



UNIVERSITY OF  
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The Effects of Single and Mixed Sex Schooling on Social  
Development

Joelle Oki

University of Cambridge

Supervised by David Young

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## Introduction

This study investigated the effects of single-sex schooling on social development, aiming to uncover how different educational environments (single-sex vs mixed) impact social skills in adulthood.

### Background

Single-sex schools are often commended for their superior academic performance, a claim supported by numerous studies. For instance, a study by Eisenkopf et al. (2015) found that female students in single-sex classes achieved higher mathematics grades than those in coeducational classes, with their average performance improving by about 7–10%. Similarly, Park et al. (2012) found that single-sex schools in Seoul are causally linked to higher average scores in Korean and English tests and increased college attendance rates compared to coeducational schools. These findings suggest that single-sex educational environments may provide a more focused academic setting, potentially free from gender-based distractions or stereotypes that can impact learning. However, academic performance is only one aspect of adolescent development. The effect of single-sex schooling on social development is less clear-cut and remains an area for exploration.

Social development during high school is crucial as it lays the foundation for future interpersonal skills and relationships. The dynamics of interaction in single-sex schools can significantly differ from those in mixed schools, potentially leading to different social experiences and developmental outcomes (Marsh, 1989). For instance, students in single-sex environments may have fewer opportunities to interact with peers of the opposite sex, potentially limiting their ability to develop communication skills and relationships with them. This separation could lead to difficulties in mixed-gender environments later in life, such as in the workplace, higher education or in personal relationships.

On the other hand, components of single-sex education can foster greater self-confidence and self-esteem (Wills et al, 2006), particularly in environments free from the gender-based expectations often present in coeducational settings. For example, girls in single-sex schools may feel more empowered to pursue traditionally male-dominated subjects like mathematics and science without the pressure of gender norms. (Jackson, 2002) Likewise, boys in single-sex schools might engage more openly in discussions about emotions and areas where they might feel inhibited in the presence of girls. The absence of the opposite sex in the classroom

could lead to a greater focus on personal development and academic achievement, which could translate into stronger social skills in adulthood.

Hence, this research seeks to explore more specifically how the social dynamics within single-sex schools compare to those in coeducational settings, and whether these environments foster or hinder the development of interpersonal skills and relationships. This study is inspired by both personal interest and academic curiosity, particularly influenced by my own experiences within a single-sex secondary school and sixth form. Having navigated a single-sex educational environment for the majority of my compulsory education, I am intrigued by how these experiences may have shaped my social skills and those of my peers.

### Aims

The overarching aim of this research is to discern whether single-sex schooling promotes or hinders social development and possibly to what extent gender plays a role in this process. Additionally, the research will explore the following:

- Impact on Social Interactions: Investigate how single-sex schooling influences the frequency and quality of social interactions with the opposite sex.
- Long-Term Social Outcomes: Analyse the long-term effects of single-sex schooling on social skills
- Self-Confidence and Independence: Assess whether single-sex schooling contributes to higher levels of self-confidence and independence, particularly in mixed-gender social situations later in life.

By focusing on these often-overlooked aspects of education, this study hopes to contribute to a more nuanced understanding of how different educational environments shape individuals, not just academically, but socially and emotionally as well.

## Methodology

Before starting the study, ethical approval was obtained from the University of Cambridge's Department of Psychology Ethics Committee.

### Participants

This study focused on 6 undergraduate students at the University of Cambridge using a volunteer sample. All participants were aged 18 and above and had experience attending either a single-sex school, a coeducational school, or both in the United Kingdom.

### Procedure

The research began with the administration of a questionnaire created on Qualtrics. Informed consent was obtained electronically as a question at the beginning of the questionnaire.

Immediately following the survey, participants engaged in a semi-structured interview via Microsoft Teams. The interviews were designed to flow naturally from the survey, allowing participants to expand on the themes introduced in their questionnaire responses. At every stage participants were reminded that they were under no obligation to answer any questions they did not feel comfortable with.

