SOUTH AUSTRALIAN
DIGITAL YOUTH SURVEY

RESEARCH REPORT:
YEAR 2 RESULTS

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INTRODUCTION

The South Australian Digital Youth Survey (DYS) is a world-first longitudinal project exploring how adolescents use digital technology, and how this use changes over the course of adolescence. The project examines the links between how adolescents use technology and pathways into cyber risk-taking. In studying these links, this project seeks to identify the *technical*, *social*, and *individual* circumstances by which adolescents get drawn into cyber risk-taking. Understanding more about these circumstances will inform the development of prevention measures to mitigate such risk.

To accomplish this task, the DYS involves a longitudinal survey of a cohort of South Australian Year 8 students commencing in 2018. A total of 18 government schools from the Adelaide Metropolitan Region (i.e. located within 100 kilometres of the CBD) participated in the project with 1,921 students[1] completing Wave 1 and 1,273 students completing Wave 2 of a paper-based survey. This research report presents results from the second wave of data collection.

[1] Note: Sample sizes per analysis vary due to missing responses for select questions.

Snapshot of DYS wave 2 findings:

- Students demonstrate considerable variation in terms of the types of devices they use, as well as the time spent using them.

- The majority of students already demonstrate either basic or intermediate technical skills.

- When using their devices, students frequently engage in various routine and social tasks, and spend far less time engaging in specialised tasks such as coding.

- 85% of students have engaged in at least one type of cyber risk-taking. The forms of cyber risk-taking most commonly occurring were passive engagement in cyber-hate (e.g the viewing of discriminatory content) and cyber-violence (e.g the viewing of violent content).

- The number of students engaging in cyber risk-taking increased at varying degrees from Wave 1 to Wave 2 for every type of behaviour, with the exception of unauthorised access to someone else's electronic device or online account.

- The key variables associated with cyber risk-taking were: being male, engaging in physical risk-taking (e.g., fighting), performing specialised activities online (e.g., coding), low level of self-control, compulsive internet use, engaging in social activities online, communicating with others online, increased technical skill, being physically alone while online, performing routine activities online and spending increased amounts of time online.

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KEY RESULTS FROM THE YEAR 2 SURVEY

Understanding adolescent cyber risk-taking

Figure 1 shows the proportion of students who reported engaging in different types of cyber risk-taking. The labels on the x-axis represent a broad range of activities. *Online fraud* refers to behaviours such as buying and selling items illegally, as well as tricking another person or business into providing money, goods or services. The proportion of students engaging in online fraud remained relatively stable from Wave 1 to Wave 2. Furthermore, an odds ratio analysis uncovered that students who engaged in this behaviour in Wave 1 were 5.4 times more likely to engage in this behaviour in Wave 2, compared to those who did not engage in this behaviour in Wave one.

Sexting refers to students' experiences with seeing sexual content of someone they know, as well as sharing sexual content of themselves. The proportion of adolescents engaging in this behaviour increased from 31.3% in Wave 1, to 45.6% in Wave 2. Students who engaged in this behaviour in Wave 1 were 3.7 times more likely to engage in this behaviour one year later, compared to those who did not engage in this behaviour in Wave 1. *Image based sexual abuse* refers to the sharing of sexual content of someone else without their consent. The proportion of students engaging in this behaviour was low, and remained relatively stable between the two time periods. Students who engaged in this behaviour in Wave 1 were 10 times more likely to engage in this behaviour again one year later.

Passive cyber-violence refers to the viewing of content involving violence against individuals, as well as groups of people. The proportion of students engaging in this behaviour increased from 43.8% to 54.1% in Wave 2. Students who engaged in this behaviour in Wave 1 were 3.8 times more likely to engage in this behaviour again in Wave 2. *Active cyber-violence* refers to the sharing of violent content online. The proportion of students engaging in this behaviour increased slightly (4%) from Wave 1 to Wave 2. Students who engaged in this behaviour in Wave 1 were 4.9 times more likely to engage in this behaviour again the following year.

Passive cyber-hate refers to viewing content making fun of an individual or group of people because they are different. The proportion of students who engaged in this behaviour increased from 47.2% to 55.6% between the two waves. Students were 3.7 times more likely to have viewed this content in Wave 2 if they had done so in Wave 1. *Active cyber-hate* refers to the sharing of discriminatory content online. The proportion of students engaging in this behaviour increased slightly (3.3%) from Wave 1 to Wave 2. Comparably, students were 3.4 times more likely to have viewed this content in Wave 2 if they had done so the year before.

