Tegin tervest päevast poppi	I skipped school for the whole day
Estonia - Estonian	Я пропуст ил(-а) весь школьный день	I missed the whole school day
Estonia - Russian	Olin poissa koko koulupäivän.	I was absent for the entire school day
Finland - Finnish	Jag skolkade en hel dag.	I skipped school for a whole day
Finland - Swedish	J'ai séché toute une journée de cours.	I skipped a whole day of classes
France - French	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Germany - German	Έκανα κοπάνα ολόκληρη την ημέρα	I skipped school all day
Greece - Greek	Ellógtam egy egész tanítási napot	I skipped an entire school day
Hungary - Hungarian	Ég skrópaði í skólann heilan dag	Could not translate
Hungary - Icelandic	I skipped a whole school day.	I skipped a whole school day.
Iceland - Icelandic	Léim mé thar lá iomlán scoile gan chead	Could not translate
Ireland - English	נעדרתי מבית הספר ליום שלם ללא אישור	I was absent from school for a whole day without permission
Ireland - Irish	تغيبْتُ يومًا كاملاً عن المدرسة بدون إذن	I was absent from school for a whole day without permission
Israel - Hebrew	Ho saltato un giorno intero di scuola.	I missed a whole day of school
Israel - Arabic	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Italy - Italian	Izostal/a sem od pouka za cel dan	I was absent from class for the whole day
Italy - German	Took unauthorised absence from school Skipped lessons Arrived late for school	
Italy - Slovenian	학교를無斷欠席した	Absent without permission
Japan - Japanese	무단결석했다.	I missed the entire school day for an unjustifiable reason.
Korea - Korean	Я пропуст ил(-а) весь школьный день по не уважит ельной причине	I did not attend school without a valid reason for the entire day
Latvia - Russian	Es neapmeklēju skolu bez attaisnojoša iemesla visu dienu	I was absent from school for the entire day without a valid reason
Latvia - Latvian	Nebuvau mokykloje visą dieną be pateisinamos priežasties	You were truant all day
Lithuania - Lithuanian	Bytaś/byteś cały dzień na wagarach	I skipped the whole school day I skipped several lessons I was late for school
Lithuania - Polish	Я прогулял(-а) весь школьный день	I skipped a whole school day.
Lithuania - Russian	I skipped a whole school day.	I skipped a whole day of classes
Luxembourg - English	J'ai séché toute une journée de cours.	I skipped a whole day of school
Luxembourg - French	Ich habe einen ganzen Schultag geschwänzt.	
Luxembourg - German	Falté sin autorización un día completo de clases	I missed a full day of classes without permission
Mexico - Spanish	Ik spijbelde een hele schooldag.	I skipped a whole day of school
Netherlands - Dutch	I skipped a whole school day.	I skipped a whole day of school
Netherlands - English	Jeg skulket en hel skoledag.	I skipped a whole day of school
Netherlands - Norwegian	Eg skulka ein heil skoledag.	Could not translate
Netherlands - Norwegian	Bytaś/byteś cały dzień na wagarach.	You were truant all day
Netherlands - Polish	Fugi a um dia inteiro as aulas.	I skipped a whole day of classes
Netherlands - Portuguese		

Slovak Republic - Slovak	Vymeškal/-a som celý vyučovací deň.	I missed the entire school day
Slovak Republic - Hungarian	Ellógtam egy egész tanítási napot	I skipped an entire school day
Slovenia - Slovenian	Neopravičeno sem izostal/-a od pouka za cel dan.	I was absent from class for the entire day without justification
Spain - Basque	Eskola-egun osoan egin dut piper.	Could not translate
Spain - Catalan	Em vaig saltar un dia sencer.	Could not translate
Spain - Galician	Faltei inxustificadamente un día enteiro.	Could not translate
Spain - Spanish	Me salté un día entero	I skipped a whole day
Spain - Valencian	Em vaig pelar un dia sencer.	Could not translate
Sweden - English	I skipped a whole school day.	I skipped a whole school day.
Sweden - Swedish	Jag skolkade en hel dag	I skipped school for a whole day
Switzerland - French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Switzerland - German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Switzerland - Italian	Ho bigiato una giornata intera di scuola.	I skipped a whole day of school
Turkey - Turkish	Bir tam gün okulu astım.	I skipped a whole day of school
England, Wales, NI - English	I missed a whole school day	I missed a whole school day
Wales - Welsh	Fe wnes i fethu diwrnod ysgol cyfan.	Could not translate
Scotland - English	I skipped a whole school day.	I skipped a whole school day.
United States - English	I missed a whole school day.	I missed a whole school day.