## Materials

To effectively investigate the effects of single-sex schooling on social development, a mixed-methods approach was employed.

The quantitative component of the study involved the administration of a questionnaire designed to gather essential demographic data and measure various dimensions of social development. The full set of questions is listed in the Appendix. This questionnaire was constructed to cover key aspects of social interactions, including the frequency and nature of participants' social engagements, their comfort in mixed-gender environments, and their self-perceived social competence. The quantitative data gathered from the questionnaire served as the foundation for statistical testing.

The semi-structured interviews were designed to delve deeper into participants' personal experiences and perceptions regarding their social development. The semi-structured nature of the interviews allowed for flexibility, providing participants with the opportunity to express their thoughts and feelings in greater detail than the questionnaire alone could capture. Each interview was recorded, with participants' consent, for transcription and subsequent analysis.

The qualitative data from the semi-structured interviews were analyzed using thematic analysis. The process involved reviewing the transcripts, followed by identifying common themes and patterns, focusing on friendship dynamics, sociability with the opposite sex, and challenges in transitioning to mixed-gender environments.

The questions can be found in the appendix.

## Results

### Participant Demographics

All participants identified as female, with a mean age of 19.2 years (SD = 0.49). Ethnically, three participants identified as Black, Black British, Caribbean, or African, two identified as White, and one identified as Mixed or multiple ethnic groups. Three participants attended a single-sex female school for the majority of their secondary school education, while the remaining three attended mixed schools. One participant attended both a single-sex secondary school and a mixed sixth form, whereas the remaining five stayed at the same type of school through the completion of their A-levels.

### Qualitative Results: Interviews

Across the interviews common themes emerged from both groups.

### Friendships

The interview targeted the evolution of friendships throughout the participants' educational journey as the ability to make and maintain friends is a vital component of social development.

Friendship dynamics among mixed school participants showed both stability and adaptability. One participant mentioned, "I had a group of close friends in secondary and we still talk," demonstrating the enduring nature of these friendships. Another participant noted, "There were times where it got a lot bigger, then in year 11 it got a lot smaller," reflecting the evolving nature of their social circles. Similarly, the third participant added, "We had a lot of fun together, and our friendship group always changed."

Participants from single-sex schools described more consistent friendship groups. One participant indicated, "I had the same friend group from year 7 all the way to the end of school," highlighting loyalty in their relationships. Another said, "I also had other friend groups that came and went with people coming in and out of my life, but my core group remained". Interestingly, two mixed school participant acknowledged the potential for stronger female friendships in single-sex settings, noting, "I think a lot of girls who went to all-girls schools form very close friendships." while another said "I've noticed that I get the impression from seeing my friends who went to single sex schools that their friendship circles are closer or seem more established... bonds seem far stronger than the relationships at my mixed schools".

### Sociability with the opposite sex

All three participants from mixed schools expressed a high level of comfort when interacting with both genders. One participant stated, "I was very comfortable initiating conversations... it wasn't awkward because I've always been in school with boys." Another participant emphasized, "Being in a mixed environment helped me develop confidence in talking to everyone," which illustrates their ease in socializing across genders. This sentiment was echoed by a third participant, who noted, "I think I get on with everyone,".

In contrast, the three participants from single-sex schools shared a common discomfort regarding interactions with the opposite sex. One participant stated, "I was not really at all comfortable initiating conversations with the opposite sex." Another remarked, "I definitely find it easier to make friends with girls," indicating a reliance on same-sex interactions due to their schooling experience. The third participant agreed saying, "It was hard to talk to boys,".

### Transitioning to New Environments

The interview questioned participants on how participants dealt with the transition to the mixed educational environment of the University of Cambridge, to gauge if there were enduring effects on sociability into young adulthood.

Upon transitioning to university, participants from mixed schools reported increased confidence and social skills. One participant remarked, "I realized I enjoy meeting people and making new friends," indicating a readiness to engage in diverse social settings. Another noted, "It was nerve-wracking at first, but definitely more exciting because it was new," which reflects enthusiasm for meeting new people. The third participant added, "I found it easy to adapt to university life,".

