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Faculty of Environmental and Life Sciences

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General and Cyber-Paranoia in Non-Clinical Adolescents

by

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Thesis for the degree of Doctorate in Educational Psychology

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Abstract

Faculty of Environmental and Life Sciences

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Adolescence is a period where young people experience biological and social changes (Sawyer et al., 2018), are susceptible to high levels of vulnerability and social threat recognition (Bird et al., 2017) and are transitioning through a critical period in their development (Robinson et al., 2011). This research focussed on the mental health of adolescents. Chapter 1 discusses the reasons for embarking on this research explaining the ontology, epistemology and the axiology used in the subsequent two chapters. Chapter 2 utilised a narrative synthesis to report the findings from 7 studies, identified as part of a systematic literature review of the impact of cyberbullying and online victimisation in adolescents aged 14 to 18 years of age. Key findings suggest that adolescents are at risk of depression, feeling sad and suicide having been a victim of cyberbullying and/or online victimisation. Student connectedness acted as a protective factor with lower numbers of adolescents identifying as victims of cyberbullying and online victimisation in schools with higher levels of students connectedness. Chapter 3 used a mixed methods approach to explore the personal experiences of paranoia in a non-clinical population of adolescents aged 14 to 18 years, and compare to the levels of cyber-paranoia and fear in the same population. The online survey was disseminated through schools who opted in to the research. Parents gave consent for 14 and 15 year olds who then gave their assent. Adolescents aged 16 to 18 years gave their own consent. There were associations with lower wellbeing in the presence of paranoia and adolescents also reported a sense of powerlessness. Levels of cyber paranoia and fear were similar to adults. Further research with a larger cohort of participants would provide the opportunity to build on the trends observed. Implications for future practice include interventions delivered by technology literate personal as opposed to teachers to help adolescents engage safely with technology.

Keywords: Adolescents, cyberbullying, mental health, paranoia

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Research Thesis: Declaration of Authorship

Print name: Perena Wasterfall

Title of thesis: General and Cyber Paranoia in Non Clinical Adolescents

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;

Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;

2. Where I have consulted the published work of others, this is always clearly attributed;
3. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
4. I have acknowledged all main sources of help;
5. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
6. None of this work has been published before submission

Signature: Date: September 2025

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Definitions and Abbreviations

Asymp	Asymptotic means the p-value approaches the real value as the sample size increases
CINAHL.....	Database of full text-articles covering nursing specialities
C - PEQ	Cyber-Peer Experiences Questionnaire
CPD	Continuous Professional Development
DAWBA.....	Development and Wellbeing Assessment
EBSCO.....	Database of e-journals and books covering a variety of topics
EPHPP	Effective Public Healthcare Panacea Project
ECIPQ.....	European Cyberbullying Intervention Project Questionnaire
FAS II	Family Affluence Scale II
FIML	Full Information Maximum Likelihood
GAD-c.....	Severity Measure for Generalised Anxiety Disorder – Child Age 11-17
M	Mean (arithmetic mean)
MDD	Major Depressive Disorder
Mdn	Median – the middle value of a data set when ordered by magnitude
MEDLINE	Database of medicine and clinical science literature
N	number in population
p.....	probability
PEPS.....	Personal Experiences of Paranoia Scale
PHQ-9.....	Patient Health Questionnaire
PRISMA.....	Preferred reporting Items for Systematic Review
PROSPERO	International prospective register of systematic reviews
ProQuest	Provides access to digital information covering a variety of subjects
PsycINFO.....	A database for psychology and related subjects containing references and abstracts for scholarly journal articles, books, book chapters and dissertations.
RDS-SF	Reynold’s Adolescent Depression Scale – Short Form

Definitions and Abbreviations

Scopus	Scientific abstract and citation database
SD	Standard Deviation
SEM	Structural Equation Modelling
SENTIA.....	Adolescent Suicidal Behaviour Assessment Scale
SES.....	Socio-economic Status
Sig.	significance
SN-PEQ.....	Social Networking - Peer Experiences Questionnaire
Spearman's rho (r_s).....	a non-parametric test to measure correlation
TCQ	Thought Control Questionnaire
U	U statistic
UK	United Kingdom
USA	United States of America
Web of Science	Database of references and abstracts for peer reviewed scholarly articles
WHO.....	World Health Organisation
Z	z-score

Chapter 1 Paranoia in adolescents. Why?

1.1 The history behind the choices

Teaching maths was my passion, having the ability to change a child's prospects by teaching them how to succeed in maths was such a joyous feeling. Maths had been and will always be a joy for me. I always wanted the children I taught to experience the joy in the subject. The hardest part of teaching was seeing first hand, the increasing numbers of children and young people being affected by anxieties in this subject. My desire to understand more about the impact of anxiety on learning resulted in me learning more about mental health in general and how this can impact how a young person learns. Understanding more about mental health and the impact it can have on the thinking processes led to me researching and studying more about metacognition. I soon found myself researching metacognition regulation and wondering whether teaching metacognition could help learning in maths. I developed an interest in metacognition and mental health and whilst I carried out reading and embarked on CPD courses when they became available, I never truly progressed much further than applying the information and strategies that I had learned and then reflecting and adapting them in my classroom to suit the young people I was teaching.

When reading through the specialisms of available supervisors, paranoia was a specialism of one in particular, so I took the opportunity to have a conversation, as my understanding of paranoia was from personal experience. It was not an area that I had a deep desire to research, but it was an area I had researched to understand more about my journey to wellness and it was the closest match to an area of interest that I could add value to. An additional supervisor was available to join the team. Upon discovering her expertise in metacognition, I felt confident that this combination would be beneficial for me. After some communication, negotiations, scoping searches and brainstorming, the idea to research paranoia in non-clinical adolescents, cyber-paranoia, cyber-fear and metacognition was born.

Research into paranoia in non-clinical adolescents is an area that is still underrepresented. During the scoping searches one piece of research was identified which reported the prevalence of paranoia in non-clinical adolescents to be quite common, with a range of 7% to 32% of adolescents reporting paranoid thoughts weekly (Bird et al., 2019). The role of paranoia in relation to social media is in its infancy; in the context of online shopping it was found that paranoia is a pre-existing factor that can influence attitudes towards online shopping, and it mediates effects of other factors towards online shopping (Zimaitis et al., 2020). Whilst this study acknowledged that their findings could be interpreted as being related

to distrust and not paranoia, it has been shown that paranoia can be considered as an unreasonable form of distrust (Deutsch, 1973). In Zimaitis et al. (2020), paranoia was measured using the paranoia scale developed by Fenigstein and Venable (Fenigstein & Venable, 1992), which is widely acknowledged as suitable for measuring paranoia in non-clinical populations. Additional research carried out on a population of both clinical and non-clinical participants, found that posting about feelings and venting on social media predicted high levels of paranoia, whilst viewing social media news feeds predicted reductions in paranoia (Berry et al., 2018); paranoia was measured using the same paranoia scale as the previously mentioned study. We can see there are some indications that paranoia levels are affected by some aspects of social media use and the indication is that it happens in both the general and clinical populations.

We do not know a lot about cyber-paranoia as the construct is quite new and the link to general paranoia is not clear. Research has been conducted to validate the cyber-paranoia and fear scale which aims to measure how threats relating to computers, smartphones, social networks and digital surveillance are perceived. The outcomes suggest that cyber-paranoia has unique characteristics that differentiate it from general paranoia (Mason et al., 2014). For instance cyber-paranoia had a moderate correlation with general trait paranoia ($r = 0.59$, $p < 0.01$) in IT professionals, yet there was no correlation in the general population. In both populations the occurrence of general paranoia decreased with age but cyber-paranoia increased with age in the general population. In the general population cyber-paranoia decreased as technology awareness increased ($r = -0.34$, $p < 0.01$), years of internet use increased ($r = -0.41$, $p < 0.01$), and frequency of internet use increased ($r = -0.35$, $p < 0.01$), however the only correlation in the general population with cyber-paranoia was with frequency of internet use which indicated a mild correlation ($r = 0.22$, $p < 0.05$). There were no significant correlations between cyber-paranoia or general paranoia in the IT professionals population with technology awareness, years of internet use and frequency of internet use. Whilst cyber-paranoia has unique characteristics that differentiate it from general paranoia there is no clear defined link between the different constructs but there does appear to be differences to its presentation between IT professionals and the general population.

Although born later than the generation which the term was coined for, adolescents can be described as digital natives (Prensky, 2001a), they are far more literate, talented and aware when it comes to technology, their lives are immersed in technology and they spend more time using technology (Howe & Strauss, 2003; Prensky, 2001b). This could be interpreted that adolescents as digital natives are also less likely to experience cyber-paranoia and fear. With this in mind research questions emerged such as, 'What is the prevalence of cyber-paranoia and fear in adolescents?' and 'Are there differences between the cognitive profiles in general paranoia and cyber-paranoia in adolescents?' An additional study's findings, suggested

paranoia in non-clinical college students was a common human experience (Ellett et al., 2003). Chapter 3 was an opportunity to use the Personal Experiences of Paranoia Scale (PEPS), to explore the phenomenology and prevalence of paranoia, alongside the Cyber-paranoia and fear scale to give further insight into whether adolescents' experiences of cyber-paranoia are associated with paranoia.

The final factor in this research is metacognition. Metacognition has been defined as “thinking about thinking” (Metcalfe & Shimamura, 1994); knowing what we are thinking and using what we know as a learner to improve strategies for learning has been described as metacognitive knowledge (Pintrich, 2002). Metacognition has been deemed as dysfunctional when metacognitive awareness and knowledge lead to atypical or maladaptive behaviours and cognitions, for example, when focussed on worry (Roussis & Wells, 2008). Focussing on worry results in a reduction in the cognitive resources to firstly reduce the levels of worry and to apply thinking to other tasks so thoughts about worry continue (Wells, 2002). Worry along with anxiety has been found to be a significant predictor of paranoia persistence in adolescents (Bird et al., 2017). In the event paranoia and cyber-paranoia are common in non-clinical populations of adolescents, it would be helpful to further understand the cognitive processes in play in the presence of paranoia and cyber-paranoia and the impact these have on metacognition. Metacognition for learning can be taught and there is evidence that suggests effective teaching of metacognition will impact positively on outcomes for young people (Perry et al., 2019). This therefore suggests that learning more about paranoia and cyber-paranoia; their prevalence in adolescence; the impact of both these constructs on metacognition; could result in interventions to support young people experiencing either form of paranoia hopefully preventing the escalation to clinical status.

The intention for chapter 2 was to carry out a systematic literature review of the reported cognitive profiles of paranoia across the mental health spectrum. Regrettably this was not feasible as a search of Prospero found a review of this nature had been registered. Keeping to the mental health theme and the relative ease of which adolescents could access technology, scoping searches were carried out to explore the literature for research relating to adolescents and mental health. There was a wealth of research on peer-to-peer bullying in adolescents and the impact this has on mental health. There were fewer studies which reported on cyber-bullying and or online victimisation. A scoping search was carried out and initial results yielded around one hundred articles, so it was decided that there was enough scope to carry out a systematic literature review using the following research question. “What is the impact of cyber-bullying and online victimisation on the mental health of adolescents?”

Chapter 3 then addressed the identified gap in the literature, and was designed to answer the following research questions:

- (1) To what extent do non-clinical adolescents report individual experiences in the behavioural, cognitive and affective domains of general paranoia?
- (2) What is the prevalence of cyber-paranoia in non-clinical adolescents?
- (3) To what extent does general paranoia co-exist with cyber-paranoia?
- (4) Do adolescents make use of metacognitive strategies to control thought in the presence of paranoia and/or cyber-paranoia?

The empirical paper focussed on adolescents aged 14 – 18 years of age, as this age range is when adolescents are most at risk of being victims of cyberbullying and online victimisation (Del Rey et al., 2012).

1.2 Ontology, epistemology and axiology.

The methodology adopted for the empirical paper involved gathering personal accounts of adolescents' experiences of paranoia; alongside gathering subjective measures. For this purpose, both qualitative and quantitative methods were utilised to collect data. The ontological position adopted for the interpretation of the data in the empirical paper could be described as constructivism and post-positivism. Both qualitative and quantitative measures were used; the emphasis was on the belief adolescents held about their own experiences (Lincoln & Guba, 1985) leading to a constructivist approach, however, the use of standardised quantitative methods, which is an attempt to remove my influence on the data lends itself towards a postpositive approach (Tashakkori et al., 2020). A constructivist approach was also adopted for Chapter 2 because multiple realities were being considered depending on context and perspective (Erlingsson & Brysiewicz, 2013).

The epistemological stance was one of interpretivism. The intention was to understand the personal accounts given by adolescents, the meanings attached to these accounts and their subjective reports (Creswell & Poth, 2016). This stance was also adopted for Chapter 2 primarily because this involved interpreting accounts given by researchers.

In terms of axiology, I recognised that my research was inherently value-laden, mostly in part because of the influence my values could have on the methods and practices during the research, but also those of the participants (Tashakkori et al., 2020). This axiological approach was also adopted for Chapter 2; relevant studies were identified as suitable following the screening process after performing the database searches. These identified studies had been deemed to hold significant value because they reported on the phenomena being studied i.e.

how mental health had been impacted by cyber-bullying and would therefore be contributing meaningfully to field of study through the advancement of knowledge in this field. The use of the Effective Public Healthcare Panacea Project (EPHPP) for the purpose of quality assessment indicates that the value has been assessed by using judgements to appraise the research.

1.3 Ethics

Ethics were very important for the data collection process for chapter 3. The research was targeting adolescents aged 14 and 15 who can give assent, but they still need parental consent to engage in the research. Whilst I was not present for the collection of data it was necessary to be aware of the power dynamics in play when designing the questionnaire. By using questionnaires that had been validated in previous studies I was confident that the questions were accessible for the young people.

1.4 Reflexivity

Reflexivity is for me an important aspect of the research process because a researchers' biases can inform, shape and influence the research and the researcher (Wilkinson, 1988). In addition, having carried out qualitative research previously I had experienced the value in the process. More importantly during this research, the reflexive process was not just used to reflect on the data and ensure my positions, thoughts and biases did not influence my interpretations but I used the reflexive process to improve the journey I experienced to get ethical approval for the study. I used the process to question and evaluate my methods of study whilst carrying out the research, my interactions with my supervisors, and decisions made relating to the study (Willig, 2013).

The process of writing the individual chapters has felt like being in a constant place of uncertainty. Now I can easily say how I would prepare for the process, but it has taken me going through the process to accept that I am creating information that is adding to the research field. So many times, I have sat in front of the computer paralysed by fear, not being able to type, but I have convinced myself that it is okay to feel uncertainty in the creative process. I have carried out the research and the analysis and now it is time to write up.

The recruitment phase was challenging. The process of repeatedly e-mailing 160 secondary schools to only get two yes responses was a challenging process. The high number of schools who failed to respond was disappointing and added to my feelings of contempt for educational establishments. I question how educational change can happen when requests for research involvement often go unanswered or, in some cases, unacknowledged. I think about

how I wanted to publish my work at the start of the doctorate and how I am disappointed that the data collection did not go as expected, the uptake was much less than expected so the analysis planned had to be changed. The expectation was to perform a latent class analysis, I was excited at the prospect of comparing the constructs of paranoia and cyber-paranoia and exploring their similarities and differences. Given the number of participants who engaged during the data collection the planned analysis had to be altered. The results achieved gave unique insight into the phenomena being studied and there are opportunities for future research. Whilst this does mean the empirical chapter is not publishable, the ethics and surveys are good foundations for other students to continue with the project. I am aware that researching paranoia is sensitive and laden with stigma, but simply not responding to e-mails was something that I had not experienced on such a large scale, and I found this very difficult to manage. Despite the reflexivity process and using alternative strategies, when recruitment is not going well it is very hard to pick yourself up and keep going. Knowing your data is insufficient to be able to attempt to publish does have an impact on motivation to continue. Whilst this process has been challenging, there is nothing more rewarding than gaining insights from the limited information collected.

1.5 Dissemination

The intention is to prepare and submit chapter 2 for publication. The paper is suitable for submission to several journals, the first to be considered is The Journal of Child & Adolescent Mental Health.

Chapter 2 Systematic review of cyberbullying on adolescents' mental health.

2.1 Abstract

Cyberbullying and online victimisation are behaviours which occur online with the intention of causing harm to others. These behaviours can have an impact on individuals who are exposed to this type of behaviour. Adolescence is a critical period in the developmental process and also a time where young people are experiencing high levels of vulnerability and perceptions of social threat. This review explores the impact cyberbullying and online victimisation have on the mental health of adolescents and the differences in mental health indices between victims of cyberbullying and online victimisation and those who report as not being victims. Several databases were searched resulting in 7 relevant studies which met the inclusion criteria of adolescents aged 14 to 18 years who had been exposed to cyberbullying and/or online victimisation, studies reporting retrospective exposure in adulthood were excluded, so too were any studies involving peer-to-peer bullying. Data were extracted into a table compiled by the author and the results were synthesised using a narrative synthesis. Adolescents who had been victims of cyberbullying and online victimisation were more likely to report thoughts of suicide, depression and feeling sad compared to those who did not report as victims. The number of students reporting exposure to cyberbullying and online victimisation was lower in schools with higher levels of students connectedness. Whilst five of the studies were carried out in the USA there were commonalities found with the research carried out in Spain and Bangladesh. Suggestion for future practice indicate that a common definition for cyber-bullying, cybervictimisation and mental health would help create a common narrative for professionals.

Keywords: Cyberbullying, online victimisation, adolescence, mental health

2.2 Introduction

Adolescence has been defined by the World Health Organisation (WHO) as the period between the ages of 10 to 19 (WHO, 2019) and is a critical period in the development process of young people (Robinson et al., 2011). It is a period where young people are experiencing high levels of vulnerability and perceptions of social threat (Bird et al., 2017). During this time young people are experiencing changes, both biologically and socially, including but not limited to puberty, schooling and levels of maturity (Sawyer et al., 2018). Experiences in adolescence can impact educational attainment, employment prospects, and the ability to form relationships

(WHO, 2019). Mental health has been defined as “*the state of wellbeing where an individual can cope with the normal stresses of everyday life, productively and fruitfully whilst contributing to their community*” (WHO, 2001), and the joint effects of managing the above changes, and the increasing demands placed on adolescents from their social environment can have a marked impact on their mental health and wellbeing (Herpertz-Dahlmann et al., 2013). Bullying in the traditional sense i.e. peer-to-peer or face-to face bullying is an environmental stressor that affects some adolescents, usually taking place within school or playgrounds; the affects it has on their mental wellbeing has been well documented and studied. Cyberbullying, also an environmental stressor differs from traditional peer-to-peer bullying because it is facilitated by digital platforms. Cyberbullying also differs from traditional bullying in that people can engage in cyberbullying anonymously and victims can be those who are perceived as more powerful by the perpetrators (Thomas et al., 2015; Vandebosch & Van Cleemput, 2008). Other unique characteristics of cyberbullying, are that a wider audience can see the humiliation of the victim and the content used to harm others can remain available for some time (Kwan & Skoric, 2013).

Cyberbullying has been described as aggressive acts or behaviour carried out through the medium of technology, such as e-mail and/or social media by either a group or an individual. It is also a form of online victimisation where there is an intention to cause harm to another individual who cannot defend him or herself (Hymel & Swearer, 2015; Patchin & Hinduja, 2006; Smith et al., 2008). Online victimisation encompasses electronic bullying, technology based aggression (David-Ferdon & Hertz, 2007; Marret & Choo, 2017; Selkie et al., 2014), sexual solicitation and approaches, aggressive sexual solicitation, unwanted exposure to sexually explicit material and harassment (Wolak et al., 2006), however there seems to be a lack of clarity in defining cyberbullying and currently there is no common definition amongst researchers (Sorrentino et al., 2023; Tokunaga, 2010). For the purposes of this review, the terms cyberbullying, and online victimisation will be considered interchangeable, describing behaviours which are perpetrated online with the intent to cause harm to others. Acts that occur online have also been referred to using the term cyber, for example Zhu et al (2021) describes online victimisation as cybervictimisation. When the term cyber has been used to represent an online act, the original wording has been maintained for the review. For the purposes of clarity, the use of the terms online or cyber in this review, refer to acts which take place through the medium of technology; bullying and/or victimisation are deliberate acts carried out with the intention to cause harm.

Across studies, the prevalence of bullying among young people varies considerably, with estimates ranging from around 10% to over 30% for peer-to-peer bullying, whereas cyberbullying rates span approximately 6% to 35%, with some students reporting weekly

victimization (Hymel & Swearer, 2015; Brown et al., 2005; Schneider et al., 2012; Bottino et al., 2015).