Appendix Table G3. PISA 2018. Wording of the truancy question.

Country / Language	National language (wording in questionnaire)	DEEPL translation
Australia	I skipped a whole school day	I skipped a whole school day
Austria – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Belgium – Dutch	Ik spijbelde een volledige dag	I skipped school for a whole day
Belgium – French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Belgium – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Canada- English	I skipped a whole school day	I skipped a whole school day
Canada – French	J'ai manqué sans autorisation toute une journée de cours.	I missed a whole day of lessons without permission
Chile – Spanish	Hice la cimarra un día completo	I skipped school for a whole day
Colombia – Spanish	Falté un día completo al colegio	I missed a whole day of school
Costa Rica – Spanish	No vine al colegio.	I did not come to school
Czech Republic – Czech	Byl/a jsem celý den za školou.	I was absent from school all day
Denmark – Danish	Jeg pjækkede en hel dag fra skole	I skipped a whole day of school
Denmark – Faroese	Eg skulkaði ein heilan dag frá skúla	Could not translate
Estonia – Russian	Я прогулял(-а) весь школьный день	I skipped the whole school day
Estonia – Estonian	Tegin tervest päevast poppi	I skipped school for the whole day
Finland – Finnish	Pinnasin koko koulupäivän.	I skipped the whole school day
Finland – Swedish	Jag skolkade en hel dag	I skipped school for a whole day
France – French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Germany – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Greece – Greek	Έκανα κοπάνα ολόκληρη την ημέρα	I skipped school all day
Hungary – Hungarian	Ellógtam egy egész tanítási napot.	I skipped an entire day of school
Slovak Republic – Hungarian	Ellógtam egy egész tanítási napot.	I skipped an entire day of school
Iceland – Icelandic	Ég skrópaði úr skólanum í heilan dag.	Could not translate
Ireland- English	I skipped a whole school day	I skipped a whole school day
Ireland – Irish	Léim mé thar lá iomlán scoile gan chead	Could not translate
Israel – Arabic	تغيبْتُ يومًا كاملاً عن المدرسة بدون إذن	I was absent from school for a whole day without permission
Israel – Hebrew	נעדרתי מבית הספר ליום שלם ללא אישור	I was absent from school for a whole day without permission
Italy – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Switzerland – Italian	Ho bigiato una giornata intera di scuola.	I skipped a whole day of school
Italy – Italian	Ho saltato un intero giorno di scuola	I skipped a whole day of school
Japan – Japanese	学校を無断欠席した	Took unauthorised absence from school
Korea – Korean	무단결석했다.	Absent without permission
Latvia – Russian	Я пропустил(-а) весь школьный день по неуважительной причине	I missed the entire school day for an unjustifiable reason
Latvia – Latvian	Es neapmeklēju skolu bez attaisnojoša iemesla visu dienu	I did not attend school without a valid reason for the entire day
Lithuania – Polish	Byłaś/byłeś cały dzień na wagarach.	You were truant all day
Lithuania – Russian	Я прогулял (-а) весь школьный день	I skipped the whole school day
Lithuania – Lithuanian	Nebuvau mokykloje visą dieną be pateisinamos priežasties	I was absent from school for the entire day without a valid reason
Luxembourg – French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Luxembourg – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Luxembourg- English	I skipped a whole school day	I skipped a whole school day