In comparison, single-sex school participants faced challenges when entering mixed environments. One participant stated, "I did really struggle going to university... interacting and relating to the opposite sex." Another participant echoed this saying, "It was hard to adjust at first, especially talking to boys,". The third participant noted, "I still lean towards closer female friends," indicating a continued preference for same-sex friendships shaped by their school experience

## Reflections

At the end of the interview participants were asked to reflect upon their schooling experience as a whole, and how they believe it has shaped them.

All of the mixed school participants generally reflected positively on their experiences, emphasizing the benefits of interacting with a diverse group of peers. One participant stated, "It was nice to be around different types of people... it was fun". Another participant recognized that their experiences helped them in future settings, noting, "My experiences have helped me in university and my job". The third participant added, "I think my mixed school experience was important for my confidence," supporting the perceived advantages of mixed schooling. When asked if they would attend the same type of school again all of the mixed school participants said Yes.

Single-sex school participants shared negative and positive reflections. One participant acknowledged, "Looking back, I do think there were detrimental effects... I struggled going to university," indicating challenges in transitioning to mixed environments. However, they also recognized the deep bonds formed with their female peers, noting, "My friendships were never focused on men... I could make deeper relationships". When asked if they would attend the same type of school again only one of the single school participants said No.

## Discussion

### Main findings

This study explored the impact of single sex versus mixed schooling on social development among six undergraduate students at the University of Cambridge. Those from mixed schools reported greater comfort in interacting with the opposite sex, attributing their social skills to their educational environment. They maintained a larger number of close friendships and participated more in extracurricular activities, facilitating broader social engagement.

Conversely, participants from single-sex schools expressed discomfort in mixed-gender interactions, with a reliance on same-sex friendships. While they acknowledged the deep bonds formed in their all-female environment, many reflected on challenges transitioning to mixed settings in university, suggesting that single-sex schooling may limit opportunities for developing confidence and social skills in diverse social contexts. These qualitative insights were supported by the quantitative data derived from the questionnaire, which indicated that mixed school attendees had higher averages in self-rated sociability and extracurricular participation.

### Strengths and limitations

The study's strengths include its mixed-methods approach, which combined quantitative questionnaires with qualitative interviews. The semi-structured interviews allowed participants to express their experiences at a greater depth, which they could not do in a questionnaire alone.

Despite these strengths, several limitations must be acknowledged. The small sample size (N=6) significantly limits the generalizability of the findings, rendering any quantitative analysis uninformative.

The study's voluntary sampling may have led to a selection bias, where those who chose to participate may have had stronger opinions or more positive experiences regarding their schooling. Additionally, the study did not include male participants nor participants from private schools, which limits the ability to compare experiences across genders and school types.

Finally, the reliance on self-reported data also introduces potential biases, as participants may have differing perceptions of their social competence and experiences.

### Implications

The findings of this study hold important implications for this topic. While the results indicate notable differences in social dynamics between the two groups, it is important to acknowledge that analysis did not reveal significant differences due to the small sample size (n=6).

Given the limitations of this study, including the small sample size, it is crucial for future research to explore these dynamics on a larger scale. Larger sample sizes would provide more robust data and enhance the statistical power necessary to detect significant differences between the experiences of students from single-sex and mixed schools. Additionally, longitudinal studies could help examine the long-term effects of schooling type on social skills

and adaptability in various social settings over time. By addressing these gaps in research, educational stakeholders can better inform practices and policies that promote effective social development among students, ensuring they are well-prepared for the diverse environments they will encounter beyond secondary education.

## Appendix

The content of the questionnaire and interview questions were approved by the University of Cambridge's Department of Psychology Ethics Committee.

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### Interview Questions

Preliminary questions:

- Can you tell me about the type of secondary school you attended (single-sex or mixed)?
- What age and how many years did you attend this type of school?
- How would you describe your gender identity?