A systematic review of Canadian empirical research into cyberbullying found that prevalence rates varied from 10% – 18% up to 38% - 48% (Farrington et al., 2023). The variance in the prevalence rates was very much dependent on how the cyberbullying was measured, for example when using one or two items to measure cybervictimization the prevalence was around 10% - 18%, however when using questionnaires with multiple items the prevalence of cybervictimization was around 38% - 48%. Prevalence rates also differed in relation to gender but this may have been due to the common finding that females were more likely to report being exposed to cybervictimization compared to males. Ethnicity also had an impact on prevalence rates, the rates reported varied from 6% to 20%, however Farrington et al (2013) reported that the break down for ethnicities varied greatly between the studies. In line with these figures, the prevalence of cyberbullying amongst young people has been reported at being around 46.3%, however prevalence rates of up to 75.5% have been reported for cybervictimisation (Zhu et al., 2021). The differences in the prevalence rates could be due to the absence of an agreed definition. Without an agreed definition researchers may have faced challenges such as; (1) inconsistencies in what behaviours are classified as cyberbullying, which can then lead to inconsistencies in the measurement and measurement tools, as seen in Farrington et al (2023); (2) differences in cultural norms can also lead to differences in prevalence rates, for example, aggressive behaviour in one culture may be viewed differently in another and may not be included in the figures for one population but they would for another population (Jhangiani & Tarry, 2022) and, (3) if individuals do not clearly understand what cyberbullying entails, they may underreport or misreport their experiences as explained (Peebles, 2014).

Reports indicate that at least in 1 in every 10 children has a likelihood of being a victim of bullying, cyberbullying or both since being a victim of bullying has been associated with being a victim of cyberbullying (Bottino et al., 2015). Both cyberbullying and traditional bullying can have deep and lasting impacts on adolescents. Traditional bullying is associated with but not limited to experiencing anxiety, depression, low self-esteem and increased risk of adolescent suicidal ideation (Pranjić & Bajraktarević, 2010). It also impacts physical health with victims reporting headaches, stomach aches and stress-related health issues (Garmy et al., 2019). Academic performance can be affected (Güven, 2021; Huang, 2022), adolescents can have difficulty forming and maintaining friendships which can lead to them becoming socially isolated and they can have ongoing mental health and relational challenges into adulthood (DeLara, 2016). Cyberbullying and online victimisation have a wide range of reported outcomes which can have both immediate and long-term effects on the wellbeing of adolescents. Similar to traditional bullying, cyberbullying can have a significant emotional toll on adolescents leading to

depression, anxiety, increased risk of psychiatric disorder and in extreme cases suicidal thoughts and/or attempts at suicide (Arnon et al., 2022; Larrañaga et al., 2016; Meltzer et al., 2011). Victims of cyberbullying may be more affected by the opinions of peers on social-media which can lead to a distorted views of how they view themselves (Hoff & Mitchell, 2009).

Both traditional bullying and cyberbullying have long lasting detrimental effects on the wellbeing of adolescents however this review is focussing solely on the current picture of the impact of cyberbullying on mental health. The WHO definition of mental health will be used because of its holistic understanding of mental health. We have seen how cyberbullying can affect an adolescents biological, psychological and social wellbeing, which are the core concepts of the WHO definition, therefore a holistic model of mental health, underpinned by the WHO definition of mental health, is very much aligned to the context of this research (Manwell et al., 2015). In addition the WHO is a well-respected international body that provides guidance and best practice for health concerns (Downey et al., 2020). Research has shown that older students are at significantly higher risk of cyberbullying victimisation (Del Rey et al., 2012) therefore this review will focus on adolescents in the higher age range of 14 to 18 years. Whilst Kwan et al. (2020) identified that gaps exist in the synthesis of longitudinal and qualitative evidence, this study will focus on quantitative studies. The rationale for the focus on quantitative studies specifically was to enable us to answer the review questions which were focused on differences and associations. We have added to the limitations that the review did not consider longitudinal or qualitative studies.

The research questions to be answered by this review are:

[1] What is the association between cyberbullying/online victimisation and mental health outcomes in adolescents ages 14 to 18 years?

Differences reported between those who have identified as victims of cyberbullying and/or cybervictimisation and those who have not, will be retrieved so that the second research question can be answered.

[2] Are there differences in mental health indices between those who have been cyberbullied vs those who have not?

2.3 Methods

2.3.1 Databases, search terms and search strategy

This review was pre-registered; see [Prospero: record ID 462987](#).

2.3.2 Search Strategy

Initial scoping searches were conducted on PsycINFO to assess the feasibility of the study. A full systematic search was conducted on 20 October 2023 using PsycINFO, CINAHL, EBSCO, Web of Science, Scopus, ProQuest, and MEDLINE. Search terms used can be seen in table 1. There were no restrictions on dates, however there were restrictions on language.

Table 1

Search terms used in databases

Cyberbullying OR 'cyber bullying' OR 'online bullying' OR 'cyber victimization' OR 'cyber victimisation' OR 'online victimization' OR 'online victimisation' OR 'cyber harassment' OR 'online harassment'

AND

Adolescen* OR teen* OR youth OR young people OR young person OR 'young people' OR 'young person'

AND

Mental health OR 'mental health' OR mental illness OR 'mental illness' OR mental disorder* OR 'mental disorder*' OR psychiatric illness OR 'psychiatric illness' OR depression or anxiety

Publications had to be written in English or have an English language alternative to be considered. The searches were carried out independently by the author and another researcher, to ensure reliable selection and results were exported to Rayyan (Ouzzani et al., 2016).

2.3.3 Inclusion and exclusion criteria

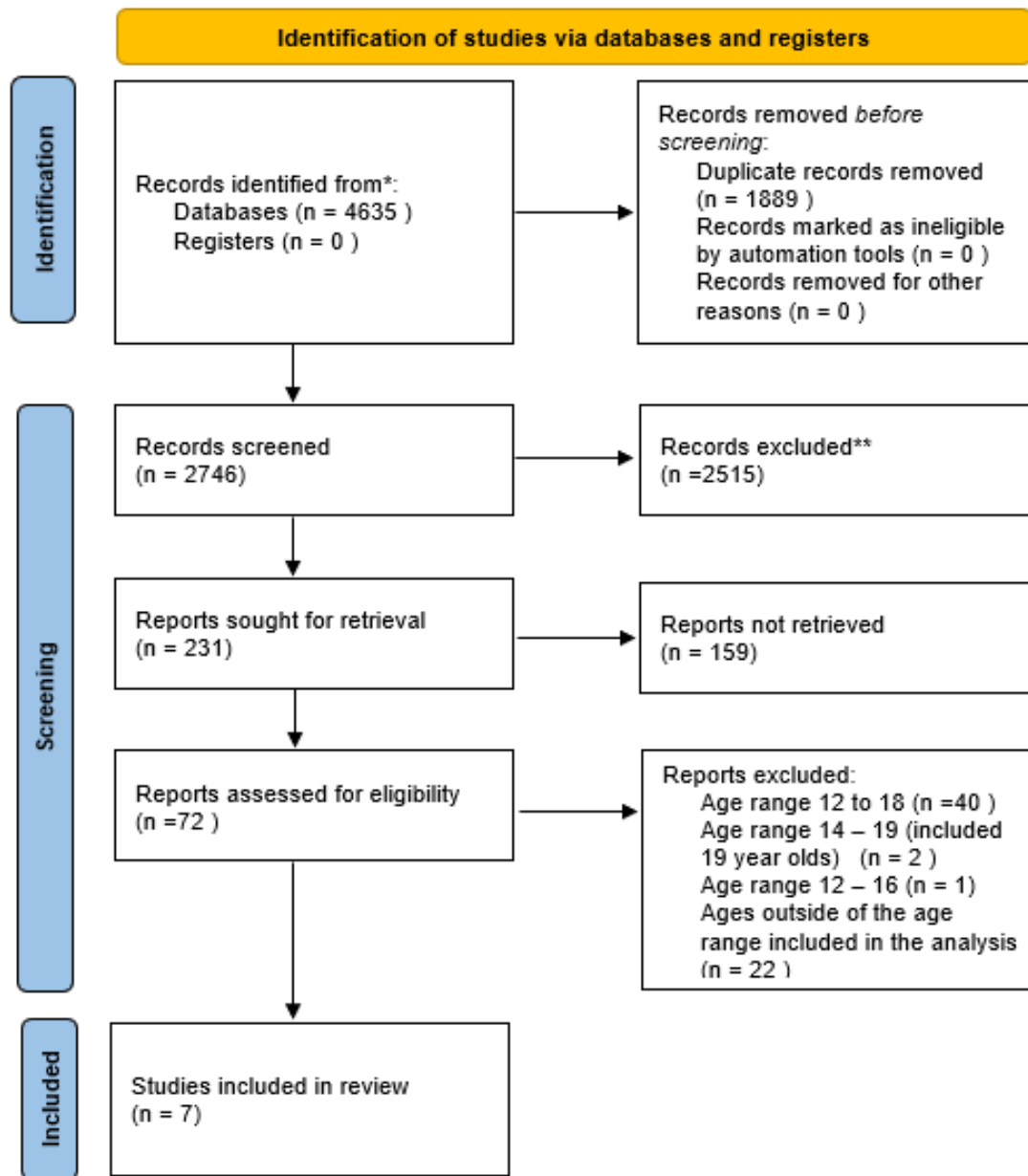
Inclusion criteria for the review were: (1) full text cross-sectional reports published in a peer-reviewed journal; (2) participants were adolescents aged 14 years to 18 years; (3) quantitative design; (4) written in English; (5) participants reported exposure to cyberbullying and/or online victimisation; (6) assessment tool used can be a questionnaire, a standardised self-report measures that use Likert-type items, a rating scale, or a diagnostic tool; (7) outcomes reported include any symptoms or medical diagnoses which is affecting a person's emotional, psychological and social wellbeing; it may be affecting how they think, feel and

behave, and/or how they are able to cope with stress and make decisions. The exclusion criteria were: (1) studies in which bullying and/or online victimisation has been assessed retrospectively in adulthood; (2) studies which contained participants which intersect the age range such as 6 to 16 but the data within each range was not separately reported.

2.3.4 Study selection

Once the search results were uploaded to Rayyan, an online tool which facilitates the selection process (Ouzzani et al., 2016); duplicates, theoretical essays, reviews, book sections, book chapters, books and commentaries were removed. Both the author and another researcher worked independently with the blind tool activated in the software, to assess titles and abstracts. Disagreements were then discussed before the final decision was made. There was no need for third party intervention to resolve disagreements. At this stage, all identified studies were exported to Endnote to carry out a full text search. The author then carried out a search of the URLs identified in the cases where the no full text was found. Where there were intersecting age ranges the full texts were assessed by the author to clarify whether results were reported separately.

The searches identified 4635 articles; 1889 of these were duplicates so they were removed. Following a screening of titles a further 2,515 were removed. Of the remaining 231, 72 full article studies were retrieved. Following full paper screening, 7 articles were critically appraised, had data extracted and were included in the systematic review. A flow diagram is shown in Figure 1.

Figure 1*PRISMA Flow diagram illustrating the systematic review process*

2.3.5 Data extraction and critical appraisal

Data extraction was carried out by the author and recorded onto a table composed by the author, (see Table 2). This included data on; author/s, date of publication, country of corresponding authors, participants' group, number of participants, demographics, name of assessment tool, type of assessment tool and findings. Studies were evaluated using the quality assessment tool for quantitative studies developed by the Effective Public Healthcare Panacea Project (EPHPP, 2023), (see Table 3).

2.3.6 Synthesis methods

A narrative synthesis, excluding meta-analysis was conducted. The guidance produced by Popay et al. (2006) was used to avoid bias and create a high-quality narrative approach (Popay et al., 2006). Popay et al. (2006) identify four main elements of a narrative synthesis;

(1) The role of theory

The theory underlying this synthesis is cyberbullying and online victimisation are associated with negative changes in the mental well-being of adolescents.

(2) Preliminary Synthesis

The initial results have been synthesised reported in the summary statistics, provided in Table 2 and throughout the results section.

(3) Relationships within and between studies

In the results section a deeper synthesis and further exploration of relationships within and between the studies are reported.

(4) Assessing Robustness

The robustness of the synthesis has been examined in the use of the EPHPP to test the quality of the included research papers and throughout the discussion section which includes the strengths and limitations of the review.

The process is intended to be iterative hence the repetition of steps across different sections.

Table 2*Characteristics of included studies*

Author Date Country of corresponding author	Participant groups Number of participants	Demographics	Assessment tool Type of assessment tool	Outcomes
Alhajji, M.	Students in	Age	Data for the analysis was taken from the Youth Risk Behaviour Survey (YRBS) 2016	15.5% of sample reported cyberbullying victimisation.
Bass, S.	grades 9 to 12	≤ 15 years	36.4% Standard Questionnaire.	Victims
Ting, D.		> 15 years	63.6%	60% reported depressive symptoms, significantly higher (significance figure not reported) than that of the overall sample at 29%.
2019	15,465	Sex	Cyberbullying was assessed using a single dichotomized question “Have you ever been electronically bullied? (count bullying through e-mail, chat rooms, instant messaging, websites, or texting,” yes/no).	40% reported having thoughts about suicide compared with 17.6% in total sample.
USA		Male	51.3%	About 1/3 reported having made suicide plans compares with 14.5% in the overall sample.
		Female	48.7%	(associations reported as significant but significance not reported)
		Race (dichotomized)		20% reported carrying a weapon, significantly higher proportion than the overall sample of 16.2%.
		Non-White	45.5%	Over 33% engaged in physical fight, 22.5% in overall proportion.
		White	54.5%	After logistical regression.
		Non-White group distribution		Depressive symptoms, suicidal ideation, suicide planning, carrying a weapon, and engaging in a physical fight were all associated with higher odds of being cyberbullied.
		American Indian or Alaska native	0.6%	All mental illness variables were significant.
		Asian	3.8 %	Farrington
		African American	13.6%	conditions
		Native Hawaiian or other Pacific Islander	0.6%	Depressive symptoms
		Hispanic/Latino	9.9%	Suicidal ideation
		Multiple Hispanic/Latino	12.3%	Suicide planning
		(Hispanic/Latino ethnicity and one of the races above)		Carried weapons
		Multiple non-Hispanic/Latino	4.6 %	Physical fight
		(2 or more races from above)		

Chapter 2

Baumann, S.	Students in	Gender	(n)	2009 YRBS	Cyber victimisation
Toomey, R. B.	grades 9 to 12	Female	725		This was a significant predictor of depression for females ($\beta = .24$, $p < .001$),
Walker, J. L.		Male	757	Demographic variables, and all items related to depression, suicide, and	but not for males ($\beta = .10$, $p = .10$); Wald's statistic: ($\chi^2(df = 1) = 6.76$, $p < .01$).
	1,491	Missing	8	bullying/electronic bullying.	Further, the direct association between cyber victimisation and suicide
2013				All depression and suicide variables were dichotomous (yes/no) in most analyses,	attempt was not significant for females or males after accounting for
		Grade		but we retained the original ordinal variables (based on frequency of behaviours)	depression. Finally, the indirect effect was significant only for females ($a\beta$
USA		9	386	when available for the correlation and mediation analyses.	$= .23$, 95% C.I. $= .13-.33$), but not males ($a\beta = .07$, 95% C.I. $= .00-.17$). A
		10	379		Wald's test confirmed these indirect effects were significantly different
		11	354		across gender $\chi^2(df = 1) = 6.64$, $p < .01$). The proportion of variance in suicide
		12	353		attempts mediated by depression was equal to 74.43% for females.
		Missing	12		
		Race/ethnicity			Cyberbullying
		American Indian/Alaska Native	81		This was not a significant predictor of depression for either females or
		Asian	25		males (Wald's statistic: $\chi^2(df = 1) = .50$, $p = .48$). After accounting for
		Black or African American	64		depression, there was a direct significant association between
		Native Hawaiian/other Pacific Islander	11		cyberbullying and suicide attempts, but only for males ($\beta = .14$, $p = .05$);
		White	673		however, a Wald's test suggested that males and female did not differ on
		Hispanic/Latino	349		this association : $\chi^2(df = 1) = 1.18$, $p = .28$). The indirect effects were not
		Multiple – Hispanic	208		significant for either females ($a\beta = -.187$, 95% C.I. $= -.13-.11$) or males ($a\beta$
		Multiple – non-Hispanic	35		$= .00$, 95% C.I. $= -.09-.08$); further a Wald's test confirmed that these
		Missing	46		parameters did not differ by gender $\chi^2(df = 1) = .07$, $p = .80$).
					Summary
					Depression significantly mediated the relationship between cyber
					victimisation and suicide attempts for females only, with depression
					accounting for 74.43% for cyber victimization.
Bishop, M. D.	Youths aged over	Gender	(n)	Texas YRBS 2017	Cybervictimization, significantly associated with feeling sad and suicidal
Loverno, S.	fourteen who	Female	1101		thoughts among males and females. ...cybervictimisation was significantly
Russel, S. T.	provided valid	Male	944		associated with suicidal attempts only among men.
2023	responses to the				
	2017 Texas YRBS				

Chapter 2

USA	2045				
Goebert, D.	Students in	Gender	(N)	Cyberbullying survey questions developed following focus groups with students.	Prevalence
Else, I.	grades 9 to 12	Girls	530		
Matsu, C.		Boys	351	Cyberbullying	
Chung-DO, J.	881	Grade		Students reported number of times in the last year they: (1) received a threatening	
Chang, J.		9	231	or mean text message; (2) received a threatening or mean e-mail; (3) had	
	Other ethnicity	10	295	embarrassing, threatening or mean information posted about them on a website;	
2010	excluded from	11	226	(4) had a dating partner go through their cell phone to check on calls or text	
	analysis	12	129	messages; and (5) has a partner go through their personal website to check up on	
	677 participants			them.	
USA	analysed	Ethnicity		Substance use and mental health.	Logistical regression revealed cyberbullying victimization was a predictor of
		Filipino	403		negative mental health consequences, binge drinking and marijuana use
		Native Hawaiian	196	Students reported number of times in last month they had 4 or more alcoholic	both approximately 2.5 times more likely to occur, increased likelihood of
		Samoan	42	drinks in a month, and had used marijuana. Two screening questions measured	depression by almost 2 times , and suicide attempts by 3.2 times.
		Caucasian	37	depression and two measured anxiety. Those who rated depression and anxiety as	Cyberbullying not a significant predictor of depression or anxiety.
		Other	203	moderate or higher were coded as having anxiety or depression.	
Landoll, R. R	Adolescents aged	Gender	(n)	Cyber-Peer Experiences Questionnaire (Landoll et al., 2013), was adapted from	Cybervictimization is distinct from traditional forms of peer victimization,
La Greca, A. M.	14 – 18 years	Female	487	the Social Networking – Peer Experiences Questionnaire (SN-PEQ) with questions	which are also distinct from each other.
Lai, B. S.		Male	352	added following feedback from three adolescent focus groups. Two clinical	
Chan, S. F.	839 adolescents			psychologists with experience of adolescent per relations were also asked to	Cybervictimization was prospectively associated with higher levels of
Herge, W. M.		Ethnicity		contribute items.	depressive symptoms ($\beta = .16$).
	761 completed	Hispanic White	612		
2015	both	Black	101	The Social Anxiety Scale for Adolescents (La Greca et al., 1988)	Cybervictimisation predicted increased depressive symptoms over time (β
	questionnaires	Non-Hispanic White	84		= .21).
		Asian	34	The Centre for Epidemiological Studies – Depression Scale (Radloff, 1977)	
USA					

Chapter 2

Lucas-Molina, B.	Students aged 14	Age	(n)	European Cyberbullying Intervention Project questionnaire (Brighi et al., 2018; Del Rey et al., 2015; Ortega-Ruiz et al., 2016)	Being a victim of cyberbullying was positively associated with suicidal behaviour and depression and negatively associated with self-esteem.
Pérez-Albéniz, A.	– 18 years	14	338		
Solbes-Canales, I.		15	534	Gives a definition of cyberbullying and cybervictimisation, students then indicate number of times they have experienced the situations.	
Ortuño-Sierra, J.	1,774 students	16	409		
Fonseca-Pedrero, E.		17	297	Adolescent Suicidal Behaviour Scale (Diez-Gomez et al., 2020)	
		18	196	Self-report comprising 16 dichotomous (yes/no) items designed to assess suicidal behaviour in adolescents	
2021					
Spain				RADS-SF	
				Reynolds Adolescent Depression Scale-Short Form (Reynolds, 2002)	
				Self-report scale measuring the severity of symptomatology of depression. 10 items on a 4-point Likert scale.	
				Rosenberg Self-esteem Scale (Rosenberg, 1965)	
				10 item self-report scale using a 4-point Likert scale, adapted and validated for Spanish adolescents.	