Mexico – Spanish	Falté sin autorizaci3n un d3a completo de clases	I was absent without permission for a full day of classes
Netherlands – Dutch	Ik spijbelde een hele schooldag.	I skipped a whole day of school
New Zealand- English	I skipped a whole school day	I skipped a whole school day
Norway – Bokmål	Jeg skulket en hel skoledag.	I skipped a whole day of school
Norway – Nynorsk	Eg skulka ein heil skuledag.	Could not translate
Poland – Polish	Byłaś/byłeś cały dzień na wagarach.	You were truant all day
Portugal – Portuguese	Faltei um dia inteiro às aulas	I missed a whole day of classes
Scotland – English	I skipped a whole school day.	I skipped a whole school day.
Slovak Republic – Slovak	Išiel/Išla som poza školu na celý vyučovací deň.	I skipped school for the whole day
Slovenia – Slovenian	Neopravičeno sem izostal/-a od pouka za cel dan.	I was absent from class for the entire day without justification
Spain – Galician	Faltei inxustificadamente un día enteiro.	I was absent without justification for a whole day
Spain – Basque	Egun osoan faltatu nintzen eskoletara.	Could not translate
Spain – Spanish	Me salté un día entero	I skipped a whole day
Spain-Catalan	Em vaig saltar un dia sencer.	Could not translate
Sweden – Swedish	Jag skolkade en hel dag	I skipped school for a whole day
Switzerland – French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Switzerland – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Turkey – Turkish	Bir tam gün okulu astım.	I skipped a whole day of school
England, Wales, NI - English	I skipped a whole school day	I skipped a whole school day
Wales - Welsh	Fe wnes i fethu diwrnod ysgol cyfan	Could not translate
United States – English	I skipped a whole school day.	I skipped a whole school day.

Appendix Table G4. PISA 2022. Wording of the truancy question.

Country / Language	National language (wording in questionnaire)	DEEPL translation
Australia	I skipped a whole school day	I skipped a whole school day
Austria – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Belgium – Dutch	Ik spijbelde een volledige dag	I skipped school for a whole day
Belgium – French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Belgium – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Canada- English	I skipped a whole school day	I skipped a whole school day
Canada – French	J'ai manqué sans autorisation toute une journée de cours.	I missed a whole day of lessons without permission
Chile – Spanish	Hice la cimarra un día completo	I skipped school for a whole day
Colombia – Spanish	Falté un día completo al colegio sin ninguna justificación	I missed a whole day of school without any justification
Costa Rica – Spanish	Falté sin autorización un día completo de lecciones.	I was absent without permission for a full day of lessons
Czech Republic – Czech	Byl/a jsem celý den za školou.	I was absent from school all day
Denmark – Danish	Jeg pjækkede en hel dag fra skole	I skipped a whole day of school
Denmark – Faroese	Eg skulkaði ein heilan skúladag.	Could not translate
Estonia – Russian	Я прогулял(-а) весь школьный день	I skipped the whole school day
Estonia – Estonian	Tegin tervest päevast poppi	I skipped school for the whole day
Finland – Finnish	Pinnasin koko koulupäivän.	I skipped the whole school day
Finland – Swedish	Jag skolkade en hel dag	I skipped school for a whole day
France – French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Germany – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Greece – Greek	Έκανα κοπάνα ολόκληρη την ημέρα	I skipped school all day
Hungary – Hungarian	Ellógtam egy egész tanítási napot.	I skipped an entire day of school
Slovak Republic – Hungarian	Lógtam az iskolából egy egész napot.	I skipped school for a whole day
Iceland – Icelandic	Ég skrópaði heilan dag í skólanum.	Could not translate
Ireland- English	I skipped a whole school day	I skipped a whole school day
Ireland – Irish	Mhúitseáil mé ar feadh lá iomlán scoile.	Could not translate
Israel – Arabic	تَغَيَّبْتُ يَوْمًا كاملاً عن المدرسة بدون إذن	I was absent from school for a whole day without permission
Israel – Hebrew	נעדרתי מבית הספר ליום שלם ללא אישור	I was absent from school for a whole day without permission
Italy – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Switzerland – Italian	Ho bigiato una giornata intera di scuola.	I skipped a whole day of school
Italy – Italian	Ho saltato un intero giorno di scuola	I skipped a whole day of school
Japan – Japanese	学校を無断欠席した	Took unauthorised leave from school
Korea – Korean	무단결석했다.	Absent without permission
Latvia – Russian	Я пропустил(-а) весь школьный день по неуважительной причине	I missed the entire school day for an unjustifiable reason
Latvia – Latvian	Es neapmeklēju skolu bez attaisnojoša iemesla visu dienu	I did not attend school without a valid reason for the entire day
Lithuania – Polish	Nie było mnie w szkole przez cały dzień bez uzasadnionego powodu.	I was absent from school for the entire day without a valid reason
Lithuania – Russian	не был/была в школе весь день без уважительной причины.	I was absent from school all day without a valid reason
Lithuania – Lithuanian	Nebuvau mokykloje visą dieną be pateisinamos priežasties	I was absent from school for the entire day without a valid reason
Luxembourg – French	N/A	N/A
Luxembourg – German	N/A	N/A
Luxembourg- English	N/A	N/A
Mexico – Spanish	Falté sin autorización un día completo de clases	I missed a full day of classes without permission