General questions:

- Can you share a moment from your school experience that you believe was pivotal in your social development?
- Can you describe a significant friendship you formed during your school years?
- How did your social circle change throughout your education, e.g. did you keep the same friendship group?

Questions asked if the participant attended only a Mixed/single sex school:

- How comfortable were you initiating conversations or making new friends of the same/opposite sex?
- As of now, do you have more friends of the same or opposite sex? Do you think this is a result of your schooling experience?
- Can you describe any changes in your social skills or behaviors that you noticed after transitioning from school to a different environment (e.g., clubs outside of school, workplace, university)?

Questions asked if the participant attended both a single sex school and a mixed school:

- Can you describe the transition from a single-sex school to a mixed school (or vice versa)? What were some immediate differences you noticed?
- Which school environment did you find more comfortable, and why?

- Do you think that the friendships you formed at the single-sex school differ from those you formed at the mixed school? How?
- Did you feel more or less confident speaking up in class in one environment compared to the other? Why?
- Do you feel the presence or absence of the opposite sex in the classroom affect your learning experience and engagement? How?

Reflective questions:

- Looking back, do you think attending a single-sex/mixed school was beneficial/detrimental for your social development? Why or why not?
- If you could go back, would you choose the same type of school again? Why or why not?
- What advice would you give to parents considering single-sex versus mixed schools for their children regarding social development?

### **Questionnaire designed on Qualtrics**

#### **STUDY INFORMATION AND INFORMED CONSENT**

Project Title: The Effects of Single and Mixed Sex Schooling on Social Development

You are being invited to take part in a research study. Before you decide whether to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

What is the purpose of this study?

This research aims to explore and compare the social development of individuals who were educated in a single sex schooling environment compared to those who were educated in co-educational schools. As well as exploring potential long-term impacts of single-sex versus mixed-school experiences in adulthood.

Do I have to take part?

Taking part is entirely voluntary, and refusal or withdrawal will involve no penalty or loss, now or in the future. You are free to withdraw from the experiment at any time without explaining why. Participants are to be reminded that they do not have to respond to reveal anything they would consider “sensitive or intimate” in responding to the questions. The questions have been designed not to ask for “sensitive or intimate” information.

What will the study involve?

The study will involve participants completing a short survey (approximately 7 minutes). Then participants may have an optional break then undergo a semi-structured interview to explore their personal experiences, perspectives, and reflections on their social development followed by a debrief (approximately 20 minutes). Their entire participation will take approximately 30

minutes of your time.

Are there any possible disadvantages or risks in taking part?

There are no foreseeable discomfort, disadvantaged or risks associated with this study. Participants are not obligated to answer any question they do not want to. The audio from the interviews will be recorded. There will be no information regarding the identity of the participants in the recordings and they will be labelled according to their randomized participant ID to retain anonymity. Data derived from the questionnaire and the interviews will be exclusively stored on a password-protected MacBook.

Confidentiality – who will have access to my personal data?

Personally identifiable data will not be made available outside of the study team. We will be using any personal information you give us in order to undertake this study and the University of Cambridge will act as the data controller for this purpose. The legal basis for using your personal information is to carry out a task (i.e. academic research) in the public interest. We will keep identifiable information about you only for as long as necessary for the study. Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will do our best to only use the minimum personally-identifiable information possible. For further general information about the University of Cambridge's use of your personal data as a participant in a research study, please see <https://www.information-compliance.admin.cam.ac.uk/data-protection/research-participant-data>.

What will happen to the study results?

Results from groups of individuals, without any means of identifying the individuals involved, may be presented at conferences and written up in journals. Non-identifiable data may be shared with other researchers or the public as part of collaborations, joint projects or open access provisions.

Who is organizing the research?

The study is organized in the Department of Psychology, University of Cambridge, by David Young. Questions or concerns can be directed to them at [Dy286@cam.ac.uk](mailto:Dy286@cam.ac.uk)

Ethics Committee Approval

This project has undergone the review procedure of the Department of Psychology Research Ethics Committee at the University of Cambridge.