Chapter 2

Mallik, C. M.	Adolescents aged 14 to 17 years	Gender	(n)	Cyber Victim and Bullying Scale (Çetin et al., 2011)	31.90% identified as victims of cyberbullying.
Radwan, R. B.		Boy	182	Consists of two scale: Scale of Cyber Victim (SCV) and Scale of Cyber Bullying (SCB)	
2019		Girl	94	SCV is a 5-point Likert scale made up of 22 items made up of a 3 factor structure, 7 items are for Cyber Verbal Bullying (CVB), 5 items are for Hiding Identity (HI) and ten items for Cyber Forgery (CF).	Of the victims 27.27% were suffering from any form of psychiatric disorder.
	276	Religion			
Bangladesh		Muslim	267	Only SCV scale used.	
		Hindu	8	Those who answered “usually” or “always” in any of the 22 items were considered as cyberbully victims.	14.89% of non-Cyberbully victims were suffering from any form of psychiatric disorder.
		Christian	1	Strengths and Difficulties Questionnaire (Mullick & Goodman, 2001)	This difference was significant (p=.012).
				Three versions are available, parent, teacher and self. 25 attributes which cover emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behaviours. A brief impact supplement inquiry about overall distress, social impairment, burden and chronicity if the responder thinks that the child or he/she has a problem.	Major Depressive Disorder (MDD) was found among 9.09% o the Cyberbully victims, compares to 1.59% of the non-Cyberbully victims, This was highly significant (P=.006).
				Self-version Bangla SDQ was used to divide the sample into screen positive and screen negative subjects.	Specific psychiatric disorders were collapsed into two broad categories: Emotional Disorder (ED) and Behavioural Disorder (BD)
				Subjects were taken to be screen positive if they were classified as ‘probable’ psychiatric cases by an algorithm based on the information from SDQ.	Cyberbully victims, 21.59% had ED, non-Cyberbully victims had 11.17% ED. The difference was significant (P=.019)
				Development and Wellbeing Assessment (DAWBA)	
				Package of questionnaires, interviews and rating techniques for generating psychiatric diagnoses among children and adolescents aged 5 – 16 years.	Cyberbully victims, 12.5% had BD, non-Cyberbully victims, 4.75% has BD. The difference was significant (P = .023)
				Self-version of DAWBA administered as an interview to students and verbatim accounts of any reported problems were recorded, these were then rated and assigned diagnoses according to the DSM-5 criteria (APA, 2013).	

2.4 Results

2.4.1 Summary Statistics

Studies were primarily carried out in the USA (n=5) with the remaining being conducted in Spain (n=1) and Bangladesh (n=1). Participants in the USA were reported as being in Grades 9 to 12 which places them between the ages of 14 to 18. Participants in Spain and Bangladesh were aged 14 and up to but not including 19 years and 14 to 17 years respectively. The number of participants ranged from 276 (Mallik & Radwan, 2020) to 15, 465 (Alhajji et al., 2019). Cyberbullying and cyber victimisation were measured in different ways across the studies; three of the studies used data extracted from the Youth Risk Behaviour Survey (YRBS), which is administered to students in grades 9 through to 12 in the United States (Alhajji et al., 2019; Bauman et al., 2013; Bishop et al., 2023); Goebert et al (2011) used questionnaires developed from focus groups with students; Landoll et al (2015) used the Cyber-Peer Experiences Questionnaire which was adapted from the Social-Networking -Peer Experiences Questionnaire (SN-PEQ) following feedback from adolescent focus groups and two clinical psychologists; Lucas-Molina et al (2022) used the European Cyberbullying Intervention Project Questionnaire (ECIPQ; Brighi et al., 2012) and Mallik & Goodwin (2020) utilised the Cyber Victim and Bullying Scale (Çetin et al., 2011). The measures used for mental health also varied across the studies. Three studies extracted data from their respective YRBS (Alhajji et al., 2019; Bauman et al., 2013; Bishop et al., 2023); Goebert et al (2011) used screening questions to measure depression and anxiety respectively, further details of the validity of the questions was not provided; Landoll et al (2015) used The Social Anxiety Scale for Adolescents (La Greca et al., 1988) and The Centre for Epidemiological Studies -Depression Scale (Radloff, 1977); Lucas-Molina et al (2022) used the Adolescent Suicidal Behaviour Scale (Diez-Gomez et al., 2020), the Reynolds Adolescent Depression Scale-Short Form (RADS-SF; Reynolds, 2002) and the Rosenberg Self-esteem Scale (Rosenberg, 1965) and Mallik & Radwan (2020) used the self-version of the Strengths and Difficulties Questionnaire (Mullick & Goodman, 2001) and the self-version of the Development and Wellbeing Assessment (DAWBA; Goodman et al., 2000).

2.4.2 Within studies synthesis

Overall within the studies we can see a variety of demographics such as ethnicity, gender and in the case of Bishop et al (2013), sexual identity and socioeconomic status (Lucas-Molina et al., 2022; Mallik & Radwan, 2020). School connectedness was found to be a protective factor whereby schools lower numbers of students identified as victims of cyberbullying

cybervictimisation had higher levels of school connectedness when compared to other schools. There were similarities and differences in how cyberbullying/cybervictimisation was measured, three of the studies used pre collected data from the YRBS (Alhajji et al., 2019; Bauman et al., 2013; Bishop et al., 2023) whilst three collected data using a variety of Psychosocial Evaluation Scales (Landoll et al., 2015; Lucas-Molina et al., 2022; Mallik & Radwan, 2020) with Goebert et al. (2011) using questions designed specifically to be used in the study gathering data from focus groups to generate questionnaires. Different methods were used to analyse the data, both Landoll et al. (2015) and Bauman et al. (2013) reported using Full Information Maximum Likelihood (FIML) to correct for missing data, there was no mention of how missing data was treated during analysis in the remaining studies. Alhajji et al. (2019) and Goebert et al. (2011) used logistical regression to analyse and compare variables, Bauman et al. (2013) used Structural Equation Modelling (SEM) in MPlus with bootstrapping, Bishop et al. (2023) used SVY (survey prefix command) in STATA and Karlson-Holm-Breen decomposition analysis to compare variables. Landoll et al. (2015) used analysis of variance and confirmatory factor analysis with Lucas-Molina et al. (2022) using descriptive analysis and hierarchical linear model analysis. Whilst Mallik & Radwan (2020) gave detailed descriptions of how they interpreted results there was no description of how the data was analysed. Despite the variety of methods used in the collection and analysis of data all studies reported significant associations with cyberbullying and/or cybervictimisation and mental health outcomes. The Effective Public Health Practice Project quality assessment tool was used to assess the effectiveness of each study. This process was carried out by the author and another researcher with any discrepancies being discussed before a final decision was made. The papers were rated as either moderate or strong. Full details of the EPHPP rating can be seen in Table 3.

Table 3

Overall quality rating of each paper using EPHPP

	Alhajji, M., Bass, S., Ting, D. 2019	Baumann, S. ,Toomey, R. B., Walker, J. L. 2013	Bishop, M. D., Loverno, S., Russel, S. T. 2023	Goebert, D., Else, I. Matsu, C., Chung-DO, J., Chang, J. 2010	Landoll, R. R, La Greca, A. M., Lai, B. S., Chan, S. F., Herge, W. M. 2015	Lucas- Molina, B., Pérez- Albéniz, A., Solbes- Canales, I., Ortuño- Sierra, J., Fonseca- Pedrero, E., 2022	Mallik, C. I., Radwan, R. B., 2020
A) SELECTION BIAS							
(Q1)^(a)	1	1	1	1	1	1	2

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(Q2) ^(a)	2	2	2	3	3	5	5
Rate this section	1	1	1	2	2	2	2
Strong 1							
Moderate 2							
Weak 3							
B) STUDY DESIGN							
Indicate the study design	4	4	4	4	3	4	4
1. Randomized controlled trial							
2. Controlled clinical trial							
3. Cohort analytic (two group pre + post)							
4. Case-control							
5. Cohort (one group pre + post (before and after))							
6. Interrupted time series							
7. Other specify _____							
8. Can't tell							
Was the study described as randomized?	n/a	n/a	n/a	n/a	n/a	n/a	n/a
If NO, go to Component C.							
No Yes							
Rate this section	2	2	2	2	2	2	2
Strong 1							
Moderate 2							
Weak 3							
C) CONFOUNDERS							
(Q1) ^(a)	1	1	1	1	1	1	1
(Q2) ^(a)	1	1	1	1	1	1	1
Rate this section	1	1	1	1	1	1	1
Strong 1							
Moderate 2							
Weak 3							
D) BLINDING							
(Q1) ^(a)	2	2	2	2	2	2	2
(Q2) ^(a)	2	2	2	3	2	2	3
Rate this section	1	1	1	2	1	1	2
Strong 1							
Moderate 2							
Weak 3							
E) DATA COLLECTION METHODS							
(Q1) ^(a)	3	3	3	3	3	3	3
(Q2) ^(a)	3	3	3	3	1	1	1
Rate this section	3	3	3	3	2	2	2
Strong 1							
Moderate 2							

Chapter 2

Weak 3

F) WITHDRAWALS AND DROP-OUTS

(Q1)^(a) 4 4 4 1 4 4 3

(Q2)^(a) 1 1 1 1 1 1 1

Rate this section 1 1 1 2 1 1 2

Strong 1

Moderate 2

Weak 3

G) INTERVENTION INTEGRITY

(Q1)^(a) 3 4 3 4 4 3 3

H) ANALYSES

(Q1) Indicate the unit of allocation (circle one)

community organization/institution
practice/office individual

(Q2)^(a) Individual Individual Individual Individual Individual Individual Individual

(Q3)^(a) 1 1 1 1 1 1 1

(Q4) Can't tell n/a n/a n/a n/a n/a n/a n/a

Selection Bias 1 1 1 2 2 2 2

Strong 1, Moderate 2, Weak 3

Study Design 2 2 2 2 2 2 2

Strong 1, Moderate 2, Weak 3

Confounders 1 1 1 1 1 1 1

Strong 1, Moderate 2, Weak 3

Blinding 1 1 1 2 1 1 2

Strong 1, Moderate 2, Weak 3

Data collection method 3 3 3 3 2 2 2

Strong 1, Moderate 2, Weak 3

Withdrawals and dropouts 1 1 1 2 1 1 2

Strong 1, Moderate 2, Weak 3,

GLOBAL RATING FOR THIS PAPER (circle one): moderate moderate moderate moderate Strong Strong Strong

1. STRONG (no WEAK ratings)
2. MODERATE (one WEAK rating)
3. WEAK (two or more WEAK ratings)

Note. ^(a) Questions can be seen in full in appendix I

2.4.3 Effects

Alhajji et al. (2019) and Goebert et al. (2011) reported effect sizes, these ranged from 1.6, 95% CI [1.2 -2.0], $p \leq .01$ to 3.2 [2.2-4.6], $p \leq .001$. The remaining five studies did not report effects.

2.4.4 Exploring relationships between studies

Whilst carrying out the within studies synthesis, similarities and themes were identified between the studies. Whilst the focus of the literature review is mental health outcomes, reporting on suicide and depression/feeling sad was a common outcome whilst other mental health concerns were reported in only a few of the studies. The relationships have therefore been discussed using the themes; prevalence of exposure to cyberbullying, depression and feeling sad, suicide and other reported mental health outcomes.

2.4.5 Prevalence of exposure to cyberbullying

Prevalence of cyberbullying, where reported, varied from 15.5% (Alhajji et al., 2019) to 31.9% (Mallik & Radwan, 2020), with one study reporting the levels of cybervictimisation being similar to those for overt peer victimisation (Landoll et al., 2015), these rates were not reported, however the levels were reported as significant, $p < .001$. Individual differences within populations were reported as follows.

It was reported that 68% of those that reported being victims were female, however, females made up 48.7% of the total sample and 45% of those that did not identify as victims (Alhajji et al., 2019). This was reported as significant, but the significance was not reported. In one study 37.36% of the boys reported experiencing cyberbullying compared to 21.28% of girls, this was reported as significant ($p = .004$) (Mallik & Radwan, 2020). One study reported that females were 2.5 times more likely to be cyberbullied than males (Alhajji et al., 2019), however another study found that males were more likely to be victims of cyberbullying ($\chi^2(df=3) = 1113.92$, $p = 0.003$, Cramer's $v = .10$).

In a sample where 54.5% of the total sample are white, 64% of those who identified as victims were white, these associations were significant, but the significance values were not reported (Alhajji et al., 2019). In another study it was reported that students of Caucasian, Filipino or Samoan ethnicity were more likely to report being victims of cyberbullying than Native Hawaiians ($\chi^2[3, n=664] = 12.1$, $p = .0071$) (Goebert et al., 2011). This was from a population where 4.2% were Caucasian, 45.7% were Filipino, 4.7% were Samoan and 22.3% were Native Hawaiian. The percentages reported were for the full sample size of 881 participants and not the 677 participants that were analysed. Non-white females has a 1.9 odds ratio of being

cyberbullied compared to white females who had a 2.6 odds ratio, and non-whites were 50% less likely to experience cyberbullying (Alhajji et al., 2019). Participants who identified as being sexual minority females were significantly more likely to have been a victim of cybervictimisation than heterosexual females and males; heterosexual males were significantly less likely to report being victims cybervictimisation than heterosexual and sexual minority females (Bishop et al., 2023). One study reported that the method of cyberbullying victimisation was higher for girls via text messages ($v2 [1, n = 659] = 4.1, p = .0430$) and from the web ($v2 [1, n = 659] = 4.3, p = .0385$) than for boys (Goebert et al., 2011). It was reported that there were significant bivariate associations between cyberbullying victimisation and sex, race and ethnicity (Alhajji et al., 2019).

2.4.6 Depression and feeling sad

Six of the seven studies reported associations between depression and feeling sad; with one study reporting that cyberbullying victimisation increased the likelihood of depression by almost two times (Goebert et al., 2011), and another reporting that being a victim of cyberbullying was positively associated with depression (Lucas-Molina et al., 2022). It was reported that 60% of those who reported being a victim of cyberbullying and victimisation reported symptoms of depression (Alhajji et al., 2019). It was reported that female participants who identified as having experienced cybervictimisation were more likely to experience depression. This association was found to be a significant predictor of depression for females ($\beta=.24, p<.001$). In contrast for males being a victim of cybervictimisation was not found to be a significant predictor of depression ($\beta=.10, p=.10$; Wald's statistic $\chi^2(df=1) = 6.76, p <.01$). Furthermore it was reported that being a victim of cyberbullying was not a significant predictor of depression for either females or males (Wald's statistic: $\chi^2(df=1) = .50, p = .48$) (Bauman et al., 2013). Another study did report that feeling sad was significantly associated with having experienced cybervictimisation in both males and females (Bishop et al., 2023). There were gender differences reported, with significant associations between depression and gender being reported after a chi-squared analysis ($\chi^2(df=1) = 24.23, p<.0005$) (Bauman et al., 2013); it was also reported that females were 1.73 times more likely to report that they had been depressed than males (Bauman et al., 2013). Whilst one of the studies confirmed there were no significant differences by grade for depression (Bauman et al., 2013), others did not report on age differences. The only reporting of ethnicity differences was that Hispanics were the most likely to report depression (Bauman et al., 2013).

It was reported that being a victim of cyberbullying was a predictor of depression (Goebert et al., 2011), with another reporting that being a victim of cybervictimisation was a predictor for experiencing increased depressive symptoms over time; this was identified after controlling for

traditional peer victimisation and social anxiety (Landoll et al., 2015). A moderate correlation was reported between being depressed and considering suicide ($r = 0.40$) Pearson (Bauman et al., 2013). In contrast one study reported that if you have depressive symptoms you are 2.7 times as likely to be cyberbullied (Alhajji et al., 2019).

A moderator on the effects of cybervictimisation on depression was student connectedness. It was reported that in schools which were identified as having low levels of student connectedness, those who reported experiencing cybervictimisation were more likely to have increases in symptoms of depression, ($b = 4.23$, $SE = 0.60$, $t = 7.05$, $p < .001$) (Lucas-Molina et al., 2022). Conversely schools with higher levels of student connectedness indicated that depression did not vary as a function of cybervictimisation ($b = 1.16$, $SE = 0.79$, $t = 1.47$, $p = .14$) (Lucas-Molina et al., 2022).

Major Depressive Disorder (MDD) was identified within 9.09% of the victims of cyberbullying, compared to the 1.59% who were not victims of cyberbullying; this difference was significant ($p = .006$) (Lucas-Molina et al., 2022). A logistical regression model showed that depressive symptoms, were all associated with higher odds of being cyberbullied (Alhajji et al., 2019)

2.4.7 Suicide

One study found that 40% of individuals who identified as victims had suicidal thoughts, and one third had made suicide plans, compared to 17.% and 14.5% respectively in the overall sample (Alhajji et al., 2019). These associations were noted as significant, although specific values were not provided. One study indicated that significant predictors of suicide attempts were individuals who reported being a victims and experiencing depression; in females ($\beta = .53$, $p < .001$) and males ($\beta = .47$, $p < .001$). This association was significantly equal across gender ($\chi^2(df=1) = .50$, $p = .48$) following a Wald's test (Bauman et al., 2013). Cybervictimization was reported as being significantly associated with suicidal thoughts among males and females however it was only significant among females when associated with suicide attempts (Bishop et al., 2023). Whilst being a victim of cyberbullying was positively associated with suicide, it was also found that schools with a higher proportion of minority populations were associated with higher suicidal behaviour (Lucas-Molina et al., 2022). One study reported that cyberbullying victimisation increased the likelihood of suicide attempts by 3.2 times for female and 4.5 times for males and that being cyberbullied was a predictor of attempted suicide (Goebert et al., 2011). Another study reported significant associations between gender and considering suicide ($\chi^2(df=1) = 15.85$, $p < .0005$), reporting that females were 1.73 times more likely to say they had considered suicide, 1.63 more times likely to report a suicide plan ($\chi^2(df=1) = 9.21$, $p < .002$), and

1.47 times more likely to report at least one suicide attempt ($\chi^2 [1, n = 649] = 6.0, p = .0143$) than boys (Goebert et al., 2011) and planning suicide was significantly associated with cyberbullying victimisation in males (Alhajji et al., 2019)

There were no significant differences reported by grade for considering suicide or making a suicide plan, but students in grade 9 were more likely to report a suicide attempt than students in other grades ($\chi^2(df=3) = 7.92, p < .05$), although this was indicated as a weak relationship using Cramer's $v = .08$ (Bauman et al., 2013).

After accounting for depression, there were significant associations reported between cyberbullying and suicide attempts in males only ($\beta = .14, p < .05$) a Wald's test suggested that there was no difference on this association ($\chi^2(df=1) = 1.18, p = .28$), the indirect effects were reported as not significant for either females ($a\beta = .18, 95\% \text{ C.I.} = -.13-.11$) or males ($a\beta = .00, 95\% \text{ C.I.} = .09-.08$); a Wald's test confirmed that these parameters did not differ by gender ($\chi^2(df=1) = .07, p = .80$) (Bauman et al., 2013). Indirect association between cybervictimisation and suicide attempt was reported as significant for females ($a\beta = .23, 95\% \text{ C.I.} = .13-.33$), but not males ($a\beta = .07, 95\% \text{ C.I.} = .00-.17$), these indirect effects were found to be significantly different across gender (Wald's statistic: $\chi^2(df=1) = 6.64, p < .01$) (Bauman et al., 2013).

It was also reported that adolescents who have suicidal ideation or have made suicide plans are 1.6 times more likely to be cyberbullied and females with suicidal ideation had twice the odds of reporting cyberbullying victimisation compared to females with no suicide ideation, there was no such association found in males (Alhajji et al., 2019). One study reported that depression mediated 74.43% of the variance in suicide attempts among females (Bauman et al., 2013). Another study reported that student connectedness moderated the effects of cybervictimisation on suicide in schools with lower levels of student connectedness, students who reported cybervictimization were associated with an increase in suicidal behaviour ($b = 2.17, SE = 0.34, t = 6.32, p < .001$) and in schools with higher levels of student connectedness there was no variance in suicidal behaviour as a function of cybervictimization ($b = 0.12, SE = 0.45, t = 0.26, p = .79$). A logistical regression model showed that suicidal ideation and suicidal planning were associated with higher odds of being cyberbullied (Alhajji et al., 2019)

2.4.8 Other reported mental health concerns

It was noted that girls exhibited more anxiety symptoms ($\chi^2 [1, n = 572] = 13.8, p = .0002$) than boys and that cyberbullying victimisation was a predictor of anxiety (Goebert et al., 2011), however, another study also found that cybervictimization did not uniquely impact youth anxiety levels (Landoll et al., 2015). Another study reported that being a victim of cyberbullying negatively associated with self-esteem. This particular study also reported that student

connectedness moderated the effects of cybervictimization on self-esteem. Adolescents in schools which were identified as having lower levels of student connectedness, who identified as victims of cybervictimization also reported lower levels of self-esteem ($b = -4.66$, $SE = 0.74$, $t = -6.26$, $p < .001$). Conversely, in schools with high levels of student connectedness, self-esteem did not vary as a function of cybervictimization ($b = -1.19$, $SE = 0.98$, $t = -1.21$, $p < .23$) (Lucas-Molina et al., 2022).

The percentage of cyberbully victims identified as suffering from a psychiatric disorder was 27.27% whereas 14.89% of non-cyberbully victims were identified as suffering from a psychiatric disorder. This difference was significant ($p = .012$) (Mallik & Radwan, 2020).