Digital piracy refers to the downloading and sharing of copyrighted materials such as music, videos and software. The proportion of students engaging in this behaviour remained relatively stable between the two waves. Students who engaged in this behaviour in Wave 1 were 4.7 times more likely to engage in it in Wave 2.

Harassment refers to searching for and/or sharing of harmful content to make others feel bad or scared. The proportion of students engaging in this behaviour remained relatively stable from Wave 1 to Wave 2. Students who engaged in this behaviour in Wave 1 were 4.9 times more likely to engage in this behaviour in Wave 2.

Figure 1: Engagement in types of cyber risk-taking (n=1,262)
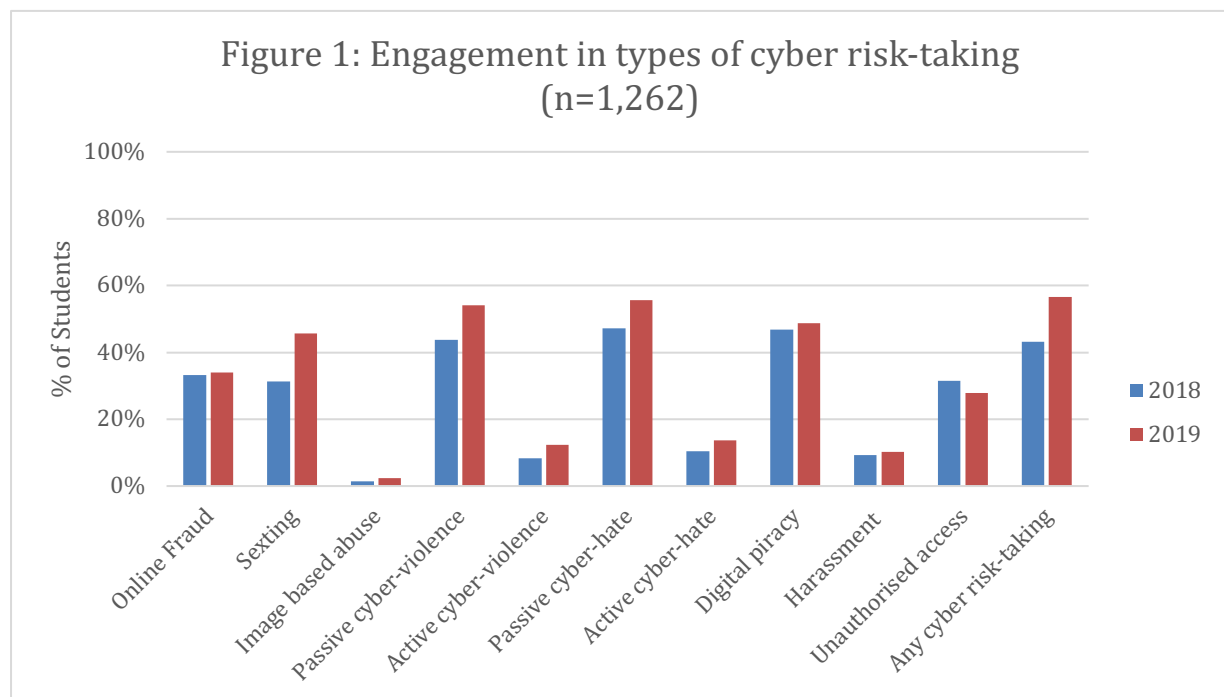
Unauthorised access refers to the accessing of other people's devices or accounts without their permission. This was the only form of cyber risk-taking to decrease in prevalence between the two data collection points. The proportion of students engaging in this behaviour decreased by 3.5%. However, students who engaged in this behaviour at Wave 1 were still 4.8 times more likely to engage in this behaviour at Wave 2. Overall, the proportion of students engaging in any form of cyber risk-taking increased from 78.9% in Wave 1, to 85.4% in Wave 2.

In short, against the back drop of minor increases in the prevalence of different types of cyber risk-taking, the results suggest a large degree of continuity in the behaviours among a small cohort of students.

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Understanding how adolescents use digital technologies

Figure 2 shows the proportion of students reporting daily usage of digital devices. Students reported being online an average of 9.4 hours per day. The majority of students use smartphones (89%) and laptops or tablets (82.6%) on a daily basis. A further 27% use gaming consoles daily, while 13.8% report daily use of desktop computers.