**ELECTRONIC CONSENT:**

Please indicate whether you agree to take part in this study by selecting one of the two boxes below. Clicking on the "Agree" button indicates that:

1. You confirm that you have read and understood the information about the study.
2. You understand that your participation is voluntary and that you are free to withdraw at any time, without giving any reason.
3. You understand that all personal information will remain confidential and that all efforts will be made to ensure you cannot be identified (except as might be required by law).

4. You understand that following open data recommendations the data and findings obtained in this study may be shared with the research community, for example, by uploading the anonymized data file onto an online data depository.

5. You confirm that you are at least 18 years of age.

6. You agree to take part in the above study.

If you do not wish to participate in this study, please decline participation by clicking on the "Disagree" button. (Please feel free to print a copy of this screen for your records.)

Agree

Disagree

End of Block: Info/Consent

Start of Block: Demographic questions

How would you describe your gender identity?

Male

Female

Other (please specify)

---

How old are you?

---

What is your ethnicity?

- White
  - Asian or Asian British
  - Black, Black British, Caribbean or African
  - Mixed or multiple ethnic groups
  - Other (Please specify)
- 

End of Block: Demographic questions

Start of Block: Default Question Block

Do you understand you do not have to answer any question you consider “sensitive or intimate” information?

- Yes
- No

What type of school did you attend for the majority of your secondary school education?

- Single sex
- Mixed school

If you attended a single sex school, what type was it?

- All Boys
- All Girls
- I didn't go to a single sex school for the majority of my secondary school education

How many years did you attend this type of school?

---

How many close friends did you have at school? \*\* close friend= someone who you spent time with on daily basis

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How often did you interact with peers outside of your immediate friend group in school? \*\* interact= engaging in a casual manner, i.e having a conversation

- Daily
- Weekly
- Monthly
- Rarely
- Never

How comfortable were you forming friendships with the opposite sex during your time at school?

- Very Comfortable
- Moderately Comfortable
- Slightly Comfortable
- Neither Comfortable nor Uncomfortable
- Slightly Uncomfortable
- Moderately Uncomfortable
- Very Uncomfortable

How many friends of the opposite sex would you estimate that you had during your time at school?

- None at all
- One or two
- Three to ten
- Ten to thirty
- More than thirty

How many extracurricular activities were you involved on average, every school year?

---

Did you participate in any extracurricular activities with the opposite sex?

Yes

No

How social would you rate yourself during school?

0

1

2

3

4

5

6

7

8

9

10

How social would you rate yourself now?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

End of Block: Default Question Block

Start of Block: Block 3

This is the end of the first section.  
Please tell Joelle that you are ready for the interview section.  
Your ID code is: [\\${e://Field/ResponseID}](#), please show this to Joelle.

End of Block: Block 3

Start of Block: Debrief

## DEBRIEFING

Thank you for participating in this study. We will now explain a bit about the background and aims of the study. This research investigated the social development of individuals who have experienced both single-sex and mixed-school educational environments. The study aimed to understand how these different schooling experiences shape social skills and communication style. By comparing individuals who have attended single-sex schools with those who have attended mixed schools, we seek to uncover insights into the long-term impacts of school environment on social behaviors.

If you would like to learn more about the topic of the research, you might find the following literature of interest:

- Marsh, H.W. (1989). Effects of attending single-sex and coeducational high schools on achievement, attitudes, behaviors, and sex differences. *Journal of Educational Psychology*, 81(1), pp.70–85. doi:<https://doi.org/10.1037/0022-0663.81.1.70>.
- Brutsaert, H. (2006). Gender-role identity and perceived peer group acceptance among early adolescents in Belgian mixed and single-sex schools. *Gender and Education*, 18(6), pp.635–649. doi:<https://doi.org/10.1080/09540250600980204>.

If you have any questions about the study, feel free to contact the Principal Investigator David Young at [Dy286@cam.ac.uk](mailto:Dy286@cam.ac.uk). Thank you once again for your help with this research

Q19 Please click forward to end the study

End of Block: Debrief

## References

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