One study reported that 21.59% of the cyberbully victims were identified as having an emotional disorder (anxiety disorders and depression) and among those who were not victims this 11.57%. Among the cyberbully victims 12.50% were identified as having a behavioural disorder (ADHD, oppositional defiant disorder and conduct disorder) and 4.75% among those who had not been victims were identified as having a behavioural disorder. These differences were significant with ($p = .019$) and ($p = .23$), respectively (Lucas-Molina et al., 2022)

2.4.9 Difference in mental health indices

Alhajji et al (2019) compared and reported in percentages, the occurrence of mental health conditions for those who had been exposed to cyberbullying victimization and the total population. The differences for depressive symptoms 59.7%, 95% CI [55.4 -63.9], $p \leq .001$, suicidal ideation 41.2%, 95% CI [37.9 -44.5], $p \leq .001$ and suicide planning 34.5, 95% CI [31.3 -37.9], $p \leq .001$ were all significant. Mallik et al (2020) measured and reported differences in the indices between those who have been cyberbullied and those who have not. Whilst overall for any of the psychiatric disorders there was a significant difference between the cyberbully victims and those who were not victims ($p = 0.012$); the only significant difference found when the psychiatric disorders were separated was for major depressive disorder. The percentage of victims of cyberbullying classified with having major depressive disorder was 9%, whilst 1.59% of those who had not been cyberbullied were identified as having major depressive disorder ($p = .006$). The other studies did not report differences in mental health indices between either the total sample and those exposed to cyberbullying or those exposed to cyberbullying and those without exposure.

2.5 Discussion

The aim of this review was to explore the association between cyberbullying and mental health outcomes in adolescents ages 14 to 18 years, as well as the differences in mental health indices between those who have been cyberbullied versus those who have not.

To determine the associations there firstly needs to be an understanding and recognition of the prevalence of cyberbullying/cybervictimisation. Across the studies prevalence ranged from 15.5% to 31.9%, these rates are similar to the rates reported in other studies with larger age ranges (11 – 21 years) 32% to 37% of students reported experiencing cybervictimization at least once, (Hudson et al., 2016; Steeves, 2014). This indicates that up to as many as 1 in 3 young people are experiencing cyberbullying; this figure highlights the importance of understanding the negative mental health consequences of these experiences during a challenging time for adolescents. There are factors which could have impacted the reported prevalence of cybervictimisation and cyberbullying. Firstly there is not a specific definition of cyberbullying/cybervictimisation and different measures and definitions have been used to measure the prevalence of cyberbullying/cybervictimisation. In Lucas-Molina (2022) a definition of cyberbullying/cybervictimisation was provided for participants to read before they indicated whether they had been a victim of cyberbullying. This could have resulted in responses aligning to the definition hence participants may have not reported what they may have experienced as cyberbullying/cybervictimisation so less reported being a victim. Overall this could mean that the prevalence rates in reality could span a greater range than those identified.

Whilst all studies report that there are associations between cyberbullying/online victimisation and mental health outcomes there were some common themes that arose, such as depression and feeling sad, along with associations to suicide. There is emerging evidence suggesting that the associations between cyberbullying and depression may differ depending on gender. Specifically, being a victim of cyberbullying has been identified as a significant predictor of depression; however this association appears to be significant exclusively amongst females. Research indicates that males are less inclined to report experiences of cyberbullying (Li, 2006). Consequently this underreporting may result in a dearth of data regarding the psychological impact on male individuals. Such a difference in reporting could explain the observed phenomenon whereby the significant predictive relationship between cyberbullying and depression is predominantly evident in females. There were also reports that being a victim of cybervictimisation was not a significant predictor of depression for either males or females. The differences in these outcomes could be related to the differences in the measures used for measuring depression, the different methods used in the analysis of the data or a lack of a definition for cyberbullying/cybervictimisation so we are seeing on one hand cyberbullying being

a significant predictor of depression in females yet cybervictimisation is not a significant predictor for depression in either males or females. These outcomes do however indicate that there were differences in cyberbullying and cybervictimisation therefore it may be advisable to look at them as distinct constructs and work towards a clear definition so that each construct can be investigated further.

It was reported that being a victim of cyberbullying was negatively associated with self-esteem, however, this relationship was moderated in the presence of high levels of student connectedness in the school. This is a poignant finding as school connectedness has been found to have many positive aspects including being positively associated with good academic performance, higher classroom motivation and more engagement (Niehaus et al., 2012) and it has been also been shown to have positive associations to adolescent mental health (Shochet et al., 2006). This may be because young person's feeling safe to talk and share their experiences because they believe they will be listened to and so they are asking for the help they need early or it could be that adolescents with strong offline support do not feel the negative impact of negative online interactions because they are able to distance themselves from online attempts at cyberbullying/cybervictimisation because of their offline support network. Either way, there appears to be some benefit to creating a sense of connectedness in schools. Supporting school to create environments which foster connectedness would be a valuable strategy to support adolescents.

Thoughts about suicide appear to be a concern among those who report being victims. The findings in one study show that cyberbullying was significantly associated with suicidal thoughts among females, and in another study, it was reported that 40% of victims experienced thoughts of suicide. The findings indicate that females are significantly more likely to report considering suicide, making a plan for suicide, and reporting at least one suicide attempt (Goebert et al., 2011). This could suggest that females are at greater risk of suicidal associations if they have experienced cyberbullying or cybervictimization. Alternatively, it may indicate that boys are at as much risk as females, but this risk remains unidentified because males are less likely to report being victims and their accompanying experiences. However, it was reported that planning suicide was significantly associated with cyberbullying victimization in males (Alhajji et al., 2019) highlighting the need to recognize that males may be experiencing these issues but are less likely to report them.

Goebert et al. (2011) reported a significant association between cyberbullying victimization and anxiety, whereas Landoll et al. (2015) found no significant effects on anxiety. This discrepancy may stem from the differing methodologies employed in measuring anxiety. Goebert et al. (2011) utilized two items from the State-Trait Anxiety Inventory (STAI), which

assesses general anxiety, while Landoll et al. (2015) employed the Social Anxiety Scale (SAS), focusing specifically on social anxiety. Furthermore, the concept of intolerance of uncertainty may influence individuals differently based on whether they experience general or social anxiety, as suggested by Counsell et al. (2017). It has been reported that intolerance of anxiety accounted for up to 36% of the variance in anxiety among adolescents (Osmanağaoğlu et al., 2018). Thus, these differences in measurement and underlying constructs may help explain the inconsistencies observed in the research findings.

One study reported an association between cyberbullying victimisation and anxiety while another reported that there were no unique effects on anxiety. This discrepancy may stem from differences in how anxiety was measured. Goebert et al (2011) measured anxiety using two items from the State-Trait Anxiety Inventory (STAI) for multiethnic adolescents (Hishinuma et al., 2001) and Landoll et al (2015) used the Social Anxiety Scale (SAS) for adolescents (La Greca et al., 2015). Consequently, Mallik & Radwan (2020) found no significant difference in mental health indices between those who had been cyberbullied and those who had not, specifically regarding the social anxiety measure. Although these outcomes are exploratory they do highlight the importance of adopting a universal definition for constructs and ensuring uniformity in measurement across studies. Furthermore, there are indications that cyberbullying may primarily affect individuals' general anxiety levels rather than their social anxiety levels.

The differences between prevalence of cyberbullying victims and non-cyberbully victims suffering from clinically diagnosed disorders were significant. Whilst it is not possible to ascertain whether the disorders were present prior to the cyberbullying, the difference could indicate that exposure to cyberbullying has further exacerbated their symptoms leading to additional impact on the mental wellbeing of the adolescent. It is not possible to state whether cyberbullying leads to a clinical disorder but there is evidence for further research to explore the possibility that cyberbullying can result in a greater chance of developing symptoms which lead to a clinical diagnosis.

While no significant differences were reported in suicide attempts when comparing individuals across different ages, it was noted that individuals aged 14 to 15 years were more likely to report suicide attempts. Although specific explanations for this trend were not provided, it may be related to the onset of exams, which could lead to increased anxiety. Consequently, individuals in this age group may be more inclined to express their feelings as a strategy to seek help during this stressful period. Research has shown that when a young person reports a suicide attempt their report is likely to be reliable (Beck et al., 1974) so knowing that this is a critical age for reporting suicide attempts gives a timeline when additional specialised support can be provided for adolescents. Whilst females were more likely to

identify as victims of cyberbullying, males were also more likely to report being victims. This is an important aspect of cyberbullying to recognise and understand. It suggests that the actual prevalence of cyberbullying among females may be higher than reported, as they are less likely to disclose being victims. Therefore, it is important to consider that females might be experiencing unreported cyberbullying when educating adolescents about the issue. There were also associations between cyberbullying victimisation and ethnicity but this needs more research to truly understand this relationship. The relationship in one study compared non-white females to white females' this does not allow for comparison between different ethnic groups and reflect on which ethnic group is more at risk of being a victim of cyberbullying.

To answer the question of whether there are differences in mental health indices between those who have been cyberbullied and those who have not, we can draw on data from two of the studies. Alhajji et al. (2019) reported significant differences in depressive symptoms, suicide ideation, and suicide planning between the total population and those who have experienced cyberbullying. Similarly, Mallik & Radwan (2020) found a notably higher proportion of psychiatric disorders among cyberbullying victims compared to those who had not been bullied ($p = .012$). When examining individual disorders, the only significant difference identified was for major depressive disorder ($p = .006$). It is important to note that no significant difference was found for social anxiety disorder, which aligns with findings reported by Landoll et al (2015). However, this raises questions about whether different outcomes might have emerged had a measure of general anxiety been utilized instead. These findings collectively indicate that there are indeed differences in mental health indices between individuals who have been cyberbullied and those who have not. To further clarify and strengthen these findings, future research should carefully consider the methodology used to measure and report mental health indices. This approach will enhance the understanding of the specific impacts of cyberbullying on mental health.

2.6 Strengths and limitations

The strength in this review is that it focussed specifically on the mental health outcomes for individuals aged 14 to 18 years, whilst there was reporting of some of the gender differences it is apparent that cyberbullying and cybervictimisation is a very real threat to the mental health of all adolescents. Whilst the number of papers included in this review may be deemed as a limitation it is also a strength in highlighting the paucity of research in this area for this age group. Five of the studies were focused on the USA and again this highlights the lack of research in this area across other countries and cultures. The remaining study's findings were consistent with the main findings from the USA in that suicide and depression are associated with

cybervictimisation and online bullying, so this would indicate a strength of this research is the pooling of information from around the world so it is in one accessible place.

The specific age range selected for this review may be considered a limitation, as it resulted in only seven studies meeting the inclusion criteria. Although this age range was based on findings from Del Rey et al (2012), extending it to encompass the full range of adolescents defined by the World Health Organization (WHO), specifically ages 10 to 19 years, would likely have yielded a greater number of studies. During the screening phase, for instance, 43 papers were excluded due to age ranges falling between 12 and 18 years. A broader age range could have facilitated a more diverse interpretation of the data (Richard et al., 2009). While maintaining a specific focus is important, an alternative approach could involve using a mean age of 14 years, which may have enhanced the depth and breadth of understanding regarding the associations between cyberbullying, cybervictimization, and mental health. A wider dataset might have provided additional insights or alternative perspectives on certain results.

Another limitation is that six of the seven studies analysed a particular snapshot in time which does not give a picture of the long term effects of cyberbullying, the seventh study collected data at two time points which were six weeks apart, this limits the opportunity to identify cause and effect relationships and how individual variables influence each other (Wang & Cheng, 2020).

2.7 Implications for future practice

The implications for future practice cover three key areas; research, education and social media companies. This research has highlighted the need for clear standardized definitions such as but not limited to cyberbullying, cybervictimization and mental health. This would lead to consistency in research findings and provide a common language across all stakeholders to address the issues more effectively. Future research should use longitudinal designs to give a better understanding of the long-term effects of cyberbullying on the mental health of adolescents. Studies have been carried out to assess the impact of traditional bullying in adolescents on adulthood and this has resulted in support structures being put in place, education about signs and symptoms of bullying being implemented so that those who do not speak up can be identified. Similar knowledge about the long-term effects of cyberbullying would enable similar practice to be implemented to tackle cyberbullying. Greater intersectionality in research, factors such as ethnicity, cultural differences, socioeconomic status and sexual orientation should be considered as greater understanding of these dynamics can support the development of targeted intervention programmes. The direction of the

research is important because it is research that guides policy development and implementation.

There does need to be increased awareness about the associations between cyberbullying and mental health especially because of the associations with suicide. All young people and children need to be educated about cyberbullying and its associations with negative mental health and how it can affect levels of anxiety and depression. In addition parents will need support to help them learn more about cyberbullying and the effect it can have on young people. Training educators, parents and adults, who are involved in activities involving young people, in recognising the signs of distress associated with cyberbullying, would be a positive way of identifying and supporting young people, especially boys who are less likely to report they are being bullied or are thinking about suicide. Adolescents aged 14 to 15 years are more likely to report being victims of cyberbullying so this age group can be targeted to talk about and discuss their wellbeing and give them the help and support they need if identified that they are in need of help. Targeted interventions to encourage all genders and ethnicities to seek help. Schools could actively take steps to ensure their environment is one which fosters connectedness, reflecting on and fostering strong relationships between students and teachers is a low cost way in which connectedness can be improved. It also found that cyberbullying prevention programs were more effective when implemented by '*technology savvy*' experts as opposed to teachers (Ng et al., 2022). Given the impact on mental health, especially in relation to suicide and depression, an intervention in schools delivered by digitally literate personnel would be a positive way forward. These changes would need to come at the level of the government and changes in policy because there will need to be funding assigned to support the education establishments.

Social media companies could engage with the research and collaborate with educators on how they can make their platforms a safe environment for young people. They should be willing to take on board views of young people as to what young people need to feel safe in the event they find themselves a victim of cyberbullying. Provide avenues of support where young children feel they are being listened to so that they ask for help when needed.

2.8 Conclusion

In conclusion, this review highlights the associations between cyberbullying and adverse mental health outcomes among adolescents aged 14 to 18 years. Prevalence rates indicate that a substantial portion of this population experiences cyberbullying, necessitating timely intervention. The findings reveal elevated levels of depression, anxiety, and suicidal ideation linked to cyberbullying, particularly among females, while underreporting among males

suggests a need for greater awareness of their experiences. Distinguishing between cyberbullying and cybervictimization is crucial, as these constructs may differently influence mental health. The protective role of school connectedness emphasizes the importance of fostering supportive environments that encourage help-seeking behaviours among adolescents. Discrepancies in findings such as those related to anxiety underscore the need for standardised definitions and measurement approaches in future research to enhance understanding of the associations between cyberbullying and mental health.

Overall, this review underscores the critical need for comprehensive research, increased awareness, and targeted interventions within educational settings. By prioritizing mental health support and education, stakeholders can work towards mitigating the negative effects of cyberbullying and promoting the well-being of adolescents

Chapter 3 Paranoia and cyber-paranoia in adolescents: What is the impact on metacognition in non-clinical adolescents?

3.1 Abstract

Adolescence, a critical developmental phase characterized by physical, psychological, and social changes, presents unique mental health challenges, including paranoia. This study investigates the prevalence and nature of paranoia and cyber-paranoia among non-clinical adolescents aged 14 to 18 years, exploring their cognitive, behavioural, and affective experiences. Utilizing a mixed-methods approach, the research aims to determine the extent of individual experiences of paranoia, the prevalence of cyber-paranoia, the coexistence of both types of paranoia, and the use of metacognitive strategies by adolescents in managing these constructs. Participants were recruited through an anonymous online survey, yielding a small sample size of 19 adolescents. Results indicate that a proportion reported experiences of paranoia, with emotional responses such as anger and frustration, alongside feelings of powerlessness and low wellbeing. The findings reveal a disconnect between adolescents' desires to confront perceived threats and their actual responses, highlighting the complexities of managing paranoia. While the study introduces the concept of cyber-paranoia in adolescents, and suggests similarities with adult experiences, the limited sample size restricts generalizability. However, the insights gained emphasise the need for further research on paranoia in adolescents, the importance of developing supportive environments, enhancing mental health education, and implementing proactive measures within social media platforms to address these emerging concerns. By fostering open discussions about mental health and equipping adolescents with coping strategies, stakeholders can promote healthier wellbeing and better prepare young individuals for adulthood.

KEYWORDS: Non-clinical, paranoia, cyber paranoia, metacognition

3.2 Introduction

Adolescence has been described by the World Health Organisation (WHO) as the period in a young person's life from the age of 10 to 19 years (WHO, 2019). It is a fraught period during which changes of a physical, biological and psychological nature, are taking place (Spear, 2008). Coupled with the internal changes, adolescents are experiencing growth and maturation in their social circles (Sawyer et al., 2018). Whilst all this is occurring they happen to be progressing through what can be deemed as an important period in their academic journey. It is therefore quite comprehensible that a young person experiencing such complex environments; which are constantly changing; where there is no certainty whether things will go right or wrong; may also perceive themselves to be at risk of social threat.

Paranoia has been defined as the thoughts arising from a belief that someone is going to cause harm or they are causing harm through their actions; the individual experiencing paranoia also believes that the perpetrators actions are carried out with the intention to cause harm (Freeman & Garety, 2000). Additionally, it has been described as baseless fears or thoughts that others are deliberately and intentionally trying to harm you (Freeman, 2016).

Paranoid thoughts and feelings are common within the general adult population (Bebbington et al., 2013; Freeman & Loe, 2023). More recent research has started to look at paranoia in adolescents. In a sample of non-clinical adolescents with a mean age of 13.3 years, it was reported that between 7% to 30% experienced paranoid thoughts in the previous two weeks on at least two occasions; where 18 paranoia items were used on a self-report scale (Bird et al., 2019). In a clinical sample using the same self-report measures the prevalence rates for adolescents with a mean age of 15.0 years, who were accessing Child and Adolescent Mental Health Services (CAMHS) for a variety of presenting problems, were found to be between 14% - 54% (Bird et al., 2021). Whilst the origins of paranoia are not entirely known, it has been suggested that increased emotional responsiveness to social stress may play a role in the emergence of paranoia in adolescence and one of the factors attributed to these social stresses is social media (Bird et al., 2017).

Research which has examined paranoia in adolescents suggest that anxiety and depression may be factors in its development (Bird et al., 2019; Raes & Van Gucht, 2009; Ronald et al., 2014). There are also, studies which show links between paranoia, anxiety, depression and low self-esteem in adolescents (Raes & Van Gucht, 2009; Ronald et al., 2014). There have also been suggestions that paranoia stems from preoccupations about trust, vulnerability and social evaluation (Bird et al., 2017). Another theory posited that is that there is a continuum upon which paranoia exists; the general population experience mild paranoid thoughts of

beliefs through to aspects of clinical presentations such as schizophrenia where persecutory delusions are experienced (Elahi et al., 2017; Strauss, 1969). Paranoia only becomes a clinical issue when it is excessive and has an impact on one's ability to function (Bebbington et al., 2013). The continuum model therefore implies that our understanding of clinical delusions can be enhanced through greater understanding of paranoid thoughts/beliefs in the general/nonclinical population (Bebbington et al., 2013).

Cyber-paranoia had been described as unrealistic fears relating to threats when using information technology (Mason et al., 2014). Adolescents spend time online and the government has included a section in the statutory guidance, keeping children safe in education (UKCIS, 2022), to ensure children and young persons are kept safe whilst online. Social media has been shown to have a negative impact on the emotional wellbeing of adolescents and negative emotions were identified as the largest causal effect of paranoia in adolescents (Bird et al., 2019).

Research in adults has started to explore cyber-paranoia suggesting that in the general population cyber-paranoia was associated with less awareness and lower frequency of internet use (Mason et al., 2014). To date there has been no research that has examined the prevalence of cyber-paranoia in adolescents. Given the societal and government priority to keep children and young people safe whilst online it is necessary to know the prevalence of cyber-paranoia to determine if it is a real and present threat to the wellbeing of children and young persons.

Several factors were found to be significant predictors of the persistence of paranoia in adolescents. These included anxiety and worry (Bird et al., 2017). Metacognition, which has been defined as "*thinking about thinking*" (Metcalfe & Shimamura, 1994), has been described as dysfunctional (Roussis & Wells, 2008), when focussed on worry. The thoughts are focussed on worry therefore there are fewer cognitive resources available to return cognition to a threat free status, hence the individual continues to focus on worry and the symptoms persist (Wells, 2002). If this is the case, one would expect that there would be lower levels of thought control in the presence of paranoia. Gaining a greater understanding of the metacognitive strategies in play in the presence of paranoia and cyber-paranoia, would help to further understand the differences and/or similarities between paranoia and cyber-paranoia. It would also be helpful for identifying strategies which could be utilised to support adolescents if they are experiencing paranoia and prevent the situation escalating to a level where clinical intervention is needed to support the young person.

This study introduces a novel perspective on general and cyber paranoia in adolescents by combining psychological and sociocultural factors, which are yet to be explored in research. Through the use of a mixed methods approach, it not only explores levels of paranoia but it also

captures the differences in the individual experiences of adolescents which often go unreported in a quantitative study, hence the limitations of a quantitative study have been addressed. This research helps facilitate better understanding of how online environments can influence paranoia, hence providing knowledge that enhances existing literature and offers practical implications for mental health interventions in this age group.

