Polling students in IB schools

A unique global deep dive into the views of IB students on artificial intelligence and climate change

PUBLICFIRST

Elinor Gray and Ed Dorrell, June 2024

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About Public First

Public First is a public policy research agency. We help organisations understand the complexities of the changing public policy environment with specialisms in education, technology, and the environment. We also help organisations speak to public audiences on policy issues – and we are members of the British Polling Council.

Foreword

Students around the globe are growing up in a world full of new challenges and exciting potential. We are on the cusp of a significant transformation in what it means to be human. Technological advances are happening at an extraordinary pace and the climate emergency looks increasingly irreversible. Everywhere we look, we see complexity.

Young people understand that the planet they will inherit will be a deeply challenging one, but they are clamouring to confront these challenges. As tomorrow's leaders, they seek the tools to do something about it. And yet rarely do adults ask what they think about pressing issues such as climate change and Artificial Intelligence.

We are fortunate that the International Baccalaureate (IB) is uniquely placed because of its global reach into more than 5,800 schools to respond to this glaring absence of student voice. Partnering with pollster Public First, we set out to find some answers by carrying out one of our largest surveys ever of more than 10,000 young learners in the IB community.

We did what students want and need us to do. We listened.

The results demonstrate that young people understand the complexity of the world around them. They also show us that, despite everything, optimism is one of the most important things we have and that we must grab hold of it and not let go.

Young people in our polling also told us, as educators and leaders, that they want our help. Resoundingly, students said they wanted more climate change education. They also told us that AI could be an incredibly powerful tool, and that schools must embrace this technological future and not run away from it.

These valuable insights are a challenge to those of us who lead education. This report is a first step in listening. Inspired by the findings, it is now our job to act.

Olli-Pekka Heinonen, Director General, International Baccalaureate

Methodology

These are the latest findings from a survey carried out for the International Baccalaureate (IB) by Public First between the 17th November and 18th December 2023. Distributed by teachers, the poll collected more than 10,000 responses from students (aged 13-18) across the globe who attend a school that offers IB. One third were state-school funded (37%), nearly half were funded via tuition fees (46%), 17% were unsure. The polling script was written and developed by Public First – as was the analysis of the results.

Executive Summary

- **Young people in IB schools are positive about their own future, and the future of their community, but they are pessimistic about the future of the planet.** Those who were more concerned about the environment and AI tended to be more pessimistic for the future of the planet.

Climate Change

- **Climate change awareness was high overall in IB schools**. We also found that greater awareness led to greater concern amongst young people.
    - Young people with the highest understanding of climate change were the most likely to be very worried about climate change.
    - However, we also found a strong correlation between higher understanding of climate change and climate optimism.

- **Young women were more concerned and less optimistic about climate change than young men.**

- **Young people in IB schools are pessimistic about human willingness to curb the impact of climate**
    - While the majority of young people thought that human beings have the ability to stop the worst consequences of climate change – fewer young people had confidence that humans would avert the worst consequences of climate change.
    - Pessimism for the future because of climate change was generally higher in more affluent countries.

- **Young people in IB schools want more climate change education,** especially those who have not been taught about climate change at school and pupils in state schools.

- **Young people in IB schools are confident that their voices are not sufficiently heard in the climate change debate.**

Artificial Intelligence

- **Young people in IB schools are very aware of AI and use it a lot.**
    - 82% of young people know what AI is and think that they could explain what it is. Some 77% of young people have used an AI chatbot before.

- **Young people are far more likely to feel positive than negative about AI.**
    - Those who have used AI chatbots before are the most likely to feel positive about it.

- **AI is often used in IB schools,** with the majority of young people claiming their school is making use of it, and that they use it in their schoolwork.

- **Those who were privately educated were more exposed to AI.** This group were more likely to have used AI before and are more likely than state school students to say their school is already making use of AI.

- **Young people were sure that the use of AI in their education is both inevitable, and a good thing.** They were confident that the use of AI would enhance their education and that the education system cannot avoid the influence of AI. This is despite the belief that they know more about AI than their teachers.

Analysis

While young people in IB schools are positive about their own future, and the future of their community, they are pessimistic about the future of the planet

- 72% of young people were positive (9% negative) about their future, 44% of young people were positive (22% negative) about the future of their community, and only 19% were positive (56% negative) about the future of the planet.
- Young women in particular felt negatively about the future of their planet (61% felt negatively, compared to 48% of young men).

Climate Change and developments in AI can be linked to pessimism about the future in young people

- A majority of those who said they were worried about climate change were also pessimistic about the planet's future (63%). Among those who said they were not at all worried about climate change, only a minority were pessimistic (35%).
- Similarly, 72% who felt negatively about AI also felt negatively about the future of the planet (compared to 55% who felt positive about AI). Moreover, 71% of those who judged AI to be a 'force for bad' rather than good also felt negatively about the future of the planet (compared to 49% who felt that AI was a 'force for good').