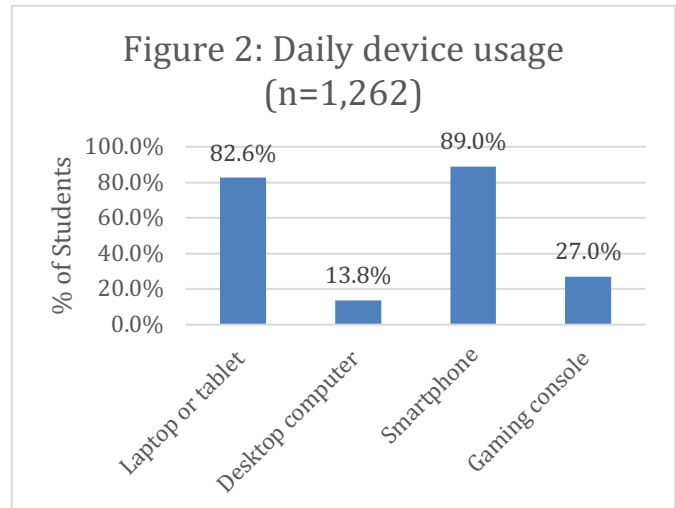**Figure 2: Daily device usage (n=1,262)**

Figure 3 depicts the technical skills of students, who were asked to rank their level of comfort performing various technical functions with software and hardware. Students responses were categorised in four ways. A participant was listed as a 'beginner' if they indicated they do not use computers/mobile devices unless they absolutely must. 'Basic' meant that students indicated they can use the internet and common software but would not feel comfortable fixing their own computer/device. 'Intermediate' meant that students

indicated that they can use a variety of software and can also fix some computer/device problems they run into. Finally, 'Advanced' meant that students can undertake particularly complex tasks such as using operating systems such as Linux as well as most software they come across in addition to fixing most computer/device issues they run into.

The below graph shows that the majority of students at Wave 2 reported basic (38.5%) to intermediate (48.3%) technical skills, with similar proportions reporting in each of these two categories. There were no significant differences in technical skills between Waves 1 and 2.

Figure 3: Technical Skill
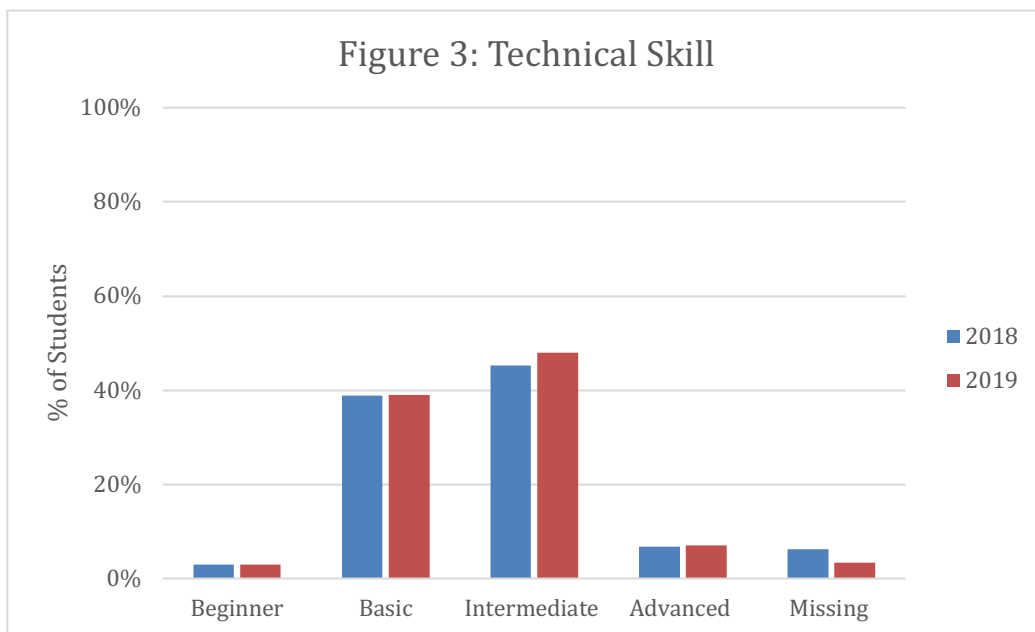
Understanding adolescent online engagements

Figure 4 shows the frequency of three broad types of online activities the students reported engaging in. These activities were categorised into three groups including: (1) routine tasks (e.g. using search engines, email, watching videos and viewing images outside of social media); (2) social tasks (e.g., browsing social media such as Facebook, posting on online forums, sharing photos on social media websites); and, (3) specialised tasks (e.g. creating websites, file sharing, coding, banking, using anonymisation software).