This research is focussing on how adolescents describe their experience of paranoia in both the cognitive and behavioural aspect. The aims of the research is to answer these questions:

- (1) To what extent do non-clinical adolescents report individual experiences in the behavioural, cognitive and affective domains of general paranoia?
- (2) What is the prevalence of cyber-paranoia in non-clinical adolescents?
- (3) To what extent does general paranoia co-exist with cyber-paranoia?
- (4) Do adolescents make use of metacognitive strategies to control thoughts in the presence of paranoia and/or cyber-paranoia?

3.3 Method

3.3.1 Participants

Participants were recruited in the United Kingdom (UK) using an anonymous online survey link. To meet the power requirement for the latent class analysis (LCA), a minimum of 1000 participants were needed; results from smaller samples often differ from the true effects within the population and incorrect outcomes can go undetected (Jaki et al., 2019). Participants had to be aged 14 to 18 years of age and be living in the UK. Participation was incentivised with an option to win a prize; each participant from a school/college had a chance to win one of 5 x £20 vouchers; one of 5 x £10 vouchers or one of 10 x £5 voucher and each online participant had a chance to win one of 3 x £20 vouchers; one of 3 x £10 vouchers or one of 3 x £5 vouchers.

3.3.2 Design

This research used a cross sectional online mixed methods approach, the survey used quantitative questionnaires and open text boxes for qualitative responses. Participants completed self-report measures of paranoia, cyber-paranoia and fear, anxiety, depression and thought control.

3.3.3 Ethics

Ethical approval was granted by the University of Southampton Faculty of Environmental and Life Sciences Ethics Committee, reference number 79975.

3.3.4 Measures

3.3.4.1 Personal Experiences of Paranoia Scale (PEPS; Ellett et al., 2003)

The PEPS examines individual experiences of paranoia in the general population. The questionnaire consists of 15 items which assess cognitive, behavioural and affective dimensions of paranoia. A description of paranoia and definition with examples are provided for participants who then report whether they have had a similar experience. In the event they respond “yes”, they then describe cognitive, affective and behavioural dimensions of the experience. Based on these responses participants are then classified as to whether they have or do not have paranoia. A response of “no” to the first question results in a classification as no paranoia. Responses of “yes” are only classified as paranoia if there is a clear statement of intended harm in their subsequent description of an experience of paranoia. In the event there is no statement of harm they are classified as ambiguous. The dimensions of paranoia are rated using a 5-point anchored Likert scale, ranging from 1-not at all to 5-very much. Self-belief relating to the deservedness of the mistreatment was rated using 1- totally undeserved to 5- totally deserved. For the behavioural components, participants were asked to describe how they wanted to respond to the experience and how they actually responded. There is no total score on this measure therefore no psychometric properties are reported.

3.3.4.2 Cyber-paranoia and fear scale (Mason et al., 2014)

The cyber-paranoia and fear scale is a self-report tool which measures paranoid beliefs relating to communication and surveillance whilst using technology. The measure utilises a 4-point Likert scale ranging from 1-strongly disagree to 4-strongly agree. The scale consists of 11 items, the first six measure cyber-paranoia with scores ranging from 6 – 24 with higher scores indicating higher cyber-paranoia, the next five measure cyber fear with scores ranging from 5 to 20 with a higher score indicating higher cyber fear. The cyber-paranoia scale has an internal consistency of $\alpha = .75$ and the cyber fear scale has an internal consistency of $\alpha = .74$.

3.3.4.3 Severity Measure for Generalised Anxiety Disorder -Child Age 11 – 17 (GAD-c; Craske et al., 2013)

The GAD-c is a self-report measure used to assess the severity of generalized anxiety in children/young people aged 11 – 17 years. A 5-point Likert scale is used, ranging from 0 – never

to 4-all the time, to measure levels of generalised anxiety during the previous 7-day period. The scale consists of 10 items with scores ranging from 0 to 40. As the scores increase the level of anxiety increases.

3.3.4.4 Patient Health Questionnaire (PHQ-9 ; Kroenke et al., 2001)

The PHQ9 has been specifically modified to measure depression in teenagers. The self-report measure utilises a 4-point Likert scale ranging from 0-not at all to 3- nearly every day, to assess the feelings of depression in the 2-weeks prior to completing the measure. The PHQ9 has internal reliability of $\alpha = .89$. The scores range from 0 – 29 with depression rated as mild (5), moderate (10), moderately severe (15) and moderately severe (20).

3.3.4.5 Thought Control Questionnaire (TCQ; Wells & Davis, 1994)

The TCQ is a self-report questionnaire which measures the effectiveness of thought control strategies utilised when experiencing unpleasant and unwanted thoughts. The questionnaire contains 30-items which are rated on a 4-point Likert scale ranging from 1-never to 4-almost always. The alpha for the total score is not reported however the internal consistency scores for the subscales, which are distraction, social control, worry, punishment, reappraisal, are as follows: Distraction $\alpha = .72$; Social Control $\alpha = .79$; Worry $\alpha = .71$; Punishment $\alpha = .64$; Re-appraisal $\alpha = .67$. The range of scores for each subscale is 6 – 30, a total score with a range of 30 – 180 can be obtained by summing the individual subscales. The scores for each subscale represent the level each subscale is used to control unwanted and unpleasant thoughts. An adapted version of the TCQ was used in the self-report questionnaire. The reason for this was two-fold. Firstly it gave the participants an opportunity to express a neutral opinion and not feel compelled to choose between a positive or negative response. It was also hoped that a midpoint would give participants the opportunity to provide a more accurate and honest response (Nadler et al., 2015). Adolescents face levels of uncertainty so it was felt that giving an option to express a neutral view may enhance the survey experience for the thought control section of the survey. This limits the comparison to other research as the scale is incongruent with the original measures.

3.3.5 Procedure

Recruitment was achieved via two methods. One method involved approaching Headteachers, as gatekeepers, to facilitate recruitment. Through the school, parents/guardians of students aged 14 to 15 years were sent a recruitment poster with a link to the combined

participant information sheet (PIS) and consent form. Once consent had been given a recruitment poster was sent to the adolescent so they could access the combined PIS and assent form. The researcher used Qualtrics for the online survey, a workflow was set up so that child assent was requested via an e-mail after a parent had given consent and entered the adolescents e-mail. This was to preserve the anonymity of the participant. A recruitment poster with a direct link to the combined PIS and consent form was sent via the school to adolescents aged 16 to 18 years. Adolescents aged 16 to 18 were also recruited using an online advert which contained a link to the combined PIS and consent form. This advert was posted on X, Facebook, LinkedIn, and Instagram.

Participants clicked on the link to read the PIS, once assent/consent was received participants were able to access and complete the survey. The survey could be completed at different sittings and they could also withdraw from the survey at any time. The questionnaires were completed in the same order; demographics, paranoia, cyber-paranoia and fear, anxiety, depression and thought control. The survey took approximately 20 minutes to complete.

3.4 Analysis

The uptake and participation in the survey was lower than expected, 51 participants engaged in the survey, 29 left the survey when consent/assent was requested leaving 22 participants, 3 were disregarded as these reported they were currently under or had previously been seen by CAMHS, therefore 19 participants were included in the analysis. The number of participants meant that it was not possible to conduct the original planned analyses. Verbatim quotes from the qualitative data collected in the PEPS have been provided as examples of individual experiences. The Mann-Whitney test was used to compare the independent groups because this test can be used with samples as low as 5 in each group (McClenaghan, 2024). A bivariate correlation was used to compare the data, as the low number of participants meant that it was not possible to carry out within or between group analysis. A bivariate correlation using Spearman's rho was used to analyse the relationships between the variables, cyber-paranoia, cyber fear, anxiety, depression and total thought control.

3.5 Results

Participants mean age was 15.47 years (SD = 1.26, range = 14 to 18). The majority identified as female (n = 13; 68%). Ten participants identified as English or British (52.6%), two identified as black British (10.5%), three identified as African (15.8%), one as Caribbean (5.3%), one as Asian and white (5.3%) , one as Chinese (5.3%) and one as any other white background (5.3%).

3.5.1 Paranoia

3.5.1.1 Individual experiences of paranoia

Of those that indicated yes to paranoia, 47% (n=9) reported an experience of paranoia which included a statement of an intention to harm from others (paranoia group), 37% (n = 7) reported an experience which they identified as paranoia but there was no clear intention of harm from others included in the statement (ambiguous group), 15% (n = 3) did not report an experience of paranoia (no paranoia). One participant reported their experience as “constant harassment from the people around me [they] bring up my personal issues in front of large groups to get a laugh” , with another saying “someone I was close to chatting about me behind my back knowing I would find out”. Others reported their experience as “when a girl spread a fake rumour about me saying I did something terrible” and another going on to say “...her other friend got involved for no reason and was actually being rude and saying no one likes me...”.

3.5.1.2 Cognitive profile of paranoia

Table 4 summaries data on the cognitive profile of paranoia, using the five individual indices and compared with data from an adult population reported in the original PEPs study (Ellett et al., 2003). In the current sample, adolescents who reported a paranoid experience scored higher on average across all indices compared with the ‘ambiguous’ group. Compared to the adult data reported in Ellett et al (2003), adolescents scored higher on two indices (preoccupation and impact), the same on one index (powerless) and lower on two indices (judged negatively and blocked from achieving goals).

Participants perceptions on whether they believed they deserved the treatment showed 4(44%) believed it was deserved with 1(33%) believing it was totally undeserved. Of the 3(33%) who felt the treatment was deserved, 1(11%) felt that it was totally deserved. Participants

Table 4

Cognitive profile of paranoia from the PEPS Data

Cognitive Profile of Paranoia	With Paranoia	Ambiguous	PEPS Data
PEPS Item (range)	Mean (SD)	Mean (SD)	Mean (from
	(n = 9)	(n = 7)	Ellett et al
			2003)
			(N=153)
Preoccupation (1 – 5)	3.8(1.1)	3.4(.98)	3.7

Impact on wellbeing (1 – 5)	3.9(1.1)	2.3(.95)	2.9
Judged negatively by others (1 – 5)	3.6(1.4)	2.9(1.5)	3.8
Blocked goals (1 – 5)	2.1(1.1)	1.7(1.1)	3.0
Powerlessness (1 – 5)	3.7(1)	2.1(.69)	3.7

reports of similar experiences ranged from 0 to 8 for numerical responses, those who responded with qualitative information described their occurrences as a little or quite a few. One participant recorded that there has been a change in their beliefs since the event, however they were not able to express what change had taken place.

A Mann-Whitney U test was run to determine if there were differences between the paranoia group and the ambiguous group for each construct of the cognitive profile. Distributions were visually assessed and were found to be similar for each of the cognitive profiles for ambiguous and paranoia. Preoccupation score was not statistically significantly different between paranoia ($Mdn = 4$) and ambiguous ($Mdn = 3$), $U = 24$, $z = -.837$, $p = .403$; the impact on wellbeing score was significantly higher in paranoia ($Mdn = 4$) than in ambiguous ($Mdn = 2$), $U = 8.50$, $z = -.2506$, $p = .012$; the judged negatively by others score was not statistically significantly different between paranoia ($Mdn = 4$) and ambiguous ($Mdn = 2$), $U = 22.5$, $z = -.976$, $p = .329$; blocked goals score was not statistically significantly different between paranoia ($Mdn = 2$) and ambiguous ($Mdn = 1$), $U = 23.5$, $z = -.900$, $p = .368$ and powerlessness score was significantly higher in paranoia ($Mdn = 4$) than ambiguous ($Mdn = 2$), $U = 7$, $z = -2.684$, $p = .007$.

3.5.1.3 Behaviour profile of paranoia

Participants were asked what they wanted to do about the situation and they were also asked what they actually did at the time of the situation. The responses were coded using the code book described in Ellett et al (2013). The coding categories were confrontation, avoidance, rationalisation, catharsis and nothing. Responses to the question about what they wanted to do showed 7 (78%) wanted to confront the oppressor whilst 1 (11%) wanted to avoid the situation and 1 (11%) tried to rationalize the situation. In terms of what they actually did, 56% did nothing, 2 (22%) wanted to confront the people, 1 (11%) ignored the other people and the situation and 1 (11%) tried to rationalise the situation by telling others “it was fake”. For 54% of the participants what they wanted to do and what they actually did were discrepant.

3.5.1.4 Affective aspects of paranoia

Participants described their experience using a variety of emotions. Anger frustration and annoyance was reported by 6 (67%) of the participants and so too was sadness. Feeling anxious was reported by 3 (33%) of the participants. Other emotions reported include jealousy reported by 1 (11%), hurt reported by 1 (11%) and feeling scared reported by 1 (11%). One participant described the experience as embarrassing.

3.5.2 Cyber-paranoia and fear, anxiety and depression

The descriptives for cyber-paranoia and fear, anxiety, depression and thought control can be seen in table 5. A Mann-Whitney U test was run to determine if there were differences between the paranoia group and the ambiguous group for cyber-paranoia, cyber fear anxiety and depression. Using visual assessment distributions were found to be similar for each of the constructs for ambiguous and paranoia. Cyber-paranoia score was not statistically significantly different between paranoia ($Mdn = 14$) and ambiguous ($Mdn = 315$), $U = 21$, $z = -1.122$, $p = .262$; the cyber fear score was not significantly statistically different in paranoia ($Mdn = 14$) than in ambiguous ($Mdn = 14$), $U = 26$, $z = -.592$, $p = .554$; the anxiety score was not statistically significantly different between paranoia ($Mdn = 29$) and ambiguous ($Mdn = 17$), $U = 13$, $z = -1.964$, $p = .050$ but the depression score was significantly higher in paranoia ($Mdn = 16$) than ambiguous ($Mdn = 8$), $U = 11$, $z = -2.194$, $p = .028$.

Table 5

Means, Medians and Standard Deviation

Scale (range)	Total Sample			Paranoia			Ambiguous			No Paranoia		
	M	SD	Mdn	M	SD	Mdn	M	SD	Mdn	M	SD	Mdn
	(n=19)			(n=9)			(n=7)			(n=3)		
Cyber-Paranoia Subscale (6 – 24)	13.63	2.91	14	13.22	3.60	14	14.57	2.37	15	12.67	1.53	13
Cyber-Fear Subscale (5 – 20)	13.53	2.44	14	13.89	2.71	14	14.43	.98	14	10.33	1.58	10
Anxiety (0 – 40)	20.74	8.31	17	26.33	8.40	29	17.14	3.93	17	12.33	1.16	13
Depression (0 – 27)	9.37	6.48	8	13.78	6.02	16	6.71	3.86	8	2.33	1.53	2

3.5.3 Thought Control

The descriptives for the full sample and the groups within the sample in relation to the reporting of thought control can be seen in table 6. The data for the combined scale is also included. Having visually assessed and confirmed that distributions were similar, a Mann-

Table 6

Descriptives for thought control and the subscales of the measure

Scale (range)	Total Sample			Paranoia			Ambiguous			No Paranoia		
	M	SD	Mdn	N	SD	Mdn	M	SD	Mdn	M	SD	M
	(n=19)			(n=9)			(n=7)			(n=3)		
Distraction (6 – 30)	16.32	4.49	19	15.44	4.22	16	17.29	5.38	15	16.67	4.04	19
Social Control (6 – 30)	13.37	5.19	15	12	5.24	10	14.29	4.86	16	12	1.73	13
Worry (6 – 30)	13.38	4.46	13	15.33	5.24	17	12	3.65	11	12	1.73	13
Punishment (6 – 30)	12.11	3.93	11	13.11	4.96	13	12.29	2.43	12	8.67	.57	9
Re-appraisal (6 – 30)	15.89	4.2	16	14	3.35	15	18.14	5.01	17	16.33	2.08	17
Total Thought Control (30 – 150)	71.26	11.95	71	69.89	13.81	75	74	12.28	71	69	5.29	67

Whitney U test was performed to compare the different groups. it was found that there were no significant differences for either total thought control or the subscales within the measure. The full results of the Mann Whitney U test can be seen in table 7.

Table 7

Mann-Whitney U Test Statistics For Thought Control and the Corresponding Subscales

Metacognition	Median		Mann-Whitney U test	Z	Asymp. Sig. (2-tailed) (p)
	Paranoia	Ambiguous Paranoia			
Distraction	16.00	15.00	27.00	-.48	.63
Social control	10.00	16.00	22.50	-.96	.33
Worry	17.00	11.00	48.00	-1.24	.21
Punishment	13.00	12.00	59.00	-.05	.96

Re-appraisal	15.00	17.00	15.00	-1.75	.08
Total thought control	75.00	71.00	26.50	-.53	.59

3.5.4 Spearman's rho

A spearman's rho correlation was run to compare the relationships between cyber-paranoia, cyber fear, anxiety, depression and metacognition. Preliminary analysis showed the relationship between depression and metacognition was not monotonic, as assessed by visual inspection of a scatterplot. Since all other variables showed monotonic relationships when assessed by visual inspection, the variables were included in the analysis. Full results of the Spearman's rho analysis can be seen in table 8.

There was a statistically significant moderately positive correlation between cyber fear and cyber-paranoia $r_s(17) = .52, p < .022$ and a high positive correlation between depression and anxiety $r_s(17) = .776, p < .001$.

Table 8

Spearman's rho Correlations for Variables

	1	2	3	4	5
1.Cyber-paranoia	.	.	.	.	.
2.Cyber fear	.52*	.	.	.	.
3.Anxiety	.08	.26	.	.	.
4.Depression	-.016	.27	.78**	.	.
5.Metacognition	.17	.11	.17	-.05	.

Note * $p < 0.05$ (2-tailed); ** $p < 0.01$ (2-tailed) N=19

3.6 Discussion

This study aimed to understand the nature and prevalence of paranoia in non-clinical adolescents, both in general and in online contexts. It examined how often 14 to 18 year olds reported behavioural, cognitive, and emotional experiences linked to general paranoia, and investigated the prevalence of cyber-paranoia. The research also considered whether adolescents use metacognitive strategies to manage or control these thoughts.

The participants reported diverse experiences of paranoia in the behavioural, cognitive and affective domains of general paranoia. When considering the behavioural domain the

majority of participants (78%) reported that they wanted to confront their oppressor. However, despite a strong desire to take action in response to a perceived threat, participants reported that their responses did not align with this. This seems to indicate that the adolescents had difficulty managing the situation which they perceived as a moment of paranoia. Their actual behavioural responses indicated 56% of participants did nothing. This suggests when experiencing paranoia these participants experienced a disconnect between desire and behaviour. and had difficulty managing the situation which they perceived as a moment of paranoia.

Cognitively there were differences in the levels of preoccupation, associations with wellbeing, being judged negatively by others, blocked goals and powerlessness for the group that identified as having experienced paranoia and the ambiguous group. The differences were only significant for wellbeing and powerlessness. This indicates that in the presence of paranoia adolescents may experience negative cognitive interpretations of themselves during a social interaction. There does appear to be an association with the behavioural domain where there was a discrepancy between how participants wanted to respond and how they actually responded for 54% of the adolescents. Although not investigated further because of the limited data, the slightly higher association with wellbeing and feelings of powerlessness could be an explanation as to why 54% had a desire to act in a particular way but found themselves unable to in the moment.

In terms of the affective domain a high number of adolescents (67%) described themselves feeling anger, frustration, annoyance and sadness when they experienced paranoia. These emotions lend themselves to the experiences reported in the behavioural and cognitive domains. It would be interesting to explore further where the emotions were directed towards. Were they feeling angry, frustrated and annoyed with themselves for not being able to respond in the way they wanted to? Did they feel sad because they had not responded wished they had responded differently. The affective domain seems to be associated with the cognitive and behavioural domain in that the emotions reported align with emotions that would affect wellbeing and anger and frustration can come about from thinking about powerlessness.

Comparing the results for adolescents to the adult population, as reported in Ellett et al. (2003), there are some similarities between the two groups. In both studies 47% of the participants reported an experience of paranoia which they interpreted contained an intent to do harm. This could be interpreted that experiences of paranoia in the general population remains constant from adolescence through to adult hood. Associations with blocked goals was lower for adolescents than the adult population. This could be a protective factor for adolescents, they do not see the situation as affecting what they want to do in the future. Impact

on wellbeing was higher in comparison to the adult population, this could be an indication that adults have developed better resilience and their wellbeing is not affected as much as adolescents or confirmation that adolescents are vulnerable and their wellbeing can be affected in a variety of situations especially when they perceive they have experienced paranoia.

The adolescents descriptions of paranoia came about in social situations, this seems to be consistent with a structure of paranoia where social harm was one of the main factors which explained 51% of the variance in a three factor structure of paranoia (Bird et al., 2019).