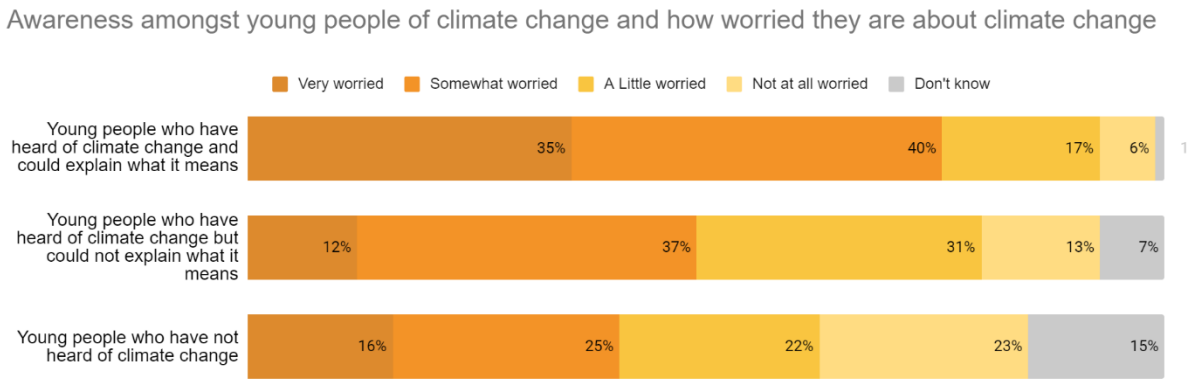
Views on climate change

The vast majority of those surveyed expressed confidence in explaining climate change

- 88% of young people said that they had awareness of climate change and would be able to explain what it means.

Greater awareness in young people led to greater concern

We found a highly significant correlation between climate change awareness and climate change concern (Model 1, see appendix). The group of young people with the highest understanding of climate change were the most likely to be "very worried" or "somewhat worried" about climate change – 75% compared to 41% who did not know what it meant.



Those who said they have been taught about climate change at school were the most likely to have heard of climate change and say they could explain it (91% who were taught about it at school) compared to those who weren't (79% who were not taught about it at school).

The older young people in our sample tended to show greater awareness of climate change…

We found a relationship between young people who had been in education for longer and higher climate change awareness: 88% of those in secondary or high school could explain climate change compared to 77% of those in primary or middle school.

And tended to learn about climate change in a wider range of school subjects

Younger students learnt about climate change in Geography, yet older students also learnt about it through biology.

- At a primary or middle school level (45%), and those aged 13-14 (54%) young people said they had been taught about climate change in geography. Yet, older students aged 15-16 (56%) and 17-18 (58%), and in secondary school (49%) also said they had learnt about it during biology along with geography. In comparison only 26% of 13-14-year-olds had learnt about climate change in biology.

Young people in our sample are generally pessimistic about whether humans will curb the impact of climate change – despite thinking it is possible

While the majority of young people (75%) thought that human beings have the ability to stop the worst consequences of climate change – only 40% of young people had confidence that humans would actually do so. A majority (53%) were “not very” or “not at all confident” that humans would avert the worst consequences of climate change.

This is despite young people having both confidence that it is not too late to solve climate change (62% of young people agree) and that their own actions can have an impact on climate change (64% of young people agree).

Climate change education and awareness leads to greater optimism

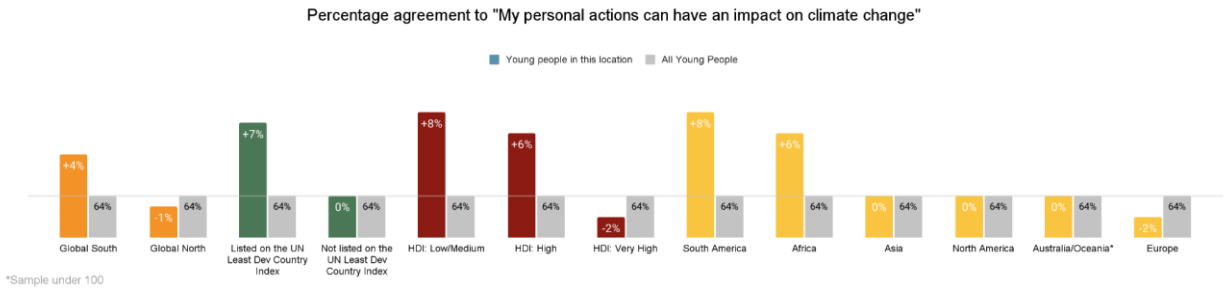
We found strong correlations between climate change awareness (being able to explain the term) and being taught about climate change at school, and young people being more optimistic about climate change (Regression 3, appendix).

Those in more developed areas of the world expressed lower levels of optimism about the future of climate change

We found a correlation between a young person living in a country with a higher Human Development Index (HDI) and having a more pessimistic view on climate change. (Model 2, see appendix).

For example, those who live in low and medium HDI countries were more likely to agree with the statement "it is not too late to solve climate change" than those who live in countries with a Very High HDI.

Young people who live in the Global South (5% more than in the Global North), in countries listed in the UN's Least Developed Country index (7% more than those who are not), in low or medium HDI graded countries (10% more than in to countries of a very high HDI), and who live in Africa (6% more than all young people) or South America (8% more than the result for all young people), are more likely to agree that their "personal actions can have an impact on climate change".



Young women were more concerned and less optimistic overall about climate change than young men

We found a strong correlation between gender and climate change concern (see Model 1 in the appendix). Young women were also slightly less optimistic about the future impacts of climate change than young men (see Model 2 in the appendix). Young women were also more likely to think climate change is one of the most pressing issues facing their country (7% more than young men).

One third (37%) of young women thought humans would be able to avert the worst consequences of climate change compared to 46% of young men. When asked, 75% of young women compared to 62% of young men thought that their voices were not heard on climate change. Using a Climate Change Optimism index (ranking students optimism score by how much they agree or disagree with the positive and negative climate change opinion statements we tested), we found a correlation between female gender and a decrease in climate optimism.