Frequency was measured on a five-point Likert scale ranging from 0=Never to 5=Several times a day. The results show that, on average, students reported spending the greatest proportion of time engaging in routine tasks, followed by slightly less time spent on social media. Comparatively, far less time was spent engaging in specialised tasks.

Figure 4: Average frequency of device use characteristics (n=1,242)
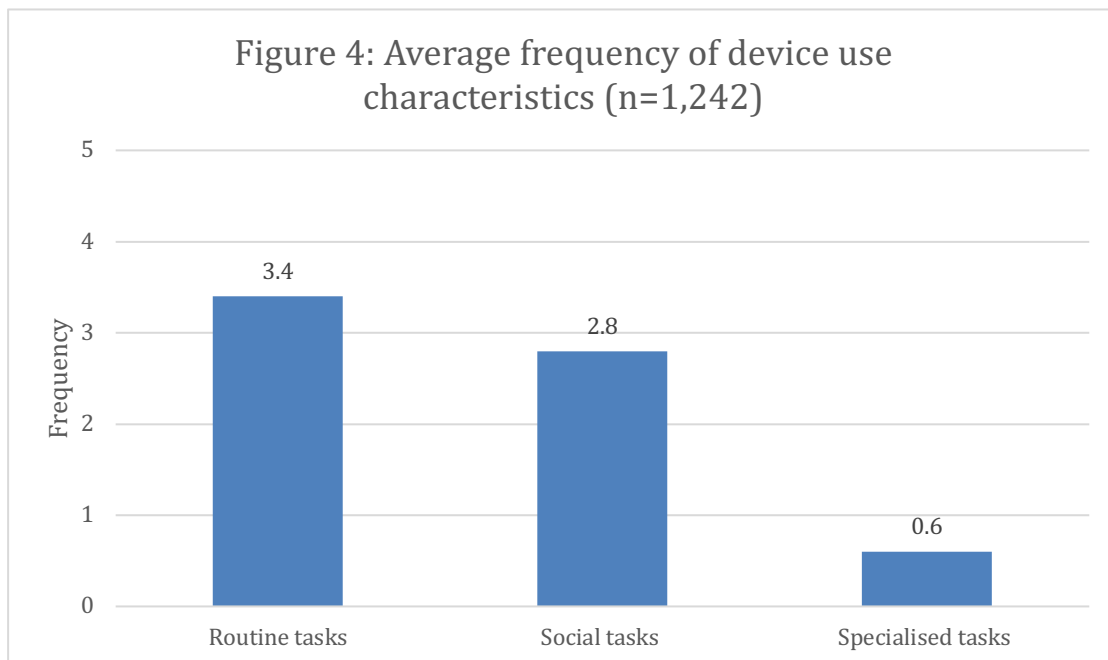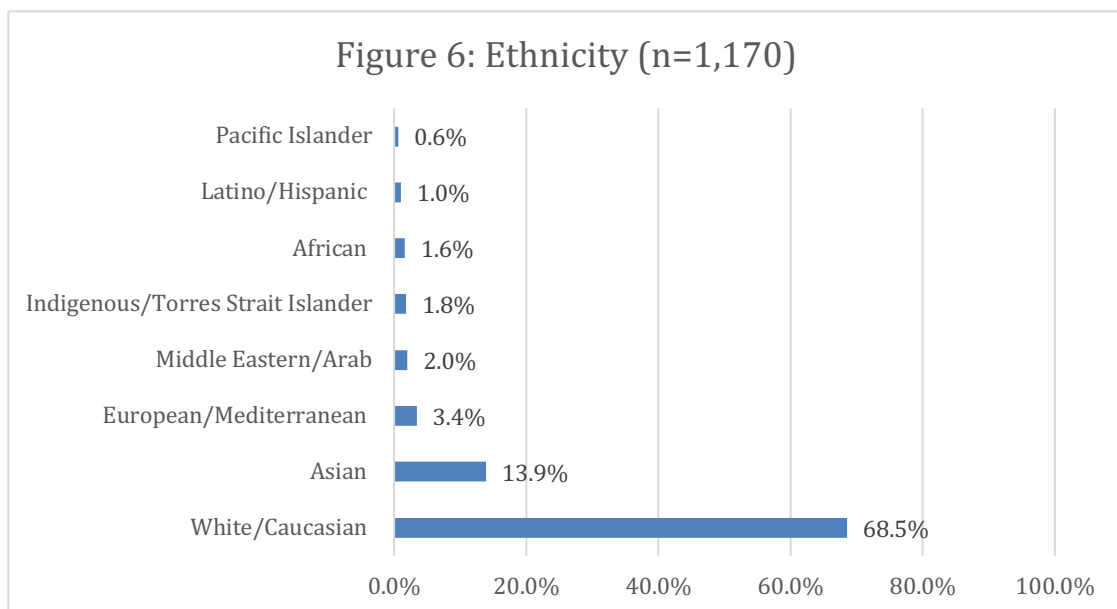
PROJECT SAMPLE CHARACTERISTICS