This study is the first to investigate cyber-paranoia and cyber-fear in adolescents. Due to the number of participants, it was not possible to assess the prevalence of cyber-paranoia in non-clinical adolescents, or carry out the latent class analysis to explore the extent to which general paranoia co-exists with cyber-paranoia. However, the data was analysed to measure the occurrence of cyber-fear and cyber-paranoia and compare the results of the paranoia and ambiguous group to the adult population reported in Mason et al (2014). When we consider the means and medians for the adolescent population the outcomes for the total sample and those with paranoia are very similar to the means and medians in the general adult population in Mason et al (2014). This seems to indicate that cyber-paranoia remains unchanged from adolescence to adulthood. Whilst the differences were not statistically different, the lower means for the no paranoia cohort seems to indicate that the no paranoia group have a little less cyber-paranoia. The cyber fear scale was similar in the adult general population and the adolescents in the total sample and the paranoid group this could be interpreted that cyber-fear remains unchanged from adolescence to adulthood but without significant findings assumptions cannot be made. The adolescents with no paranoia had the lowest rating for cyber-fear. Adolescents without the cognitive processes associated with paranoia seem to have less fear in association with technology. The depression score for those with paranoia was higher in adolescents with paranoia than those classified as ambiguous. Adolescents have identified powerlessness and wellbeing as cognitive components of paranoia so the significantly higher levels of depression in the paranoia group compared to the ambiguous groups seems to add further weight to the studies that indicate paranoia is a very real experience for the general adolescent population (Kingston, 2024).

Due to participant numbers the preferred method of analysis for exploring what metacognitive strategies are used to control thoughts in the presence of paranoia and/or cyber-paranoia was not utilised, therefore a Mann-Whitney U test was performed to compare differences between paranoia and ambiguous paranoia in relation to the metacognitive strategies utilised to control thoughts in the presence of paranoia. There were no significant differences found between the two groups however this may have been due to the participant

numbers. A comparison using Spearman's Rho's was carried out which found the only significant correlations were a moderate positive correlation between cyber-fear and cyber-paranoia, which was also a significant relationship in the adult population in Mason et al (2014). The correlation between anxiety and depression is expected because of their high comorbidity with each other (Kalin, 2020).

3.7 Strengths and Limitations

There are some key strengths that have come out of this research. We have been able to obtain foundational insights into mental health challenges being faced by adolescents especially their experiences of paranoia. The research indicates that non-clinical adolescents' experiences of paranoia are similar to those of the adult population therefore supporting adolescents may be a positive step to preventing these numbers increasing into adulthood. Powerlessness and the association with negative wellbeing were both significantly higher in the paranoia group than in the ambiguous group. As this research focused on the general adolescent population this indicates that adolescents would benefit from support to develop strategies to help with feelings of powerlessness and to develop more positive feelings of wellbeing. From the results further research is warranted to investigate cyber-paranoia and cyber-fear in adolescents. This research has highlighted that adolescents may benefit from support to develop positive metacognitive strategies to manage thoughts.

Whilst the uniqueness of this research is a strength as it elicits findings which indicate additional research would be beneficial, there are several limitations which need to be addressed so that comparisons can be made with robust results. The participant numbers are a limitation as the small sample has reduced power which means true effects may not have been identified. With such small numbers the results have limited generalisability. Additionally, the opportunity to gain a cognitive profile of those with no paranoia was missed during the data collection phase. The relationships between depression and metacognition was not monotonic, for example, they did not increase or decrease in the same relative direction, however all the other combinations of variables were monotonic, therefore, the analysis was carried out. Any outcome between depression and metacognition would not have provided an accurate representation of the strength and direction of the relationship therefore would not have been reliable. During the analysis phase inter-rater reliability was not assessed for the separation into the different paranoia groups, this increased the opportunity for bias in the decisions made but again this decision was decided on because of the low participant numbers. Future research will need to ensure inter-rater reliability is assessed to prevent ambiguity in the rating of participants. The exclusion of longitudinal studies has limited additional data which may have

given an opportunity to assess and track the associations with mental health over time which can result in data which gives insights into causality. There is also an opportunity to observe and examine individual differences and how these vary in relation experiences of the individual. Finally longitudinal research gives an opportunity to understand the long term effects. Qualitative studies would have offered a personal perspective of experiences which are not easily available when analysing quantitative data.

3.8 Implications for future practice

Whilst the outcomes of this research were not as expected it is evident that there are some aspect which would be useful to carry forward. For policymakers it would be helpful to prioritize research to obtain a better understanding of the prevalence of paranoia in the general adolescent population so that this data can inform the next steps when it comes to supporting the mental health of adolescents. With technology being such a major part of adolescents lives greater understanding of the prevalence of cyber-paranoia and cyber-fear amongst adolescents would also be a positive proactive step to understand the experiences of adolescents. At the level of school and parents, mental health education could be adapted to incorporate greater education about paranoia helping to eliminate any stigma which may be associated with it, encouraging adolescents to ask for help when needed. Educating adolescents and supporting them to develop adaptive metacognitive processes to reduce maladaptive thinking in such situations may be a positive step going forward. Continuing to educate staff and parents on the signs and symptoms that an adolescent may exhibit, as a result of experiencing paranoia, so that they can offer help or guide an adolescent to seek help. This could also be carried out through public awareness campaigns raising awareness about adolescents mental health, symptoms of paranoia and where to seek help. Support systems would need to be set up or current systems diversified to encompass supporting adolescents to feel better equipped to manage themselves in situations where they are feeling powerless. Social media companies could take some responsibility and consider how their platforms may be associated with feelings of paranoia. They could consider the implementation of features that promote positive interactions with other users and take steps to limit exposure to harmful content when it is identified.

3.9 Conclusion

In conclusion, this study highlights the experiences of paranoia among adolescents identifying disparities between their desire to act and their actual behaviours in response to

perceived threats. Whilst a majority of participants expressed a desire to confront their oppressors, many found themselves unable to act highlighting a disconnect which warrants further research. The cognitive and affective domains of paranoia revealed that adolescents experience feelings of low wellbeing, powerlessness alongside heightened emotional responses such as anger and sadness. These findings align with existing literature in the adult population suggesting that challenges faced by adolescents may persist into adulthood. This research introduces the concept of cyber-paranoia and cyber-fear among adolescents indicating that their experiences may be similar to those of adults. Although this study has limitations, including a small sample size it provides foundational insights that can inform future research.

To effectively address the issues raised policymakers, educators, social media companies need to create supportive environments that bring about open discussions about mental health, reduce stigma and develop adolescents' coping strategies. By prioritizing mental health education and implementing proactive measures within social media platforms we can help adolescents navigate their experiences of paranoia, cyber-paranoia and cyber-fear more effectively, promote healthier wellbeing and hopefully have adolescents who enter adulthood with strategies to support and improve their mental health and wellbeing.

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ERGO II Ethics application form – Psychology Committee

1. Applicant Details

1.1 Applicant name	Perena Polius
1.2 Supervisor	Dr Emma Palmer-Cooper Dr Lyn Ellett
1.3 Other researchers / collaborators (if applicable): <i>Name, address, email</i>	

2. Study Details

2.1 Title of study	Cyber Paranoia and General Paranoia in non-clinical adolescents.
2.2 Type of project (e.g. undergraduate, Masters, Doctorate, staff)	Doctorate

2.3 Briefly describe the rationale for carrying out this project and its specific aims and objectives.

Paranoia is common in the general population and has been found to be prevalent across a range of clinical presentations in adolescents (Bird et al., 2021). Research into paranoia in a non-clinical population of college students suggests that paranoia is a common experience (Ellett et al., 2003). It has also been reported that rates of paranoia in non-clinical populations during adolescence are high (Freeman et al., 2011).

Adolescence is when there are high levels of vulnerability and perceptions of social threat (Bird et al., 2017). Online media, the uncertainty associated with high levels of social comparison that occur during adolescence, accompanied by feelings of criticism and victimization (Best et al., 2014; Volk et al., 2006), may all contribute to a psychological environment where thoughts and feelings of threat from others may become heightened. Heightened affective reactivity to social stress may play a role in the emergence of paranoia in adolescents (Bird et al., 2017), one of the factors attributed to these social stresses was social media. Social media was a psychosocial factor which could be used to predict the continuation of paranoia because of the possibility of frequent negative affect when engaged with social media (Bird et al., 2017).

Research in adults has started to explore cyber-paranoia suggesting that in the general population cyber-paranoia was associated with less awareness and lower frequency of internet use (Mason et al., 2014). To date there has been no research that has examined prevalence in adolescents. This is important given the statutory guidance keeping children safe in education (Department for Education, 2022). Several factors were found to be significant predictors of paranoia persistence in adolescents, these included anxiety and worry (Bird et al., 2017). Metacognition, defined as “thinking about thinking” (Shimamura & Metcalfe, 1994), has been deemed as dysfunctional (Roussis & Wells, 2008) when focussed on worry. The focus on worry results in fewer cognitive resources being available to return cognition to a threat-free status; hence the individual continues to focus on worry and the symptoms persist (Wells, 2002). In this case, the paranoid thoughts are maintained.

This study aims to gain a greater understanding of the prevalence of cyber-paranoia in non-clinical adolescents, and to gain greater knowledge of the metacognitive strategies in play in the presence of cyber-paranoia.

2.4 Provide a brief outline of the basic study design. Outline what approach is being used and why.

A quantitative cross-sectional design will be utilised. Participants will respond to a Qualtrics panel survey where data will be collected on age, gender identity, biological sex and ethnicity. Given the association with paranoia and metacognition anxiety and worry will be measured and controlled for.

The online survey will gather data on paranoia, cyber-paranoia, metacognition, anxiety and worry. There will also be a number of qualitative questions for participants to provide typed responses.

2.5 What are the key research question(s)? Specify hypotheses if applicable.

1. To what extent do non-clinical adolescents report individual experiences of general paranoia?
2. What is the prevalence of cyber-paranoia in non-clinical adolescents?
3. To what extent does general paranoia co-exist with cyber-paranoia?
4. Do adolescents make use of metacognitive strategies to control thoughts in the presence of paranoia and/or cyber-paranoia?

3. Sample and setting

3.1 Who are the proposed participants and where are they from (e.g., fellow students, club members)? List inclusion / exclusion criteria if applicable.

Participants will be adolescents aged 14 to 18. Exclusion criteria will be any persons who self-report they have been referred to or are currently undergoing treatment with children and mental health services (CAMHS) or any individual, not resident in the UK who may have accessed the online survey. In order for a reliable classification using latent class analysis Jaki et al. (2019) suggest a minimum sample size of 1000 for a two class solution, therefore this is the minimum number for this research. Participants will be recruited across different secondary schools to ensure fair representation across the population.

3.2. How will the participants be identified and approached? Provide an indication of your sample size. If participants are under the responsibility of others (e.g., parents/carers, teachers) state if you have permission or how you will obtain permission from the third party).

Questionnaires will be accessed online on Qualtrics and completed anonymously by each participant. The aim is to recruit a sample size of 1000 participants.

There will be two arms of recruitment:

Recruitment via schools

A gatekeeper approval letter will be sent to the headteacher of schools. Once the school has agreed to distribute the survey recruitment posters, these will be sent to the school to be forwarded to the parents of students in Years 10 and 11 and directly to students in Years 12 and 13.

Once parents have accessed the recruitment poster, they will be asked to click on the link where they will see the combined PIS and consent form. If they consent to their child taking part they will receive a link for their child which they can forward to their child for them to participate in the survey. The child will then be able to access the survey where they will have the opportunity to read the combined PIS/assent form and provide their responses.

Recruitment online

A recruitment poster will be distributed on twitter, Instagram, snapchat and facebook requesting participation from persons aged 16 to 18.

3.3 Describe the relationship between researcher and sample. Describe any relationship e.g., teacher, friend, boss, clinician, etc.

There is no anticipated relationship between researcher and participants.

3.4 How will you obtain the consent of participants? (please upload a copy of the consent form if obtaining written consent) NB A separate consent form is not needed for online surveys where consent can be indicated by ticking/checking a consent box (normally at the end of the PIS). Other online study designs may still require a consent form or alternative procedure (for example, recorded verbal consent for online interviews).

Consent will be obtained through one of the following options.

1. Parents will provide consent for students aged 14 and 15 through the link forwarded by the gatekeeper. If they agree for their children to participate they will enter their child's e-mail address and a link to the survey will be forwarded to the child who will give their assent after reading the PIS form.
2. Students aged 16 to 18 will give their consent after reading the PIS form.

3.5 Is there any reason to believe participants may not be able to give full informed consent? If yes, what steps do you propose to take to safeguard their interests?

Yes. Some participants, those aged 14 to 15 years will give assent as consent will be given by parents.

4. Research procedures, interventions and measurements

4.1 Give a brief account of the procedure as experienced by the participant. Make it clear who does what, how many times and in what order. Make clear the role of all assistants and collaborators. Make clear the total demands made on participants, including time and travel. Upload copies of questionnaires and interview schedules to ERGO.

Option 1 – Gatekeeper recruitment

Participants will receive a poster with a link to either the parental combined PIS/Consent form or the participant combined PIS/Consent form.

For parental consent.

- When consent is given, Qualtrics will automatically generate a code and a link. The link for the PIS/Assent survey will be sent to parents to send to their child. When the child accesses the link they will then see a PIS/Assent form and will need to click to give assent and then enter the survey. Qualtrics will match parental consent to the child's survey via the code generation system. Parents or participants will not see or generate the code.

If participants wish to take part, they must click (tick) the consent/assent box to proceed.

After giving consent/assent to take part, participants will:

- Participants will be asked to disclose whether they are currently under the treatment of CAMHS or have been referred to CAMHS. If they respond yes the survey will end.
- Demographic information (age, gender, ethnicity, current country of residence) will be collected.

- Participants will then respond to the Personal Experience of Paranoia Scale (PEPS), the Cyber-paranoia and fear scale, the Severity Measure for Generalized Anxiety Disorder-Child Age 11-17 (GAD-C), and the Patient Health Questionnaire (PHQ9). One extra question will be added to this to serve as an attention check. The question will be: Some people have the experience of reading through questionnaires and not reading them properly. To make sure you are paying attention, we ask that you please leave this question blank and do not select a response regardless of what percentage of the time this happens to you.
- Participants will be asked to complete the Thought Control Questionnaire (TCQ).

- Participants will be debriefed and asked to provide their e-mail address in the form of a separate survey to allow for anonymous data collection if they wish to be entered for the prize draw or receive a copy of the finished research.

Once the survey has been completed, participants will be debriefed and thanked for their time. The entire study should take no more than 20 minutes to complete.

Option 2

Participants aged 16 to 18 will be invited via online platforms to take part in the survey.

If participants wish to take part, they must click (tick) the consent/assent box to proceed.

After giving consent to take part, participants will:

- Participants will be asked to disclose whether they are currently under the treatment of CAMHS or have been referred to CAMHS. If they respond yes the survey will end.
- Demographic information (age, gender, ethnicity, current country of residence) will be collected.
- Participants will then respond to the Personal Experience of Paranoia Scale (PEPS), the Cyber-paranoia and fear scale, the Severity Measure for Generalized Anxiety Disorder-Child Age 11-17 (GAD-C), and the Patient Health Questionnaire (PHQ9). One extra question will be added to this to serve as an attention check. The question will be: Some people have the experience of reading through questionnaires and not reading them properly. To make sure you are paying attention, we ask that you please leave this question blank and do not select a response regardless of what percentage of the time this happens to you.
- Participants will be asked to complete the Thought Control Questionnaire (TCQ).
- Participants will be debriefed and asked to provide their e-mail address in the form of a separate survey to allow for anonymous data collection

if they wish to be entered for the prize draw or receive a copy of the finished research.

Once the survey has been completed, participants will be debriefed and thanked for their time. The entire study should take no more than 20 minutes to complete.

4.2 Will the procedure involve deception of any sort? If yes, what is your justification?

No the aims of the study will be clearly stated in the information sheet given to participants.

4.3. Detail any possible (psychological or physical) discomfort, inconvenience, or distress that participants may experience, including after the study, and what precautions will be taken to minimise these risks.

No distress is anticipated in participating in this study. However, asking about unusual sensory experiences and anxiety may cause some distress for some participants. In order to mitigate any possible distress, participants will be asked to complete the questionnaire at their own speed. Participants have the option of terminating their involvement in the study at any time and they will be reassured of this at the start of the questionnaire. Participants will be fully debriefed and provided with aftercare information on both the debrief form and as part of the PIS.

4.4 Detail any possible (psychological or physical) discomfort, inconvenience, or distress that YOU as a researcher may experience, including after the study, and what precautions will be taken to minimise these risks. If the study involves lone

working please state the risks and the procedures put in place to minimise these risks ([please refer to the lone working policy](#)).

In the event of psychological or physical discomfort, I have the option to liaise with my supervisors PAT and access the support provided by the University of Southampton student services.

Lone working is not applicable.

4.5 Explain how you will care for any participants in ‘special groups’ e.g., those in a dependent relationship, are vulnerable or are lacking mental capacity), if applicable:

N/A

4.6 Please give details of any payments or incentives being used to recruit participants, if applicable:

Participants will be entered into a prize draw to win Amazon vouchers. The prizes will be offered *per school*

Prizes per school/college.

one of 5 x £20 vouchers; one of 5 x £10 vouchers or one of 10 x £5

Total Cost £200 per school/college

Participants who enter via the online platforms will be entered into a prize draw with the following prizes.

One of 3 x £20 vouchers; one of 3 x £10 vouchers or one of 3 x £5 vouchers.

5. Access and storage of data

5.1 How will participant confidentiality be maintained? Confidentiality is defined as non-disclosure of research information except to another authorised person. Confidential information can be shared with those already party to it and may also be disclosed where the person providing the information provides explicit consent. Consider whether it is truly possible to maintain a participant's involvement in the study confidential, e.g. can people observe the participant taking part in the study? How will data be anonymised to ensure participants' confidentiality?

The study will be conducted online so it is not possible to monitor whether participants are maintaining their own confidentiality when completing the study. Participants will not be asked to provide any personal information other than demographics. Participants will be informed at the start of the questionnaire that the answers provided will be confidential. Anonymise responses will be used so that participant's IP addresses and locations will not be collected when they are accessing the survey.

At the end of the questionnaire, the participants will see a debriefing screen which will remind participants that their answers will be anonymous and the codes linked to their data will be deleted once the prize draw has taken place.

5.2 How will personal data and study results be stored securely during and after the study. Who will have access to these data?

Data and research material will be stored on the University SharePoint so that the files can be accessed by the supervisory team who are both University employees. All files will be stored in a master copy folder with a single copy being stored in the general folder where any modifications will be recorded in the file registry. To comply with the storage of electronic data the data will be kept in the following three places; (1) University build laptop (OneDrive), (2) Pure and (3) University SharePoint thesis site. OneDrive backs up a file every 10 minutes and SharePoint backups are performed every 12 hours and retained for 14 days. The Master copy of all files will be labelled v001 in the filename and any amendments will be recorded in the file registry and the v number updated. The working copy will be kept in a folder separate from the master copies. Files in SharePoint are easily accessible from the University build laptop so access to files will be via SharePoint. Backup to OneDrive and Pure will be carried out manually each time a file is accessed on SharePoint. In the event, files need to be restored this can be done from either OneDrive or the University build laptop. Data on OneDrive and the University build laptop will be stored as an encrypted file. The data/research materials will be held for a minimum of 10 years. In the event that during the 10 year period any of the following occur; (1) a patent

application is to be made, (2) the results become contentious or subject to challenge or (3) the research is relevant to public interest or heritage value, the data will be retained for a longer period.

The data will not contain any identifying information. E-mails collected separately from the analysis data, for the prize draw, will be deleted once the prize draw has taken place.

5.3 How will it be made clear to participants that they may withdraw consent to participate? Please note that anonymous data (e.g. anonymous questionnaires) cannot be withdrawn after they have been submitted. If there is a point up to which data can be withdrawn/destroyed e.g., up to interview data being transcribed please state this here.

Online questionnaire: Once participants have followed the link to the survey, they will be taken to the PIS, where they will be advised that by checking the box, they are consenting to participate in the study. The participant will be informed that if they do not want to take part, they can exit the screen by closing the browser window. The participant will also be advised that they may also exit the questionnaire at any point in the study. Participants will be made aware that once they have completed and submitted the questionnaire they will not be able to withdraw their data as the questionnaire is anonymous.

6. Additional Ethical considerations

6.1 Are there any additional ethical considerations or other information you feel may be relevant to this study?

Safeguarding/child protection

This study does involve children, and therefore, via school recruitment, opt-in parental consent will be sought for those aged 14 or 15 years of age.

It has been made explicit on the combined PIS and consent form that participants are being asked to describe a time they felt negative, and if they are concerned about this, they should not participate.

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Ethics Questionnaire

Participants will see the PIS/Consent form and on giving assent/consent they will see the following questions.

In the event they say no to assent/consent the survey will end.

Demographics

1. What is your age? [dropdown menu 14 – 18]

2. Gender

Do you currently identify as being Male/Female/Non-binary/Prefer not to say/Prefer to self-describe (specify if you wish)

3. What is your ethnic background?

Indian/Pakistani/Bangladeshi/Chinese/Asian British/Any other Asian background
(please describe)

African/Caribbean/Black British/Any other Black African Caribbean background (please describe)

Black Caribbean and White/Black African and White/Asian and White/Any other mixed/multiple ethnic backgrounds (please describe)

English/Welsh/Scottish/Northern Irish/British/Irish/Roma/Traveller/Irish Traveller/Any other White background (please describe)

Arab/Any other ethnic group (please describe)/Prefer not to say

4. Have you been referred to or are currently under the care of the Child and Adolescent Mental Health Services (CAMHS).

Yes/no (If yes, the survey will end)

PEPS Questionnaire

The next 15 questions will ask you about your experiences of paranoia. Answer the questions as best as you can.