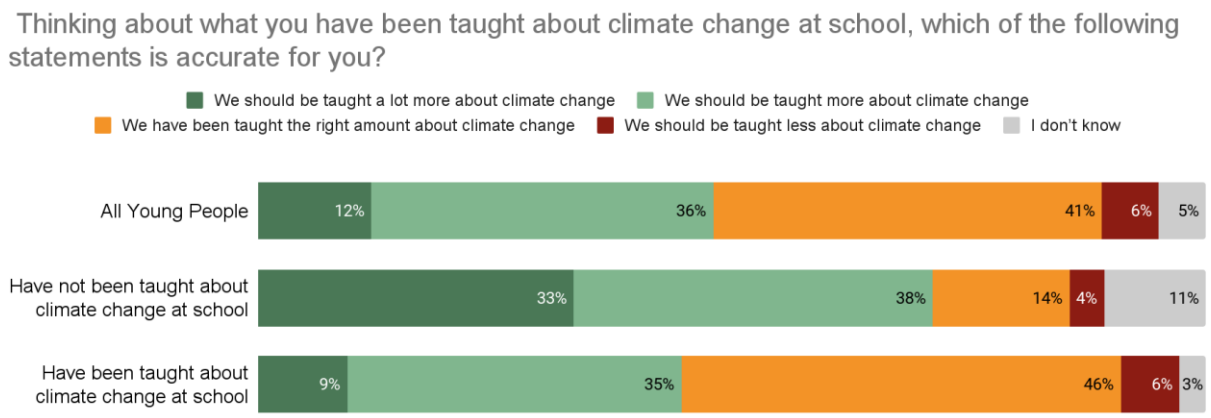
71% of young women in our sample wanted more climate change education in their schools compared to 58% of young men. Young women were also more likely (75%) than young men (62%) to think that young people's voice are not heard enough on climate change.

Future of climate change education

Young people want more climate change education, especially those who have both not been taught about it at school

While 41% of young people thought they had been taught the right amount about climate change, 48% wanted to be taught more about it (12% of whom wanted to be taught "a lot more").

- This was especially true of young people who had not been taught about climate change at school, who were the most confident that they wanted to be taught more at school (71%, 30% higher than all young people).
- Young people who had been taught about climate change at school were divided and just as likely to say they had been taught the right amount (45%) as they were to want additional teaching (46%).



Young people who were not taught about climate change at school were also more likely than those who were taught about it (12%) to say they wanted schools to find more time to talk about climate change.

Young people are confident that their voices are not heard on climate change

Some 70% of young people agreed that their voices are not sufficiently heard in the climate change debate and only 3% thought they were listened to too much. This was consistent across location, age, and education type.

Artificial intelligence

Young people in IB schools are very aware of AI and use it a lot

Some 82% of the young people we polled know what AI is and think that they could explain what it meant and only 2% had not heard of it. Young people were also more likely to say they knew more about AI than their teachers (46%), than they are to say they know the same amount (32%) or less than their teachers (14%).

Meanwhile, 77% have used an AI chatbot. Young men were slightly more likely (80%) than young women (75%) to have used an AI chatbot before, along with the older age group of the sample (83% of 17–18-year-olds compared to 65% of 13–14-year-olds). 54% of young people have used AI in their schoolwork, although 44% have only used it "a little".

Young people are also largely positive about AI

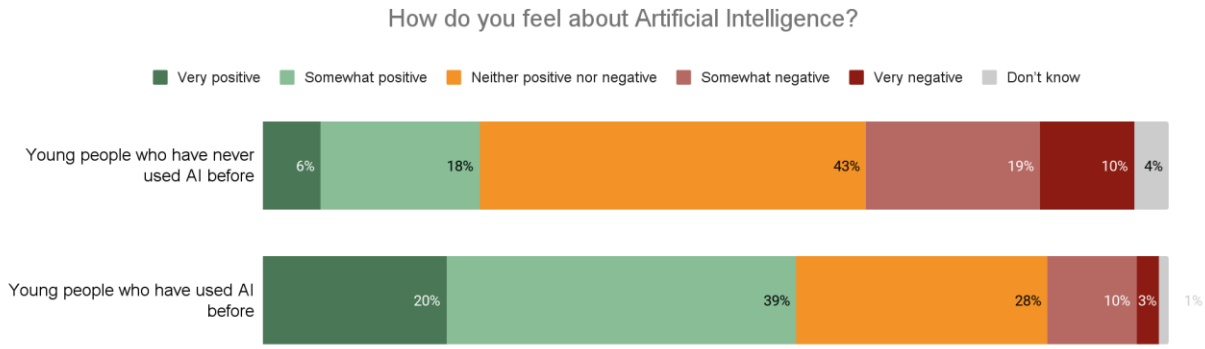
Young people are more likely to feel positive (51%) than negative (16%) about AI.

They are however a little unsure if overall AI is a force for good or bad – with 42% choosing to neither agree nor disagree when asked directly. Those who had an opinion were slightly more likely to select that it was a force for good (29%) than bad (16%).