Gender

Figure 5 shows the sample was evenly distributed, with males constituting 49.8%, and females constituting 48.0% of the sample. 2.2% of the sample left the gender question blank.

Figure 5: Gender (n=1,262)

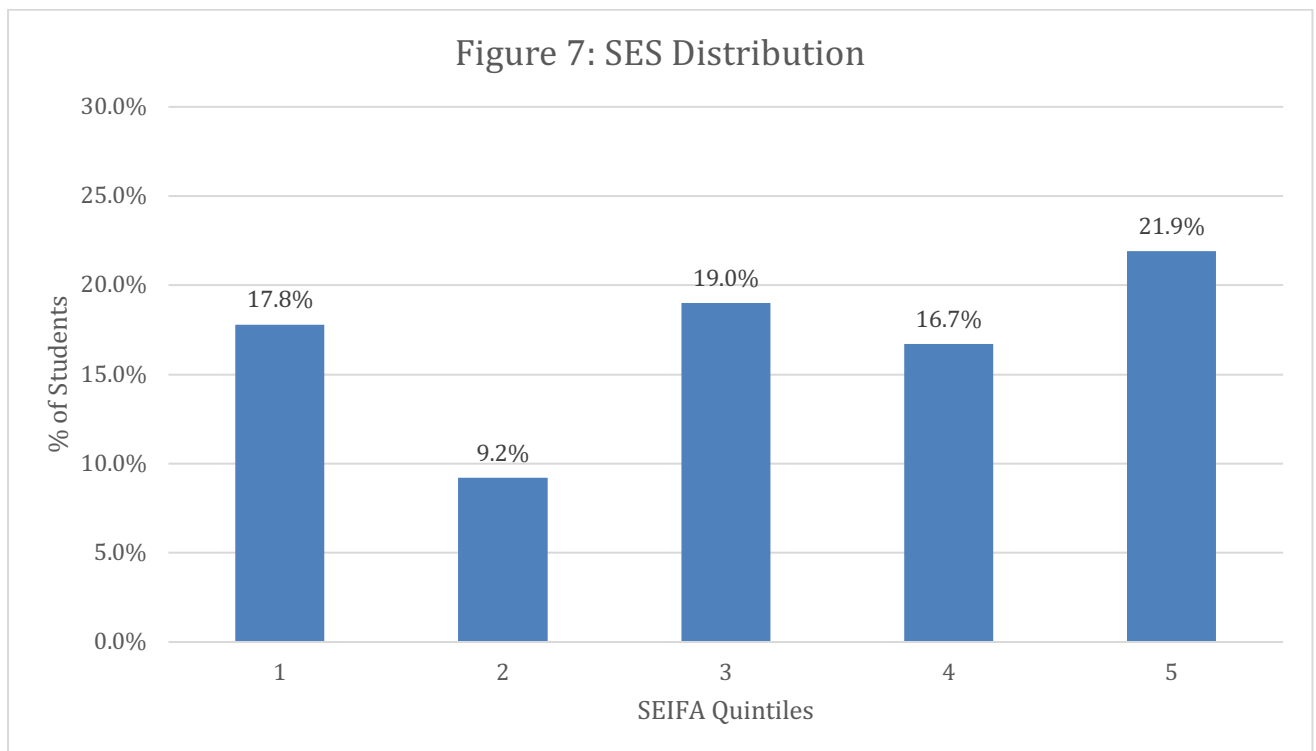- Male — 49.8%
- Female — 48.0%
- Missing — 2.2%
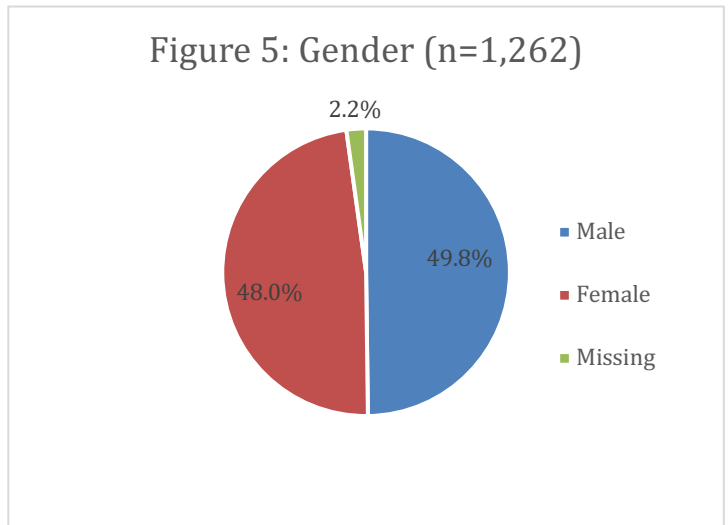
Ethnicity