Netherlands – Dutch	Ik spijbelde een hele schooldag.	I skipped a whole day of school
New Zealand- English	I skipped a whole school day	I skipped a whole school day
Norway – Bokmål	Jeg skulket en hel skoledag.	I skipped a whole day of school
Norway – Nynorsk	Eg skulka ein heil skoledag.	Could not translate
Poland – Polish	Byłaś/byłeś cały dzień na wagarach.	You were truant all day
Portugal – Portuguese	Faltei às aulas durante um dia inteiro sem ter autorização	I missed classes for a whole day without permission
Scotland – English	I skipped a whole school day.	I skipped a whole school day.
Slovak Republic – Slovak	Išiel/Išla som poza školu na celý vyučovací deň.	I skipped school for the whole day
Slovenia – Slovenian	Neopravičeno sem izostala/-a od pouka za cel dan.	I was absent from class for the entire day without justification.
Spain – Galician	Faltei inxustificadamente un día enteiro.	I was absent without justification for a whole day
Spain – Basque	Egun osoan eskolan faltatu nintzen baimenik gabe.	Could not translate
Spain – Spanish	Me salté un día entero	I skipped a whole day
Spain-Catalan	Em vaig saltar un dia sencer.	Could not translate
Sweden – Swedish	Jag skolkade en hel dag	I skipped school for a whole day
Switzerland – French	J'ai séché toute une journée de cours.	I skipped a whole day of classes
Switzerland – German	Ich habe einen ganzen Schultag geschwänzt.	I skipped a whole day of school
Turkey – Turkish	Bir tam gün okulu astım.	I skipped a whole day of school
England, Wales, NI - English	I skipped a whole school day	I skipped a whole school day
Wales - Welsh	Fe wnes i fethu diwrnod ysgol cyfan	Could not translate
United States – English	I skipped a whole school day.	I skipped a whole school day.

Appendix Table G5. Estimated coefficients for all OECD years.