Young people who are using AI more tend to be those with more positive views about it

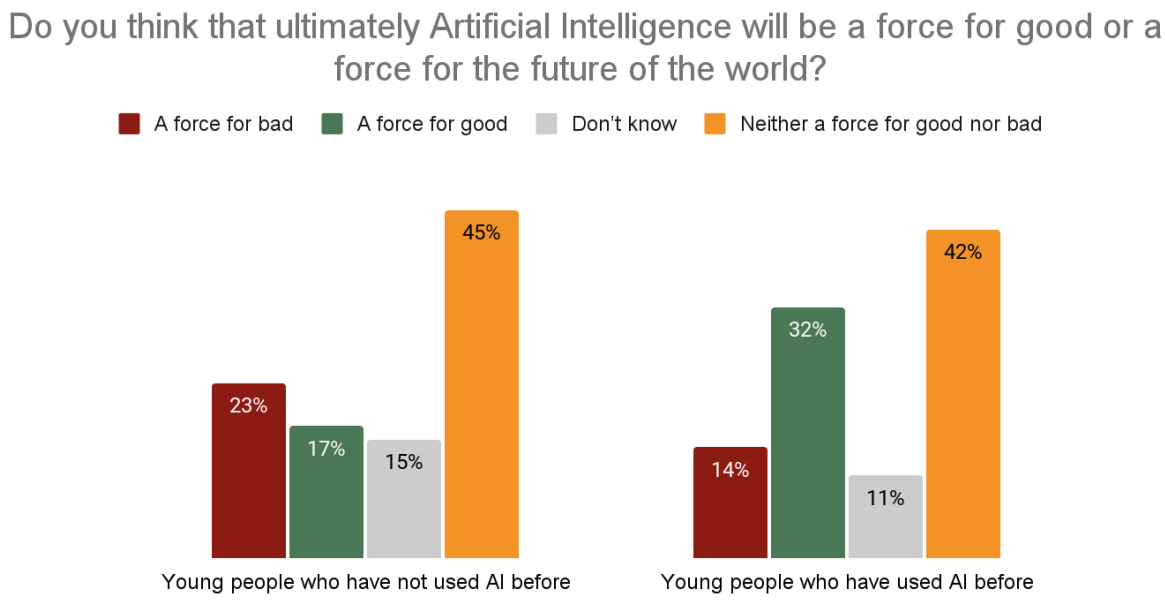
Our regression analysis showed that increased AI use was associated with an increased positive opinion on AI, as is using AI in schoolwork, and if the respondent's school is making use of AI. We cannot infer directionality – a reasonable interpretation of this finding could that a negative view of AI could put someone off from using it.

While young people are more likely to feel positive (51%) than negative (16%) about AI, those who have used AI chatbots before are the most likely to feel positive about it (59%) compared to young people who have not (just 24%).



Moreover, young people who have used AI in their schoolwork before are also more likely to feel positive about AI (64%) than students who have not used AI in their schoolwork (36%).

In total, 29% thought AI was a force for good rather than bad – yet this percentage is higher for young people who have used AI before (32%) compared to those who had not (17%).



Young people at IB schools who have access to and/or using AI does not vary based on where they are in the world, but young women were more cautious in their approach to AI than young men

Young men were slightly more likely (80%) than young women (75%) to have used AI, yet being female correlates with a more negative view of AI (Model 3, see appendix) and less agreement that AI would enhance education.

Schools are using AI and it encourages their pupils to also use AI

54% of young people have used AI in their schoolwork, and 53% have said that their school is making use out of AI – even if only 23% of young people think it is making "the best use" of it.

Whether young people are at primary/middle school or secondary/high school does not affect young people's perception of if their school is making the best use of AI.

Young people in our sample who are privately educated are more exposed to AI

Whether a young person is privately-educated correlated with their use of AI chatbots, as well as their school making use of AI. In our survey, privately-educated young people are more likely to (86% of those in private education compared to 69% of state schools) have used AI before. Moreover, 62% of young people who attended a private school say that their school is using AI, compared to only 44% of state schools.

Those who attend a school funded by fees (66%) are more likely than those in state-funded schools (42%) to have used AI in their schoolwork before.

Young men are more positive and confident on AI than young women

When asked how they feel about AI, young men were more likely to say that they feel positive about it (64%) than young women (42%), while young women were 7% more likely to feel negative about AI.

When asked if they thought AI would enhance their education and/or lessons, young men were far more likely to agree (62%) than young women were (47%).

Some 55% of young men thought they knew more about AI than their teachers, compared to just 39% of young women.

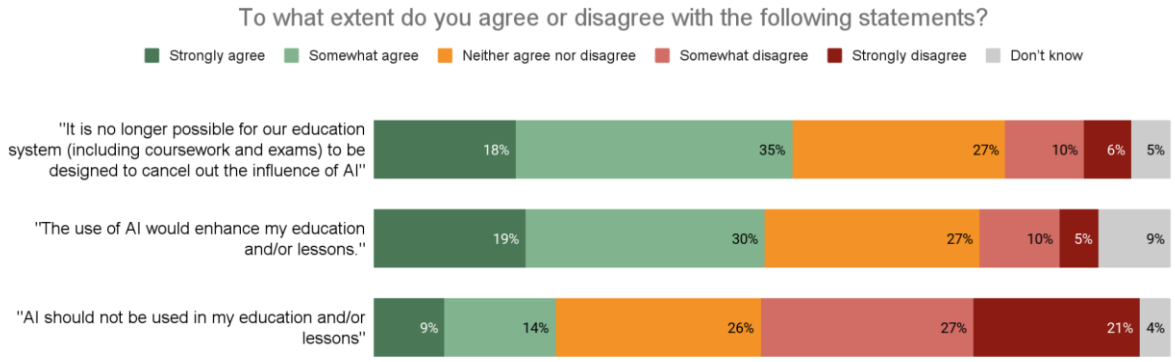
The future of AI in education

Young people were confident that the use of AI in their education was both inevitable and a good thing

Young people were far more likely to agree that the use of AI would enhance their education (53% agree) than that it should not be used in their education (22% agree).