Figure 6 shows that over two-thirds of the students reported Caucasian ethnicity (68.5%). Elsewhere, 13.9% of the sample reported coming from an Asian background, while 3.4% of the sample reported a European/Mediterranean ethnicity. The remainder of the sample came from Middle Eastern/Arab (2%), Aboriginal (1.8%) African (1.6%), Latino/Hispanic (1%) and Pacific Islander (0.6%) backgrounds. 7.3% of the sample did not provide a response to this question.

Figure 6: Ethnicity (n=1,170)

| Ethnicity	Percentage
Pacific Islander	0.6%
Latino/Hispanic	1.0%
African	1.6%
Indigenous/Torres Strait Islander	1.8%
Middle Eastern/Arab	2.0%
European/Mediterranean	3.4%
Asian	13.9%
White/Caucasian	68.5%

Socioeconomic Status

Figure 7 presents information about participants socioeconomic status - using the Australian Bureau of Statistics' *Socioeconomic Indexes for Areas (SEIFA)*. SEIFA indexes the average income and employment status of individuals living within geographical areas defined by postcode. SEIFA quintiles were derived from the 2016 Australian Census, and range from most disadvantaged (quintile 1) to least disadvantaged (quintile 5). This graph shows the distribution across SEIFA quintiles for the overall Wave 2 sample. The SES distribution is fairly even across all quintiles, with the exception of quintile 2 (9.2%) which is underrepresented.

Figure 7: SES Distribution

[Bar chart showing % of Students across SEIFA Quintiles:
Quintile 1: 17.8%
Quintile 2: 9.2%
Quintile 3: 19.0%
Quintile 4: 16.7%
Quintile 5: 21.9%
Y-axis: % of Students, ranging from 0.0% to 30.0%
X-axis: SEIFA Quintiles]

Identifying factors associated with cyber risk-taking

Figure 8 shows that there are 11 key factors associated with cyber risk-taking:
Gender, routine activities, social activities, specialised activities, hours spent online, technical skill, time spent physically alone while online, time spent with others while online, compulsive internet use, self-control and physical risk-taking. The strongest factors associated with cyber risk-taking were physical risk-taking, followed by engagement in specialised activities online. More specifically, students who reported engagement in physical risk-taking were 4 times more likely to also engage in cyber risk-taking. Furthermore, for every one unit increase in a participant's engagement in specialised activities (their score on the scale increases by 1), the likelihood of engaging in cyber risk-taking increases by 2.7 times. By comparison, the odds of engaging in cyber risk-taking increased considerably for every one unit increase in: low self-control (2.7 times),

compulsive internet use (2.7 times), being male (2 times), engagement in social activities (1.7 times), the student's time spent communicating online (1.6 times), their technical skill (1.6 times), the time spent physically alone while online (1.4 times), engagement in routine activities (1.4 times) and hours spent online (1.2 times).