Please note that in order for this survey to be anonymous, you should not include in your answers any information from which you, or other people, could be identified.'

Research shows that it is quite normal to sometimes believe that someone is trying to deliberately harm or upset you, or that others are in some way working together against you. For example, when you get a mark for an essay that is lower than you expected, you may conclude that the marker doesn't like you and therefore deliberately gave you a low mark. Or alternatively, you may believe that others have deliberately excluded or rejected you as a way of trying to cause harm or upset.

1. Have you ever had a feeling that people were deliberately trying to harm or upset you in some way? (Please circle the appropriate response) Yes/No
2. Please describe an example of the situation where you felt someone deliberately trying to harm/upset you.
3. In the above situation that you have described, at that time did you feel that the other people involved actively intended to harm you? Yes/No
4. In the situation that you have described, how much did you feel that you were:
 - Judged negatively by others
 - 1 (Not at all) 2 3 4 5 (Very much)
 - Blocked from achieving your goals
 - 1 (Not at all) 2 3 4 5 (Very much)
 - Powerless to stop what was being done to you
 - 1 (Not at all) 2 3 4 5 (Very much)
5. What was the main emotion that you felt?
6. What other feelings did you experience?
7. At the time, why do you think this event happened?
8. What did you do about this situation? Please describe the actions taken.
9. What did you want to do?
10. How much did this feeling preoccupy you at the time?

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- 1 (Not at all) 2 3 4 5 (Very much)

11. How many times over the past month have you had this type of feeling?

12. How much impact did this experience have on your wellbeing?

- 1 (None at all) 2 3 4 5 (Severe)

13. Was this feeling preceded by negative moods, such as sadness and worry? Yes/No

14. How much did you believe that you deserved this mistreatment?

- 1 2 3 4 5
Totally Somewhat Unsure Somewhat Totally
undeserved undeserved deserved deserved

15. At the present moment, has there been any change in your beliefs? Yes/No If yes, please specify.

Cyber-Paranoia

The next 11 questions are asking about paranoia relating to communication and surveillance in the use of technology. All the questions involve selecting an answer on a scale. Read the questions carefully and select the answer which most reflects your opinion.

1. Increasing computer usage is changing children's brains for the worse.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

2. It's only a matter of time until the global web is brought down with dire consequences.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

3. I avoid using the internet on personal matters so as not to have my details accessed.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

4. I worry about others editing my Facebook page (or similar) without my consent.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

5. I worry about the effects of electromagnetic waves from mobile phones/phone masts.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

6. Terrorists will find new ways to use the internet to plan new attacks on the general public

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1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

7. Payment cards such as Oyster cards allow the authorities to monitor my travel and purchases.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

8. Companies that store data on customers are very vulnerable to theft of my private details.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

9. People do not worry enough about threats from their use of technology.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

10. People should worry that their movements can be monitored via their 'smartphone'.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

11. Closed circuit television cameras (CCTV) are illegally used to spy on people.

1 (strongly disagree) 2 (disagree) 3 (agree) 4 (strongly agree)

Anxiety

The next 9 questions are asking about anxiety and depression. Answer these questions whilst thinking about the last seven days only. They ask about thoughts, feelings and behaviours often tied to family, health, finances, school and work.

1. During the **past 7 days**, I have felt moments of sudden terror, fear, or fright.

0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)

2. During the **past 7 days**, I have felt anxious, worried, or nervous.

0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)

3. During the **past 7 days**, I have had thoughts of bad things happening, such as family tragedy, ill health, loss of a job or accidents.

0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)

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4. During the **past 7 days**, I have felt a racing heart, sweaty, trouble breathing, faint, or shaky.
- 0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)
5. During the **past 7 days**, I have felt tense muscles, felt on edge or restless, or had trouble relaxing or trouble sleeping.
- 0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)
6. During the **past 7 days**, I have avoided, or did not approach or enter, situations about which I worry.
- 0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)
7. During the **past 7 days**, I have left situations early or participated only minimally due to worries.
- 0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)
8. During the **past 7 days**, I have spent lots of time making decisions, putting off making decisions, or preparing for situations, due to worries.
- 0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)
9. During the **past 7 days**, I have sought reassurance from others due to worries.
- 0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)
10. During the **past 7 days**, I have needed help to cope with anxiety (e.g., medication, superstitious objects, or other people).
- 0 (never) 1 (occasionally) 2 (half of the time) 3 (most of the time) 4(all of the time)

Depression

For the next 9 questions, how often have you been bothered by each of the following symptoms during the past **two weeks**. For each symptom tick the box that best describes how you have been feeling.

1. Little interest or pleasure in doing things?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

2. Feeling down, depressed, irritable, or hopeless?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

3. Trouble falling asleep, staying asleep, or sleeping too much?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

4. Feeling tired, or having little energy?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

5. Poor appetite, weight loss, or overeating?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

6. Feeling bad about yourself – or feeling that you are a failure, or that you have let yourself or your family down?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

7. Trouble concentrating on things like schoolwork, reading, or watching TV?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

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8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you were moving around a lot more than usual?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

9. Thoughts that you would be better off dead, or hurting yourself in some way?

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

To make sure you are paying attention, we ask that you please leave this question blank and do not select a response regardless of what percentage of the time this happens to you.

0 (Not at all) 1 (several days) 2 (More than half the days) 3 (Nearly every day)

Thought control

The last 30 questions are designed to measure how well you can control unpleasant and unwanted thoughts. We are interested in the techniques you generally use to control unpleasant and unwanted thoughts. Read each statement carefully and tick the box which indicates how often you use each technique. In case you are wondering, validity can also mean how real is something.

1. I call to mind positive images instead.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

2. I tell myself not to be so stupid.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

3. I focus on the thought.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

4. I replace the thought with a more trivial bad thought.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

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5. I don't talk about the thought to anyone.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
6. I punish myself for thinking the thought.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
7. I dwell on other worries.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
8. I keep the thought to myself.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
9. I occupy myself with work instead.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
10. I challenge the thoughts validity.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
11. I get angry at myself for having the thought.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
12. I avoid discussing the thought.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
13. I shout at myself for having the thought.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
14. I analyse the thought rationally.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
15. I slap or pinch myself to stop the thought.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
16. I think about pleasant thoughts instead.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
17. I find out how my friends deal with these thoughts.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)
18. I worry about more minor things instead.
 1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

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19. I do something that I enjoy.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

20. I try to reinterpret the thought.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

21. I think about something else.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

22. I think more about the more minor problems I have.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

23. I try a different way of thinking about it.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

24. I think about past worries instead.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

25. I ask my friends if they have similar thoughts.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

26. I focus on different negative thoughts.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

27. I question the reasons for having the thought.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

28. I tell myself that something bad will happen if I think the thought.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

29. I talk to a friend about the thought.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

30. I keep myself busy.

1 (Not well at all) 2 (slightly well) 3 (Often) 4 (almost always) 5(Extremely well)

Participants will see the debriefing statement followed by the prize draw sign up statement.

**Appendix C Combined Participant Information Sheet and Consent Form for
Anonymous Online Surveys**

Study Title: Cyber-paranoia and general paranoia

Researcher(s): Perena Polius, Dr Emma Palmer-Cooper, Dr Lyn Ellett

University email: P.Polius@soton.ac.uk e.c.palmer-cooper@soton.ac.uk L.A.Ellett@soton.ac.uk

Ethics/ERGO no: 79975

Version and date: V3 19/05/2023

What is the research about?

My name is Perena Polius and I am a Doctorate in Educational Psychology student at the University of Southampton in the United Kingdom.

I am inviting you to participate in a study regarding general paranoia, cyber paranoia and metacognitive skills. The aim of the research is to learn more about how adolescents describe their individual experiences of general paranoia if they experience them. The research also aims to investigate whether adolescents are experiencing cyber paranoia. This information will help to research whether general paranoia and cyber paranoia occur together. The final aim is to investigate how well teenagers are able to control their thoughts if they are experiencing paranoia.

This study was approved by the Faculty Research Ethics Committee (FREC) at the University of Southampton (Ethics/ERGO Number: 79975).

What will happen to me if I take part?

This study involves completing an anonymous questionnaire which should take approximately 20 minutes of your time. You will be able to complete the survey in one sitting or start completing the survey and return to finish at another time because your answers will be saved. If you are happy to complete this survey, you will need to tick (check) the box below to show your consent. As this survey is anonymous, the researcher will not be able to know whether you have participated, or what answers you provided. This also means that once the questionnaire has been completed, it will not be possible to withdraw your answers.

Why have I been asked to participate?

You have been asked to take part because you are an adolescent 16 to 18 years of age and are able to give your own consent to take part. If you are being treated by CAMHS or have been referred to CAMHS you will not be able to take part.

I am aiming to recruit around 1000 participants for this study.

What information will be collected?

The questions in this survey ask for information in relation to your age, gender and ethnicity. You will be asked questions about paranoia, anxiety and depression which some people may find upsetting or sensitive. It is not expected that the questions may cause some distress, however it is possible that some adolescents may feel some mild or temporary discomfort.

Some of the survey questions contain textboxes where you will be asked to type in your own answers. Please note that in order for this survey to be anonymous, you should not include in your answers any information from which you, or other people, could be identified.

You do not have to answer all the questions if you do not wish to do so but answering all the questions will be very helpful for the study.

What are the possible benefits of taking part?

If you decide to take part and you complete the survey in full, you will have the opportunity to win one of the following prizes. One of 3 x £20 vouchers; one of 3 x £10 vouchers or one of 5 x £5 vouchers. Your participation will contribute to knowledge in this area of research.

Are there any risks involved?

It is expected that taking part in this study will not cause you any psychological discomfort and/or distress, however, you will be asked to describe a time when you were feeling quite negative. If you

are concerned about this, then you should not participate.

If you do participate and you feel uncomfortable you can leave the survey at any time and/or contact the following resources for support:

You can speak to your parents and decide where to go for help and support.

You can speak to your school nurse, who will be able to provide support and advice.

You can speak to your GP about any relevant issues.

You can contact the helpline Childline on 08001111, this is a free phone number so you do not need credit to contact them from your mobile. You can also go online at <https://www.childline.org.uk/get-support/>

The charity mind offers help and support to teenagers, you can go online at [Information for young people on mental health and wellbeing - Mind](#)

You can also contact the Samaritans for advice and support on the free phone number 116 123 or online at <https://www.samaritans.org/how-we-can-help/contact-samaritan/>

What will happen to the information collected?

All information collected for this study will be stored securely on a password-protected computer and backed up on a secure server. Your typed responses may be written into the research however you will not be identified as your name will not be asked for. Only the researcher and their supervisor will have access to this information.

The information collected will be analysed and *written up as part of the researcher's dissertation and or published in a journal.*

The University of Southampton conducts research to the highest standards of ethics and research integrity. In accordance with our Research Data Management Policy, data will be held for 10 years after the study has finished when it will be securely destroyed.

Further information about being a participant can be obtained [here](#).

What happens if there is a problem?

If you are unhappy about any aspect of this study and would like to make a formal complaint, you can contact the **Head of Ethics and Clinical** Governance, University of Southampton, on the following

contact details: Email: rgoinfo@soton.ac.uk, phone: + 44 2380 595058.

Please quote the Ethics/ERGO number above. Please note that by making a complaint you might be no longer anonymous.

More information on your rights as a study participant is available via this link:

<https://www.southampton.ac.uk/about/governance/participant-information.page>

Data Protection Privacy Notice

The University of Southampton conducts research to the highest standards of research integrity. As a publicly-funded organisation, the University has to ensure that it is in the public interest when we use personally-identifiable information about people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use information about you in the ways needed, and for the purposes specified, to conduct and complete the research project. Under data protection law, 'Personal data' means any information that relates to and is capable of identifying a living individual. The University's data protection policy governing the use of personal data by the University can be found on its website (<https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page>).

This Participant Information Sheet tells you what data will be collected for this project and whether this includes any personal data. Please ask the research team if you have any questions or are unclear what data is being collected about you.

Our privacy notice for research participants provides more information on how the University of Southampton collects and uses your personal data when you take part in one of our research projects and can be found at <http://www.southampton.ac.uk/assets/sharepoint/intranet/Is/Public/Research%20and%20Integrity%20Privacy%20Notice/Privacy%20Notice%20for%20Research%20Participants.pdf>

Any personal data we collect in this study will be used only for the purposes of carrying out our research and will be handled according to the University's policies in line with data protection law. If any personal data is used from which you can be identified directly, it will not be disclosed to anyone else without your consent unless the University of Southampton is required by law to disclose it.

Data protection law requires us to have a valid legal reason ('lawful basis') to process and use your Personal data. The lawful basis for processing personal information in this research study is for the performance of a task carried out in the public interest. Personal data collected for research will not be used for any other purpose.

For the purposes of data protection law, the University of Southampton is the 'Data Controller' for this study, which means that we are responsible for looking after your information and using it properly. The University of Southampton will keep identifiable information about you for 10 years after the study has finished after which time any link between you and your information will be removed.

To safeguard your rights, we will use the minimum personal data necessary to achieve our research study objectives. Your data protection rights – such as to access, change, or transfer such information - may be limited, however, in order for the research output to be reliable and accurate. The University will not do anything with your personal data that you would not reasonably expect.

If you have any questions about how your personal data is used, or wish to exercise any of your rights, please consult the University's data protection webpage (<https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page>) where you can make a request using our online form. If you need further assistance, please contact the University's Data Protection Officer (data.protection@soton.ac.uk).

Thank you for reading this information sheet and considering taking part in this research.

Please tick (check) this box to indicate that you are aged 16 to 18 years of age, have read and understood the information on this form, and agree to take part in this survey.

**Appendix D Combined Participant Information Sheet and Consent
Form for Anonymous Online Surveys**

Study Title: Cyber-paranoia and general paranoia

Researcher(s): Perena Polius, Dr Emma Palmer-Cooper, Dr Lyn Ellett

University email: P.Polius@soton.ac.uk e.c.palmer-cooper@soton.ac.uk
L.A.Ellett@soton.ac.uk

Ethics/ERGO no: 79975

Version and date: V1 19/05/2023

What is the research about?

My name is Perena Polius and I am a Doctorate in Educational Psychology student at the University of Southampton in the United Kingdom.

I am inviting you to participate in a study regarding general paranoia, cyber paranoia and metacognitive skills. The aim of the research is to learn more about how adolescents describe their individual experiences of general paranoia if they experience them. The research also aims to investigate whether adolescents are experiencing cyber paranoia. This information will help to research whether general paranoia and cyber paranoia occur together. The final aim is to investigate how well teenagers are able to control their thoughts if they are experiencing paranoia.

This study was approved by the Faculty Research Ethics Committee (FREC) at the University of Southampton (Ethics/ERGO Number: **79975**).

What will happen to me if I take part?

This study involves completing an anonymous questionnaire which should take approximately 20 minutes of your time. You will be able to complete the survey in one sitting or start completing the survey and return to finish at another time because your answers will be saved. If you are happy to complete this survey, you will need to tick (check) the box below to show your **assent** (your agreement to participate). As this survey is anonymous, the researcher will not be able to know whether you have participated, or what answers you provided. This also means that once the questionnaire has been

completed, it will not be possible to withdraw your answers.

Why have I been asked to participate?

You have been asked to take part because you are an adolescent and your parents have given their consent for you to take part. If you are being treated by CAMHS or have been referred to CAMHS you will not be able to take part.

You are receiving an invitation to participate because HEADTEACHER of the SCHOOL agreed to forward to you information about this study on the researcher's behalf.

I am aiming to recruit around 1000 participants for this study.

What information will be collected?

The questions in this survey ask for information in relation to your age, gender and ethnicity. You will be asked questions about paranoia, anxiety and depression which some people may find upsetting or sensitive. It is not expected that the questions may cause some distress however it is possible that some adolescents may feel some mild or temporary discomfort.

Some of the survey questions contain textboxes where you will be asked to type in your own answers. Please note that in order for this survey to be anonymous, you should not include in your answers any information from which you, or other people, could be identified.

You do not have to answer all the questions if you do not wish to do so but answering all the questions will be very helpful for the study.

What are the possible benefits of taking part?

If you decide to take part and you complete the survey in full you will have the opportunity to win one of the following prizes. One of 5 x £20 vouchers; one of 5 x £10 vouchers or one of 10 x £5 vouchers. Your participation will contribute to knowledge in this area of research.

Are there any risks involved?

It is expected that taking part in this study will not cause you any psychological discomfort and/or distress, however, you will be asked to describe a time when you were feeling quite negative. If you are concerned about this then you should not participate.

If you do participate and feel uncomfortable, you can leave the survey at any time and/or contact the following resources for support:

You can speak to your parents and decide where to go for help and support.

You can speak to your school nurse, who will be able to provide support and advice.

You can speak to your GP about any relevant issues.

You can contact the helpline Childline on 08001111, this is a free phone number so you do not need credit to contact them from your mobile. You can also go online at <https://www.childline.org.uk/get-support/>

The charity mind offers help and support to teenagers, you can go online at [Information for young people on mental health and wellbeing - Mind](#)

You can also contact the Samaritans for advice and support on the free phone number 116 123 or online at <https://www.samaritans.org/how-we-can-help/contact-samaritan/>

What will happen to the information collected?

All information collected for this study will be stored securely on a password-protected computer and backed up on a secure server. Your typed responses may be written into the research however you will not be identified as your name will not be asked for. Only the researcher and their supervisor will have access to this information.

The information collected will be analysed and *written up as part of the researcher's dissertation and or published in a journal.*

The University of Southampton conducts research to the highest standards of ethics and research integrity. In accordance with our Research Data Management Policy, data will be held for 10 years after the study has finished when it will be securely destroyed.

Further information about being a participant can be obtained [here](#).

What happens if there is a problem?

If you are unhappy about any aspect of this study and would like to make a formal complaint, you can contact the **Head of Ethics & Clinical Governance**, University of Southampton, on the following contact details: Email: rgoinfo@soton.ac.uk, phone: + 44 2380 595058.

Please quote the Ethics/ERGO number above. Please note that by making a complaint you might be no longer anonymous.

More information on your rights as a study participant is available via this link:

<https://www.southampton.ac.uk/about/governance/participant-information.page>

Data Protection Privacy Notice

The University of Southampton conducts research to the highest standards of research integrity. As a publicly-funded organisation, the University has to ensure that it is in the public interest when we use personally-identifiable information about people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use information about you in the ways needed, and for the purposes specified, to conduct and complete the research project. Under data protection law, 'Personal data' means any information that relates to and is capable of identifying a living individual. The University's data protection policy governing the use of personal data by the University can be found on its website (<https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page>).

This Participant Information Sheet tells you what data will be collected for this project and whether this includes any personal data. Please ask the research team if you have any questions or are unclear what data is being collected about you.

Our privacy notice for research participants provides more information on how the University of Southampton collects and uses your personal data when you take part in one of our research projects and can be found at <http://www.southampton.ac.uk/assets/sharepoint/intranet/Is/Public/Research%20and%20Integrity%20Privacy%20Notice/Privacy%20Notice%20for%20Research%20Participants.pdf>

Any personal data we collect in this study will be used only for the purposes of carrying out our research and will be handled according to the University's policies in line with data

protection law. If any personal data is used from which you can be identified directly, it will not be disclosed to anyone else without your consent unless the University of Southampton is required by law to disclose it.

Data protection law requires us to have a valid legal reason ('lawful basis') to process and use your Personal data. The lawful basis for processing personal information in this research study is for the performance of a task carried out in the public interest. Personal data collected for research will not be used for any other purpose.

For the purposes of data protection law, the University of Southampton is the 'Data Controller' for this study, which means that we are responsible for looking after your information and using it properly. The University of Southampton will keep identifiable information about you for 10 years after the study has finished after which time any link between you and your information will be removed.

To safeguard your rights, we will use the minimum personal data necessary to achieve our research study objectives. Your data protection rights – such as to access, change, or transfer such information - may be limited, however, in order for the research output to be reliable and accurate. The University will not do anything with your personal data that you would not reasonably expect.

If you have any questions about how your personal data is used, or wish to exercise any of your rights, please consult the University's data protection webpage (<https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page>) where you can make a request using our online form. If you need further assistance, please contact the University's Data Protection Officer (data.protection@soton.ac.uk).

Thank you for reading this information sheet and considering taking part in this research.

Please tick (check) this box to indicate that you have read and understood the information on this form, and agree to take part in this survey.

Appendix E Gatekeeper Consent Form

Study Title: *Cyber-Paranoia and general paranoia*

Researcher(s): Perena Polius, Dr Emma Palmer-Cooper, Dr Lyn Ellett

University email: P.Polius@soton.ac.uk e.c.palmer-cooper@soton.ac.uk L.A.Ellett@soton.ac.uk

Ethics/ERGO no: 79975

Version and date: V1 19/05/2023

Please initial the boxes below where you agree with the corresponding statement.