- Those who are privately-educated are more likely to think that AI would enhance their education and/or lessons (61%) than students at state schools (46%).
- Interestingly, whether young people think their school is currently making use of AI did not affect if they think that their school should be using AI.
- Instead, if a young person felt positively about AI, they are more likely to agree (72%) that AI would enhance their education than disagree (25%) – while those who have a negative view of AI think that AI should not be used in their education (51%).

Young people were even more confident that the education system in the future cannot avoid the influence of AI (49% agreement). That being said, a number of young people still sit on the fence concerning the issue – choosing to neither agree nor disagree.

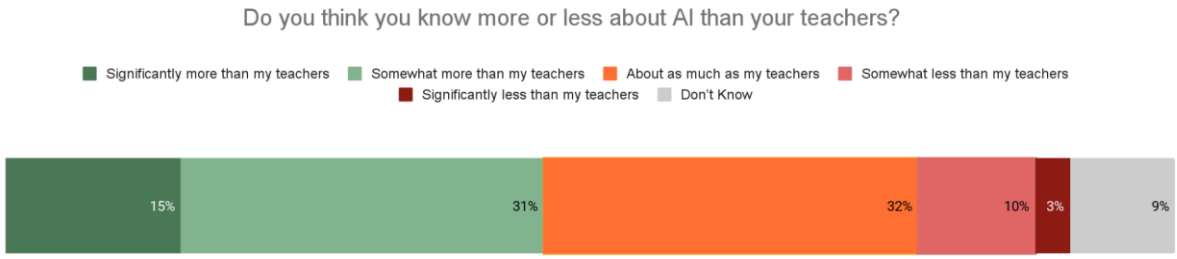


Young people who have used AI are more positive about its future use

In Model 4 (see appendix below) greater use of AI was correlated with greater agreement that AI would enhance education. Moreover, 65% of those who have used AI in their schoolwork before think that it would enhance their education (compared to 33% who haven't).

Young people have little faith in their teachers' AI knowledge

Young people were also more likely to say they knew more about AI than their teachers (46%), than they are to say they know the same amount (32%) and less than their teachers (14%).



- Young people who said that they have used AI in their schoolwork before were the most likely to think their knowledge was larger than that of their teachers (52% of those who have used AI in schoolwork before compared to 40% who hadn't).
- Even 32% of young people who had never used an AI Chatbot before thought that they knew more about AI than their teachers (33% thought they knew the same amount).
- 55% of young people who thought that AI would enhance their education also felt that they knew more about AI than their teachers.

Appendix: Regressions

To aid with our analysis, Public First carried out a series of regression analyses. The methodology and extended findings can be found here.

Model 1: Climate change concern

Is concern for climate change (being worried about climate change) predicted by students' demographics, location, education, or climate change education?

After removals for missing data this model was fit with a sample of 7, 998 students (aged 13-18) who are at schools that offer the International Baccalaureate.

Dependent variable: this is the variable for which we're investigating and identifying the underlying predictors or determinants.

- **Climate change concern** (ordinal; coded on a scale of 1-4 from very not concerned to very concerned)

Independent variables: these are variables we expect to predict or shape the dependent variable.

- **Gender Identity** (Base: Female)
- **Age** (continuous; 13-18)
- **School Type** (Binary: Private)
- **School Phase** (Ordinal; level of school education coded as number from 1-3 primary to high school)
- **If the pupil is enrolled in an IB programme** (Base: Yes)
- **HDI: if their country is placed on the Human Development Index** per the latest HDI release (ordinal; coded on a scale of 1-4; 4 = Very High Human Development Grade, 3 = High Human Development Grade, 2 = Medium Human Development Grade, 1 = Low Human Development Grade, country's not featured in the Index were removed)
- **UNLDC: if their country is listed in the UN's Least Developed Country List** - 2023 Update (Base: Listed)
- **Where they live: if their country is located in the Global North** according to the Brandt Line (Base: Global South)
- **Continent** (Base: Europe)
- **Climate change awareness** (ordinal; coded on a scale of 1-3 from has not heard of it to has heard of climate change and could explain it)
- **Climate change education at school** (Base: Yes)

Term	Level	Estimate	std.error	Statistic	p.value	Significance
Climate Change Awareness	Ordinal	0.40053	0.03161	12.67016	0.00000	***

Gender	Female	0.38828	0.01933	20.09212	0.00000	***
Continent	South America	0.19687	0.06014	3.27382	0.00107	**
Continent	North America	0.13035	0.02407	5.41595	0.00000	***
IB Enrolment	Yes	0.12943	0.03991	3.24339	0.00119	**
School Type	Private	0.05784	0.02221	2.60408	0.00923	**
Age	Continuous	0.05297	0.00760	6.97142	0.00000	***
UNLDC	Listed	0.14776	0.08430	1.75264	0.07970	
Continent	Africa	0.12691	0.09086	1.39671	0.16254	
Continent	Oceania	0.10107	0.11002	0.91861	0.35833	
Climate Change Education	Yes	0.05223	0.03008	1.73616	0.08257	
Continent	Asia	0.04144	0.04504	0.91997	0.35762	
Global Location	Global South	0.00025	0.04989	0.00498	0.99603	
School Phase	Ordinal	-0.01390	0.01845	-0.75342	0.45122	
HDI	Ordinal	-0.01858	0.02332	-0.79672	0.42564	
Intercept	Intercept	0.63541	0.17711	3.58757	0.00034	***
*** <0.001 ; ** <0.01 ; * <0.05 ; else n.significant Adjusted R-squared: 0.08695						

Interpretation

These results indicate that climate change awareness and gender have the strongest links with how concerned a young person is about climate change, but even this correlation is relatively weak.