Figure 8: Factors associated with cyber risk-taking
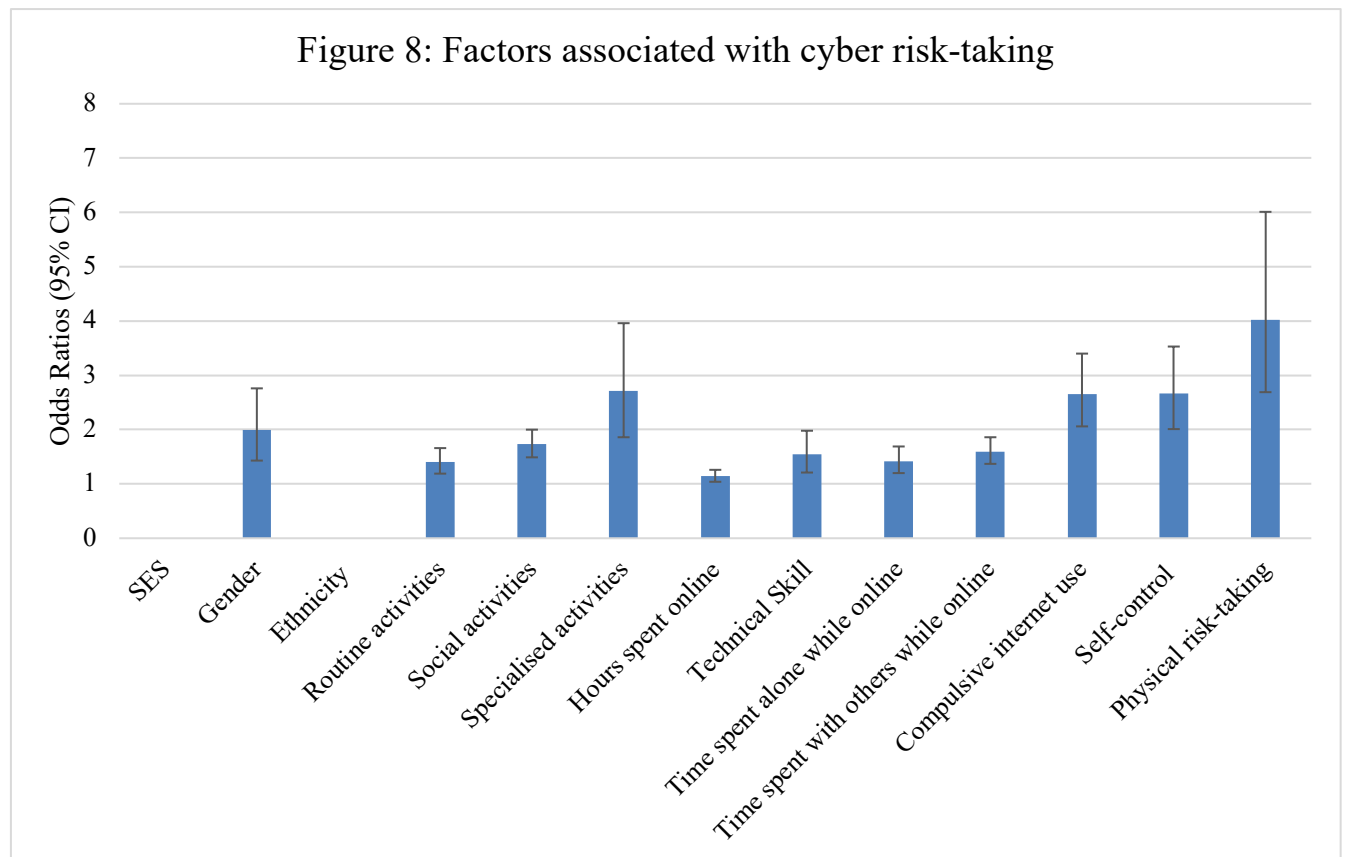
FUTURE DIRECTIONS FOR THIS PROJECT

The DYS provides a useful snapshot of self-reported digital uptake and risk-taking by adolescents from years 8 to 9. We hope that this information will provide schools and parents with a better understanding of the different ways that adolescents use digital technology and the implications for risk-taking. Furthermore, developing a nuanced understanding of the factors associated with each form of cyber risk-taking provides an evidence base for the development of targeted interventions. The efficacy of cyber risk-taking interventions is reliant on the identification of factors which have been empirically shown to correlate with the problematic behaviour. This study demonstrated that a number of factors interact to increase the propensity for cyber risk-taking in adolescence. It is anticipated that the outcomes of this study will prove valuable for the design of targeted interventions to reduce the risk-taking behaviours of adolescents online.