	PISA 2012		PISA 2018		PISA 2022			
Country	Beta	SE	Beta	SE	Beta	SE	cons	N
AUS	0.028	0.008	0.039	0.008	0.139	0.008	0.375	49,517
AUT	-0.026	0.007	0.063	0.007	0.015	0.006	0.112	22,747
BEL	-0.016	0.005	0.016	0.005	0.007	0.005	0.068	32,039
CAN	0.042	0.008	0.056	0.007	0.109	0.007	0.242	77,561
CHE	-0.042	0.007	0.056	0.011	0.001	0.008	0.081	26,483
CHL	-0.015	0.008	0.013	0.008	-0.037	0.007	0.093	24,303
COL	-0.394	0.009	-0.001	0.012	-0.174	0.010	0.438	32,393
CRI	-0.073	0.013	-0.003	0.013	-0.232	0.011	0.399	22,134
CZE	-0.023	0.006	0.022	0.006	-0.014	0.005	0.096	26,285
DEU	-0.037	0.006	0.040	0.009	0.019	0.007	0.101	16,747
DNK	-0.075	0.008	0.027	0.009	0.032	0.008	0.217	25,593
ENG	-0.077	0.009	-0.070	0.009	0.010	0.012	0.301	16,713
ESP	0.034	0.011	0.053	0.009	0.038	0.009	0.308	86,993
EST	-0.073	0.010	-0.053	0.010	-0.036	0.010	0.263	20,922
FIN	-0.262	0.010	-0.236	0.010	-0.225	0.010	0.400	28,838
FRA	-0.015	0.008	0.055	0.008	0.019	0.008	0.129	21,199
GRC	0.025	0.011	0.092	0.010	0.088	0.010	0.159	21,978
HUN	-0.015	0.006	0.037	0.007	-0.027	0.005	0.107	20,433
IRL	-0.204	0.008	0.054	0.011	0.168	0.011	0.293	20,139
ISL	-0.025	0.004	0.028	0.006	0.021	0.007	0.052	12,192
ISR	-0.021	0.013	0.059	0.012	0.033	0.011	0.341	22,229
ITA	-0.072	0.009	0.018	0.013	0.059	0.013	0.619	55,081
JPN	-0.002	0.003	0.004	0.004	-0.001	0.003	0.023	24,309
KOR	-0.001	0.003	0.003	0.003	-0.005	0.004	0.023	23,349
LTU	-0.034	0.012	0.054	0.010	-0.045	0.010	0.256	22,941
LUX	-0.040	0.005	0.035	0.006			0.107	14,554
LVA	-0.022	0.012	0.042	0.011	-0.050	0.011	0.290	18,452
MEX	-0.048	0.009	0.031	0.014	-0.069	0.011	0.236	50,097
NIR	-0.058	0.016	-0.094	0.014	-0.023	0.016	0.425	7,921
NLD	-0.026	0.004	0.019	0.006	-0.003	0.005	0.060	17,522
NOR	-0.062	0.006	0.002	0.007	0.001	0.007	0.145	20,895
NZL	-0.078	0.010	0.044	0.011	0.141	0.012	0.337	17,339
POL	-0.044	0.012	0.040	0.013	0.091	0.013	0.214	19,707
PRT	-0.020	0.010	0.069	0.010	-0.164	0.008	0.233	24,085
SCO	0.037	0.011	0.030	0.012	0.096	0.012	0.286	11,092
SVK	-0.417	0.011	-0.337	0.013	-0.439	0.010	0.547	20,953
SVN	0.016	0.007	0.052	0.007	-0.005	0.007	0.114	23,328
SWE	-0.018	0.006	0.007	0.006	0.001	0.006	0.115	19,975
TUR	0.071	0.013	0.045	0.013	0.062	0.010	0.387	23,896
USA	-0.164	0.011	-0.172	0.010	-0.079	0.012	0.450	18,707
WLS	-0.131	0.012	-0.059	0.013	0.034	0.015	0.434	10,392

Note: Year was included as a categorical term, with 2015 as the reference year. For all countries but Japan (JPN) and Costa Rica (CRI) the estimation adjusts for gender, migration status, PVI Math score quartiles and socioeconomic status quartiles. For JPN it does not adjust for migration status, and for CRI it does not adjust for ESCS quartile because they were not available for all years. Highlighted in red are the countries where a wording change occurred in 2015. Other cells highlighted in red reflect changes in wording in those specific country/years.

Appendix Table G6. Pooled estimates for the effect of the change in wording, all OECD countries

Percentage point change in the truancy rate	
Countries with wording change = 1	6pp*** (1.0pp)
Year (ref=2015)	
year = 2012	-0.8pp* (0.3pp)
year = 2018	3.6pp*** (0.3pp)
year = 2022	2.0pp*** (0.3pp)
1.WordingChange#2012.year	-15.9pp*** (0.8pp)
1. WordingChange#2018.year	-16.3pp*** (0.8pp)
1. WordingChange#2022.year	-9.2pp*** (0.9pp)
Constant	36.1pp*** (0.4pp)
Observations	2,098,007
R-squared	0.115

Note: Estimated using OLS. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Estimation adjusts for country fixed effects, gender, migration status and socioeconomic status quartiles.