The significant predictors of climate change awareness are being aware of the term, being female, going to a private school, being enrolled in IB, and generally how old the student is, but again these were fairly weak associations. Students in North America and South America were also more likely than those in Europe to be concerned about climate change, yet students in other parts of the world were equally likely as students in Europe to be concerned about climate change.

- **Correlated with climate change concern**
    - Term Awareness: We found the strongest correlation to be between having awareness of the term 'climate change' and being concerned about that same issue.
    - Gender: Young women were more concerned than young men about climate change.
    - Continent: Students in North and South America were more concerned than students in Europe about climate change. The rest of the continent options had no significance.
    - IB enrolment: being enrolled on an IB course was correlated with higher concern for the climate.
    - School type: Privately-educated students were more likely to be concerned about climate change.
    - Age: Each increase of a year in a student's age resulted in an increase in the fitted value of 0.05.

- **Not associated with climate change concern**
    - Climate change education at school: Being taught about climate change at school did not make pupils more likely to be concerned about climate change.
    - Development level of home nation (HDI and UNLDC): Where a student's home country is listed both on the HDI and if it can be found on the UNLDC list did not affect the likelihood that they were concerned about climate change.
    - Continent of their home country (Asia, Oceania, Africa) was not correlated with climate change concerns.
    - Global Location: Being in the Global North or South did not affect climate change concern.
    - School Phase: The stage a young person was at in school did not affect their concern for climate change.

Model 2: Climate optimism

We wanted to answer the questions: Are levels of optimism for climate change (using the Climate Change Optimism Index) in young people predicted by students' demographics, location, education, or climate change education?

*A **Climate Change Optimism Index** was created to assess the factors impacting climate optimism in young people. Each participant responded to 3 questions on climate change (listed below), and*

we combined them together to create a score for how optimistic they are about humanity's ability to address climate change.

- *To what extent do you agree or disagree with the following statements? "Humans have the ability to stop the worst consequences of climate change" (Scale of 1-5, strong agreement = higher optimism score, Don't know = 0)*
- *To what extent do you agree or disagree with the following statements? "It is not too late to solve climate change" (Scale of 1-5, strong agreement = higher optimism score, Don't know = 0)*
- *How confident are you, if at all, that humans will avert the worst consequences of climate change? (Scale of 1-4, higher confidence = higher optimism score, Don't know = 0)*

This score is a value between 0 (lowest optimism) and 1 (highest optimism), and the average among the whole sample is 0.69.

After removals for missing data this model was fit with a sample of 8,091 students (aged 13-18) who are at schools that offer the International Baccalaureate.

Dependent variable: this is the variable for which we're investigating and identifying the underlying predictors or determinants.

- **Climate Change Optimism Index Score** (Continuous; coded from 0 = least optimistic or most likely to say 'don't know', to 1 = very optimistic)

Independent variables: these are variables we expect to predict or shape the dependent variable.

- **Gender Identity** (Base: Female)
- **Age** (continuous; 13-18)
- **School Type** (Binary: Private)
- **School Phase** (Ordinal; level of school education coded as number from 1-3 primary to high school)
- **If the pupil is enrolled in an IB programme** (Base: Yes)
- **HDI: if their country is placed on the Human Development Index** per the latest HDI release (ordinal; coded on a scale of 1-4; 4 = Very High Human Development Grade, 3 = High Human Development Grade, 2 = Medium Human Development Grade, 1 = Low Human Development Grade, country's not featured in the Index were removed)
- **UNLDC: if their country is listed in the UN's Least Developed Country List** - 2023 Update (Base: Listed)
- **Where they live: if their country is located in the Global North** according to the Brandt Line (Base: Global South)
- **Continent** (Base: Europe)
- **Climate change awareness** (ordinal; coded on a scale of 1-3 from has not heard of it to has heard of climate change and could explain it)
- **Climate change education at school** (Base: Yes)

Term	Level	Estimate	std.error	Statistic	p.value	Significance
CCAwareness	Ordinal	0.04348	0.00588	7.40129	0.00000	***
Continent	South America	0.02590	0.01150	2.25295	0.02429	*
HDI	Ordinal	-0.02205	0.00445	-4.95150	0.00000	***
Climate Change Education	Yes	0.02053	0.00572	3.59047	0.00033	***
Gender	Female	-0.01912	0.00368	-5.19331	0.00000	***
Continent	North America	0.01356	0.00458	2.95678	0.00312	**
Age	Continuous	0.00076	0.00144	0.52509	0.59953	
School Type	Private	0.00128	0.00423	0.30160	0.76296	
School Phase	Ordinal	-0.00087	0.00351	-0.24799	0.80415	
IB Enrolment	Yes	0.00988	0.00753	1.31181	0.18962	
UNLDC	Listed	-0.02081	0.01603	-1.29828	0.19423	
Global Location	Global South	0.00343	0.00952	0.35986	0.71896	
Continent	Oceania	0.00979	0.02108	0.46416	0.64255	
Continent	Africa	-0.00258	0.01736	-0.14858	0.88189	
Continent	Asia	-0.00350	0.00861	-0.40645	0.68443	
Intercept	Intercept	0.62875	0.03336	18.84859	0.00000	***
*** <0.001 ; ** <0.01 ; * <0.05 ; else n.significant Adjusted R-squared: 0.0.0214						

Interpretation

The significant predictors of climate change optimism are climate change awareness, being educated about climate change at school, and location. Young people in more developed countries (with a higher HDI) were less optimistic, yet young people located in South and North America were more optimistic relative to those in Europe. Young women were also less optimistic than young men.

- **Correlated with climate change optimism:**
  - Term awareness: We found the strongest correlation to be between having awareness of the term 'climate change' and being optimistic about climate change.
  - Gender: Young women were less optimistic than young men
  - Continent: Students in North and South America were more optimistic than students in Europe about the future of climate change.
  - HDI: the higher HDI grade given to a student's country, the less optimistic they were.
  - Climate change education at school: Being taught about climate change at school is correlated with optimism towards climate change.

- **Not associated with climate change optimism:**
  - Age: A students' age was not correlated with climate change optimism
  - UNLDC: Whether a student's home country is listed both on the UNLDC list
  - Continent of their home country (Asia, Oceania, Africa) was not correlated with a student having more or less optimism than a student in Europe.
  - Global Location: Being in the Global North or South did not affect climate change optimism.
  - School Phase
  - School Type
  - IB Enrolment

Model 3: Opinion on AI

We wanted to find out: Is a student's opinion on AI (positive or negative) predicted by students' demographics, location, education, or their experience of AI so far?

After removals for missing data this model was fit with a sample of 6,617 students (aged 13-18) who are at schools that offer the International Baccalaureate.

Dependent variable: this is the variable for which we're investigating and identifying the underlying predictors or determinants.

- **Opinion on AI** (Ordinal; scale of -2 to 2 and Very negative to Very positive)

Independent variables: these are variables we expect to predict or shape the dependent variable.

- **Gender Identity** (Base: Female)
- **Age** (continuous; 13-18)
- **School Type** (Binary: Private)
- **School Phase** (Ordinal; level of school education coded as number from 1-3 primary to high school)
- **If the pupil is enrolled in an IB programme** (Base: Yes)
- **HDI: If their country is placed on the Human Development Index** per the latest HDI release (ordinal; coded on a scale of 1-4; 4 = Very High Human Development Grade, 3 = High Human Development Grade, 2 = Medium Human Development Grade, 1 = Low Human Development Grade, country's not featured in the Index were removed)
- **UNLDC: If their country is listed in the UN's Least Developed Country List** - 2023 Update (Base: Listed)
- **Where they live: If their country is located in the Global North** according to the Brandt Line (Base: Global South)
- **Continent** (Base: Europe)
- **AI Awareness** (ordinal; coded on a scale of 1-3 from has not heard of it to has heard of AI and could explain it)
- **AI Use (**ordinal; coded on a scale of 1-3 from have used it regularly to not at all)
- **Has used AI in schoolwork** (Base: Yes)
- **If their school makes use of AI** (Ordinal; coded scale of 1-4, from it makes no use of AI to the best use of AI)

Dependent Variable

Opinion on AI (ordinal; coded on a scale of 1-3 from has never used an AI bot before to uses an AI bot regularly)

Term	Level	Estimate	std.error	statistic	p.value	Significance
Gender	Female	-0.41777	0.02216	-18.85351	0.00000	***
AI Bot Use	Ordinal	0.38626	0.01922	20.09795	0.00000	***
Used AI in their school work	Yes	0.21196	0.02635	8.04472	0.00000	***
UNLDC	Listed	-0.19947	0.09125	-2.18589	0.02886	*
AI Awareness	Ordinal	0.10516	0.02965	3.54737	0.00039	***
HDI	Ordinal	-0.05846	0.02536	-2.30484	0.02121	*

age	Continuous	-0.03484	0.00889	-3.92095	0.00009	***
School Using AI	Yes	0.03471	0.01196	2.90145	0.00373	**
School Type	Private	0.00832	0.02570	0.32370	0.74618	
School Phase	Ordinal	0.01988	0.02124	0.93613	0.34924	
IB Enrolment	yes	0.02041	0.04583	0.44538	0.65606	
Global Location	Global South	-0.07921	0.05422	-1.46080	0.14412	
Continent	Oceania	-0.22886	0.12005	-1.90639	0.05664	
Continent	Africa	0.05743	0.09961	0.57655	0.56427	
Continent	Asia	0.05934	0.04945	1.19999	0.23019	
Continent	North America	0.00032	0.02824	0.01127	0.99101	
Continent	South America	0.12868	0.06608	1.94720	0.05155	
Intercept	Intercept	0.23333	0.19568	1.19240	0.23315	
*** <0.001 ; ** <0.01 ; * <0.05 ; else n.significant Adjusted R-squared: 0.1751						

Interpretation

These results indicate that the most significant predictors of a positive opinion of AI are greater use (in general, and in schoolwork) of AI, and gender (being male).

The significant predictors of a student's opinion towards AI are gender, greater AI bot use, using AI in schoolwork, age, and if their school is already using AI. Students in less developed countries (according to HDI and the UNLDC list) were more negative about AI compared to the more developed parts of the world. School type had no correlation.

- **Correlated with opinion on AI**
  - Gender: gender had the strongest correlation with young women holding more negative views towards AI than young men.

  - AI bot use: the more pupils use AI bot's, the greater the correlation with a positive opinion of AI.
  - Using AI in school work had a positive correlation with a positive opinion of AI.
  - Home country development grade: students' home country being listed lowly in the HDI or in the UNLDC list had a correlation with students having a negative opinion on AI.
  - Age: age was correlated with a negative opinion of AI so as students get older they think more negatively about AI.
  - School using AI: students who attend a school that is already making use of AI are more likely to feel positive about it.

- **Not associated with a student's opinion of AI.**
  - School type: a private or state education had no impact on a student's opinion of AI.
  - School Phase: the stage a young person was at in school did not affect a student's opinion of AI.
  - IB Enrolment: being enrolled on an IB course was not correlated with a student's opinion of AI.
  - Global Location: Being located in the Global North or South did not affect students' opinion on AI.
  - Home continent was not correlated with climate change concerns.

Model 4: Belief that AI would enhance school education

Is a student's opinion on the future of AI in the education system predicted by students' demographics, location, education, or their experience of AI so far?

After removals for missing data this model was fit with a sample of 6,617 students (aged 13-18) who are at schools that offer the International Baccalaureate.

Dependent Variable: this is the variable for which we're investigating and identifying the underlying predictors or determinants.

- **Agreement with the statement: "The use of AI would enhance my education and/or lessons"** (Ordinal; scale of -2 to 2 and strongly disagree to strongly agree)

Independent Variables: these are variables we expect to predict or shape the dependent variable.

Gender Identity (Base: Female)
Age (continuous; 13-18)
School Type (Binary: Private)
School Phase (Ordinal; level of school education coded as number from 1-3 primary to high school)
If the pupil is enrolled in an IB programme (Base: Yes)

HDI: if their country is placed on the Human Development Index per the latest HDI release (ordinal; coded on a scale of 1-4; 4 = Very High Human Development Grade, 3 = High Human Development Grade, 2 = Medium Human Development Grade, 1 = Low Human Development Grade, countries not featured in the Index were removed)
UNLDC: if their country is listed in the UN's Least Developed Country List - 2023 Update (Base: Listed)
Where they live: if their country is located in the Global North according to the Brandt Line (Base: Global South)
Continent (Base: Europe)
AI Awareness (ordinal; coded on a scale of 1-3 from has not heard of it to has heard of AI and could explain it)
AI Use (ordinal; coded on a scale of 1-3 from has never used an AI bot before to uses an AI bot regularly)
Opinion on AI (Ordinal; scale of -2 to 2 and Very negative to Very positive)

Term	Level	Estimate	std.error	statistic	p.value	Significance
AIUse	Ordinal	0.4608	0.0172	26.7161	0.0000	***
Gender	Female	-0.3152	0.0228	-13.8266	0.0000	***
School Type	Private	0.1046	0.0262	3.9983	0.0001	***
HDI	Ordinal	-0.1166	0.0271	-4.3080	0.0000	***
School Phase	Ordinal	0.0459	0.0216	2.1306	0.0331	*
age	Continuous	-0.0288	0.0090	-3.1926	0.0014	**
IB Enrolment	Yes	0.0851	0.0460	1.8499	0.0644	
UNLDC	Listed	-0.0638	0.0974	-0.6551	0.5124	
Global Location	Global South	0.0109	0.0580	0.1873	0.8514	
Continent	Oceania	-0.0119	0.1277	-0.0935	0.9255	
Continent	Africa	0.0230	0.1058	0.2179	0.8275	
Continent	Asia	0.0898	0.0525	1.7111	0.0871	

Continent	North America	-0.0534	0.0282	-1.8944	0.0582	
Continent	South America	-0.0688	0.0700	-0.9820	0.3261	
AI Awareness	Ordinal	0.0176	0.0292	0.6028	0.5466	
(Intercept)		0.3361	0.1959	1.7152	0.0864	
*** <0.001 ; ** <0.01 ; * <0.05 ; else n.significant Adjusted R-squared: 0.1751						

Interpretation

Gender (being female) and frequent AI bot (increased use correlated with increased agreement) use were the most significant predictors of the belief that AI would enhance education for young people.

Other significant predictors include school phase (agreement with the statement correlated with spending more time in school), school type (privately educated students were more likely to agree), age (agreement with the statement decreased with age), and HDI (the lower the HDI of the students' home country, the more likely they are to agree). The belief that AI would enhance their education did not correlate with a student's knowledge of AI or their location in the world (other than HDI).

- **Correlated with the opinion that AI would enhance education:**
  - Gender: gender had the strongest correlation with young women more likely to agree.
  - AI bot use: the more pupils use AI bot's, the greater the correlation with the belief that AI would enhance their education.
  - Age: age was correlated with the belief that AI would enhance their education, yet as students got older, they are less likely to agree with the statement.
  - Home country development: the lower the HDI of the students' home country, the more likely they are to agree.
  - School phase.

- **Not associated with the opinion that AI would enhance education**
  - IB Enrolment: being enrolled on an IB course was not correlated with the belief that AI would or would not enhance their education.
  - AI Awareness
  - Global Location: Being in the Global North or South did not affect students' opinion on AI, neither did the continent, or if the home country is listed on the UNLDC list.