		<i>Please initial</i>
1.	I confirm that I have read the information sheet dated 19/05/2023 (version 3) for the above study, or it has been read to me. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2.	I have the authority to act as a gatekeeper between the investigator[s] and participants.	
3.	I am satisfied with the study procedures associated with safeguarding participants and investigator[s]	
4.	I agree to e-mail the parents of potential participants on behalf of the investigator as requested	
5.	I agree to e-mail potential participants on behalf of the investigator as requested	
6.	I approve the use of a prize draw for participants as described in the information sheets	
7.	I agree to comply with UK data protection legislation	

Name of Gatekeeper:

Date:

Signature:

Name of Investigator:

Date:

Signature:

Appendix F

Gatekeeper e-mail template

Dear [Gatekeeper Name]

My name is Perena Polius and I am a Doctorate in Educational Psychology student at the University of Southampton in the United Kingdom.

I am asking you, as head teacher, to facilitate the recruitment of participants for my research project. The aim of the research is to learn more about how adolescents describe their individual experiences of general paranoia, if they experience them. The research also aims to investigate whether adolescents are experiencing cyber paranoia. This information will help to research whether general paranoia and cyber paranoia occur together. The final aim is to investigate how well teenagers are able to control their thoughts if they are experiencing paranoia.

This study was approved by the Faculty Research Ethics Committee (FREC) at the University of Southampton (Ethics/ERGO Number: **79975**).

What do I need to do?

I will provide you with a recruitment poster to e-mail to parents of students in Years 10 and 11 so that they can provide consent for their child to participate. The parent will then give their consent for their child to participate. They will then receive a survey link for their child who will then be able to access the survey and give assent if they wish to participate.

Students in Year 12 and 13 can give their own consent so I am asking you to e-mail the recruitment poster directly to them and they can choose whether they wish to participate.

What will the parents and students see?

I have attached a copy of the combined participant information sheet and consent form that parents and students will see when they access the survey.

What will happen to the information?

All answers and results from the research are kept strictly confidential and the results will be reported in a research paper available to all participants on completion.

If this is possible, please could you e-mail me at P.Polius@soton.ac.uk to confirm that you are willing to allow access to your students, and I will provide the gatekeeper consent form for you to complete. Thank you for your time, and I hope to hear from you soon.

Kindest regards.

Ms Perena Polius

Trainee Educational Psychologist
DedPsych
Southampton University
Supervised by Dr Lyn Ellett and Dr Emma Palmer-Cooper

Appendix G

Study Advert social media text:

Do you have 20 minutes to answer questions for our study about general and cyber paranoia in adolescents? We will ask questions about your experiences of general paranoia, your experiences of cyber-paranoia and some thoughts you might have had. This is an online survey. You will be entered into a prize draw. More information is available here: [Survey link](#)

University of Southampton
Perena Polius (P.Polius@soton.ac.uk) Trainee Educational Psychologist

STUDY OF GENERAL AND CYBER-PARANOIA IN ADOLESCENTS

- ## What are we doing?

We are carrying out a study to explore how non-clinical adolescents report individual experiences of general paranoia and whether they experience cyber-paranoia,


- ## Who can take part?

Adolescents aged 16 to 18 years old.


- ## What is involved?

Completing an ANONYMOUS ONLINE SURVEY (20 mins)
The survey will close at the end of September 2023


- ## Will they get paid?

No, but you will help to contribute to research and you will be entered into a prize draw for a chance to win either a £20, £10 or £5 amazon voucher.


- Study approved by the Faculty Research Ethics Committee at the University of Southampton (ERGO Number 79975)



v1_19 May 2023



University of
Southampton

Perena Wasterfall (P.Wasterfall@soton.ac.uk) Trainee Educational Psychologist

STUDY OF GENERAL AND CYBER-PARANOIA IN ADOLESCENTS

1

What are we doing?

We are carrying out a study to explore how non-clinical adolescents report individual experiences of general paranoia and whether they experience cyber-paranoia,



2



Who can take part?

Adolescents aged 14 to 16 years old who have their parents permission

3

What is involved?

Completing an ANONYMOUS ONLINE SURVEY (20 mins)
The survey will close at the end of March 2024



4



Will they get paid?

No, but you will help to contribute to research and you will be entered into a prize draw for a chance to win either a £20, £10 or £5 amazon voucher.

5

How do I find out more?

Click on the link below, to find out more and give your consent for your child to enter.

Study approved by the Faculty Research Ethics Committee at the University of Southampton (ERGO Number 79975)

v1_19 May 2023

Appendix I

EPHPP Assessment Tool

Link to PDF - [QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES](#)

Link to dictionary - [Quality Assessment Tool for Quantitative Studies Dictionary](#)

References

- Alhajji, M., Bass, S., & Dai, T. (2019). Cyberbullying, Mental Health, and Violence in Adolescents and Associations With Sex and Race: Data From the 2015 Youth Risk Behavior Survey. *Global pediatric health*, 6, 2333794X19868887. <https://doi.org/doi:10.1177/2333794X19868887>
- APA. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (Vol. 5). American psychiatric association Washington, DC.
- Arnon, S., Brunstein Klomek, A., Visoki, E., Moore, T. M., Argabright, S. T., DiDomenico, G. E., Benton, T. D., & Barzilay, R. (2022). Association of Cyberbullying Experiences and Perpetration With Suicidality in Early Adolescence. *JAMA network open*, 5(6), e2218746-e2218746. <https://doi.org/10.1001/jamanetworkopen.2022.18746>
- Bauman, S., Toomey, R. B., & Walker, J. L. (2013). Associations among bullying, cyberbullying, and suicide in high school students. *Journal of Adolescence*, 36(2), 341-350. <https://doi.org/doi:10.1016/j.adolescence.2012.12.001> WE - Social Science Citation Index (SSCI)
- Bebbington, P. E., McBride, O., Steel, C., Kuipers, E., Radovanović, M., Brugha, T., Jenkins, R., Meltzer, H. I., & Freeman, D. (2013). The structure of paranoia in the general population. *British Journal of Psychiatry*, 202(6), 419-427. <https://doi.org/10.1192/bjp.bp.112.119032>
- Beck, A. T., Resnik, H. L., & Lettieri, D. J. (1974). *The prediction of suicide*. Charles Press Publishers Bowie, MD.
- Berry, N., Emsley, F., Lobban, F., & Bucci, S. (2018). Social media and its relationship with mood, self-esteem and paranoia in psychosis. *Acta Psychiatrica Scandinavica*, 138(6), 558-570 <https://doi.org/https://doi.org/10.1111/acps.12953>
- Bird, J. C., Evans, R., Waite, F., Loe, B. S., & Freeman, D. (2019). Adolescent paranoia: Prevalence, structure, and causal mechanisms. *Schizophrenia Bulletin*, 45(5), 1134-1142. <https://doi.org/10.1093/schbul/sby180>
- Bird, J. C., Fergusson, E. C., Kirkham, M., Shearn, C., Teale, A., Carr, L., Stratford, H. J., James, A. C., Waite, F., & Freeman, D. (2021). Paranoia in patients attending child and adolescent mental health services. *Australian & New Zealand Journal of Psychiatry*, 55(12), 1166-1177. <https://doi.org/10.1177/0004867420981416>
- Bird, J. C., Waite, F., Rowsell, E., Fergusson, E. C., & Freeman, D. (2017). Cognitive, affective, and social factors maintaining paranoia in adolescents with mental health problems: A longitudinal study. *Psychiatry Research*, 257, 34-39. <https://doi.org/10.1016/j.psychres.2017.07.023>
- Bishop, M., Ioverno, S., & Russell, S. (2023). Sexual minority youth's mental health and substance use: The roles of victimization, cybervictimization, and non-parental adult support. *CURRENT PSYCHOLOGY*, 42(6), 5075-5087. <https://doi.org/doi:10.1007/s12144-021-01812-6>
- Bottino, S. M. B., Bottino, C., Regina, C. G., Correia, A. V. L., & Ribeiro, W. S. (2015). Cyberbullying and adolescent mental health: systematic review. *Cadernos de saude*

References

- publica*, 31, 463-475.
<https://www.scielo.br/j/csp/a/qhS39M9CVjg6LHJBjSmW9JF/?lang=en&format=pdf>
- Brighi, A., Ortega, R., Pyżalski, J., Scheithauer, H., Smith, P. K., Tsormpatzoudis, H., & Tsorbatzoudis, H. (2018). European Cyberbullying Intervention Project Questionnaire.
- Çetin, B., Yaman, E., & Peker, A. (2011). Cyber victim and bullying scale: A study of validity and reliability. *Computers & Education*, 57(4), 2261-2271.
<https://doi.org/https://doi.org/10.1016/j.compedu.2011.06.014>
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.
- David-Ferdon, C., & Hertz, M. F. (2007). Electronic media, violence and adolescents: an emerging public health problem. *Journal of Adolescent Health*, 41(6).
<https://doi.org/https://doi.org/10.1016/j.jadohealth.2007.08.020>
- Del Rey, R., Casas, J. A., Ortega-Ruiz, R., Schultze-Krumbholz, A., Scheithauer, H., Smith, P. K., Thompson, F. T., Barkoukis, V., Tsorbatzoudis, H., Brighi, A., Guarini, A., Pyżalski, J., & Plichta, P. (2015). Structural validation and cross-cultural robustness of the European Cyberbullying Intervention Project Questionnaire. *Comput. Hum. Behav.*, 50, 141-147.
- Del Rey, R., Elipe, P., & Ortega-Ruiz, R. (2012). Bullying and cyberbullying: overlapping and predictive value of the co-occurrence. *Psicothema*, 24(4), 608-613.
- DeLara, E. (2016). *Bullying scars: The impact on adult life and relationships*. Oxford University Press.
- Deutsch, M. (1973). The resolution of conflict: Constructive and destructive processes. *American Behavioral Scientist*, 17(2), 248-248.
- Diez-Gomez, A., Perez-Albeniz, A., Ortuno-Sierra, J., & Fonseca-Pedrero, E. (2020). SENTIA: An Adolescent Suicidal Behavior Assessment Scale. *Psicothema*, 32(3), 382-389.
<https://doi.org/10.7334/psicothema2020.27>
- Downey, A., Brown, L., & Calonge, N. (2020). Evidence-based practice for public health emergency preparedness and response.
- Elahi, A., Perez Algorta, G., Varese, F., McIntyre, J. C., & Bentall, R. P. (2017). Do paranoid delusions exist on a continuum with subclinical paranoia? A multi-method taxometric study. (1573-2509 (Electronic)).
- Ellett, L., Lopes, B., & Chadwick, P. (2003). Paranoia in a Nonclinical Population of College Students. *The Journal of nervous and mental disease*, 191(7).
- EPHPP. (2023). *Effective Public Healthcare Panacea Project Quality Assessment Tool for Quantitative Studies*. Retrieved May from <https://www.ephpp.ca/quality-assessment-tool-for-quantitative-studies/>
- Erlingsson, C., & Brysiewicz, P. (2013). Orientation among multiple truths: An introduction to qualitative research. *African Journal of Emergency Medicine*, 3(2), 92-99.
<https://doi.org/https://doi.org/10.1016/j.afjem.2012.04.005>
- Farrington, D. P., Zych, I., Ttofi, M. M., & Gaffney, H. (2023). Cyberbullying research in Canada: A systematic review of the first 100 empirical studies. *Aggression and Violent Behavior*, 69, 1-13. <https://doi.org/https://doi.org/10.1016/j.avb.2022.101811>

References

- Fenigstein, A., & Venable, P. A. (1992). Paranoia and self-consciousness. *Journal of Personality and Social Psychology*, 62(1), 129.
- Freeman, D. (2016). Persecutory delusions: a cognitive perspective on understanding and treatment. *The Lancet Psychiatry*, 3(7), 685-692.
[https://doi.org/https://doi.org/10.1016/S2215-0366\(16\)00066-3](https://doi.org/https://doi.org/10.1016/S2215-0366(16)00066-3)
- Freeman, D., & Garety, P. A. (2000). Comments on the content of persecutory delusions: Does the definition need clarification? *British Journal of Clinical Psychology*, 39(4), 407-414.
<https://doi.org/https://doi.org/10.1348/014466500163400>
- Freeman, D., & Loe, B. S. (2023). Explaining paranoia: cognitive and social processes in the occurrence of extreme mistrust. *BMJ Mental Health*, 26(1), e300880.
<https://doi.org/10.1136/bmjment-2023-300880>
- Garmy, P., Hansson, E., Vilhjalmsson, R., & Kristjánssdóttir, G. (2019). Bullying and pain in school-aged children and adolescents: a cross-sectional study. *SAGE open nursing*, 5, 2377960819887556.
- Goebert, D., Else, I., Matsu, C., Chung-Do, J., & Chang, J. (2011). The Impact of Cyberbullying on Substance Use and Mental Health in a Multiethnic Sample. *Maternal and Child Health Journal*, 15(8), 1282-1286. <https://doi.org/doi:10.1007/s10995-010-0672-x> WE - Social Science Citation Index (SSCI)
- Güven, U., Öz, Y., & Köker, M. . (2021). The Relationship Between Bullying And Students' Academic Achievement. *Osmangazi Journal of Educational Research*, 8(2), 53-68.
- Herpertz-Dahlmann, B., Bühren, K., & Remschmidt, H. (2013). Growing Up Is Hard: Mental Disorders in Adolescence.
. *Deutsches Ärzteblatt International*, 110, 432-440.
<https://doi.org/https://doi.org/10.3238/arztebl.2013.0432>
- Hishinuma, E. S., Miyamoto, R. H., Nishimura, S. T., Goebert, D. A., Yuen, N. Y. C., Makini, G. K., Andrade, N. N., Johnson, R. C., & Carlton, B. S. (2001). Prediction of anxiety disorders using the State-Trait Anxiety Inventory for multiethnic adolescents. *Journal of Anxiety Disorders*, 15(6), 511-533. [https://doi.org/https://doi.org/10.1016/S0887-6185\(01\)00079-2](https://doi.org/https://doi.org/10.1016/S0887-6185(01)00079-2)
- Hoff, D. L., & Mitchell, S. N. (2009). Cyberbullying: causes, effects, and remedies. *Journal of Educational Administration*, 47(5), 652-665.
<https://doi.org/10.1108/09578230910981107>
- Howe, N., & Strauss, W. (2003). *Millennials go to college: Strategies for a new generation on campus: Recruiting and admissions, campus life, and the classroom*. American Association of Collegiate Registrars and Admissions Officers
- Huang, L. (2022). Exploring the relationship between school bullying and academic performance: The mediating role of students' sense of belonging at school. *Educational Studies*, 48(2), 216-232.
- Hudson, C. C., Lambe, L., Pepler, D. J., & Craig, W. M. (2016). Coping While Connected: The Association Among Cybervictimization, Privacy Settings, and Reporting Tools in Youth. *Canadian Journal of School Psychology*, 31(1), 3-16.
<https://doi.org/10.1177/0829573515619623>

References

- Hymel, S., & Swearer, S. M. (2015). Four decades of research on school bullying: An introduction *American Psychologist*, 70(4), 293-299.
<https://doi.org/https://doi.org/10.1037/a0038928>
- Jaki, T., Kim, M., Lamont, A., George, M., Chang, C., Feaster, D., & Van Horn, M. L. (2019). The Effects of Sample Size on the Estimation of Regression Mixture Models. *Educ Psychol Meas*, 79(2), 358-384. <https://doi.org/10.1177/0013164418791673>
- Jhangiani, R., & Tarry, H. (2022). *Principles of social psychology* (1st international H5P ed.). BCcampus. <https://opentextbc.ca/socialpsychology/>
- Kingston, J. L., Schlier, B., Leigh, E., Widiasari, D., & Bentall, R. P. (2024). Social anxiety and paranoid beliefs in adolescents. *JCPP Advances*, , e12280. .
<https://doi.org/https://doi.org/10.1002/jcv2.12280>
- Kwan, G. C. E., & Skoric, M. M. (2013). Dacebook bullying: An extension of battles in school. *Computers in Human Behavior*, 29, 16-2510.1016/j.chb.2012.2507.2014.
- La Greca, A. M., Dandes, S. K., Wick, P., Shaw, K., & Stone, W. L. (1988). Development of the Social Anxiety Scale for Children: Reliability and concurrent validity. *Journal of clinical child psychology*, 17(1), 84-91.
- La Greca, A. M., Ingles, C. J., Lai, B. S., & Marzo, J. C. (2015). Social Anxiety Scale for Adolescents: factorial invariance across gender and age in Hispanic American adolescents. (1552-3489 (Electronic)).
- Landoll, R. R., La Greca, A. M., & Lai, B. S. (2013). Aversive peer experiences on social networking sites: Development of the SocialNetworking-Peer Experiences Questionnaire (SN-PEQ). *Journal of Research on Adolescence*, 23(4), 695-705.
<https://doi.org/10.1111/jora.12022>
- Landoll, R. R., La Greca, A. M., Lai, B. S., Chan, S. F., & Herge, W. M. (2015). Cyber victimization by peers: Prospective associations with adolescent social anxiety and depressive symptoms. *Journal of Adolescence*, 42, 77-86.
<https://doi.org/10.1016/j.adolescence.2015.04.002>
- Larrañaga, E., Yubero, S., Ovejero, A., & Navarro, R. (2016). Loneliness, parent-child communication and cyberbullying victimization among Spanish youths. *Computers in Human Behavior*, 65, 1-8. <https://doi.org/doi:10.1016/j.chb.2016.08.015> WE - Social Science Citation Index (SSCI)
- Li, Q. (2006). Cyberbullying in Schools:A Research of Gender Differences. *School Psychology International*, 27(2), 157-170. <https://doi.org/10.1177/0143034306064547>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
- Lucas-Molina, B., Pérez-Albéniz, A., Solbes-Canales, I., Ortuño-Sierra, J., & Fonseca-Pedrero, E. (2022). Bullying, Cyberbullying and Mental Health: The Role of Student Connectedness as a School Protective Factor. *Psychosocial Intervention*, 31(1), 33-41.
<https://doi.org/doi:10.5093/pi2022a1> WE - Social Science Citation Index (SSCI)
- Mallik, C. I., & Radwan, R. B. (2020). Adolescent victims of cyberbullying in Bangladesh- prevalence and relationship with psychiatric disorders. *Asian Journal of Psychiatry*, 48, 101893. <https://doi.org/doi:10.1016/j.ajp.2019.101893>

References

- Manwell, L. A., Barbic, S. P., Roberts, K., Durisko, Z., Lee, C., Ware, E., & McKenzie, K. (2015). What is mental health? Evidence towards a new definition from a mixed methods multidisciplinary international survey. *BMJ open*, 5(6), e007079. <https://doi.org/10.1136/bmjopen-2014-007079>
- Marret, M. J., & Choo, W. Y. (2017). Factors associated with online victimisation among Malaysian adolescents who use social networking sites: a cross sectional study. *BMJ open*, 7. <https://doi.org/doi:10.1136/bmjopen-20160014959> (e014959)
- Mason, O. J., Stevenson, C., & Freedman, F. (2014). Ever-present threats from information technology: the Cyber-Paranoia and Fear Scale. *Front Psychol*, 5, 1298. <https://doi.org/10.3389/fpsyg.2014.01298>
- McClenaghan, E. (2024). Mann-Whitney U Test: Assumptions and Example. Retrieved 20 August 2024, from <https://www.technologynetworks.com/informatics/articles/mann-whitney-u-test-assumptions-and-example-363425>
- Meltzer, H., Vostanis, P., Ford, T., Bebbington, P., & Dennis, M. S. (2011). Victims of bullying in childhood and suicide attempts in adulthood. *European Psychiatry*, 26, 498-503. <https://doi.org/doi:10.1001/jamapediatrics.2013.4143>
- Metcalfe, J., & Shimamura, A. P. (1994). *Metacognition: Knowing about knowing*. MIT Press.
- Mullick, M. S. I., & Goodman, R. (2001). Questionnaire screening for mental health problems in Bangladeshi children: A preliminary study [Article]. *Social psychiatry and psychiatric epidemiology*, 36(2), 94-99. <https://doi.org/10.1007/s001270050295>
- Nadler, J. T., Weston, R., & Voyles, E. C. (2015). Stuck in the Middle: The Use and Interpretation of Mid-Points in Items on Questionnaires. *The Journal of General Psychology*, 142(2), 71-89.
- Ng, E. D., Chua, J. Y. X., & Shorey, S. (2022). The effectiveness of educational interventions on traditional bullying and cyberbullying among adolescents: A systematic review and meta-analysis. *Trauma, Violence, & Abuse*, 23(1), 132-151. <https://doi.org/10.1177/1524838020933867>
- Niehaus, K., Rudasill, K. M., & Rakes, C. R. (2012). A longitudinal study of school connectedness and academic outcomes across sixth grade. *Journal of School Psychology*, 50(4), 443-460. <https://doi.org/https://doi.org/10.1016/j.jsp.2012.03.002>
- Ortega-Ruiz, R., Del Rey, R., & Casas, J. A. (2016). Evaluar el bullying y el cyberbullying validación española del EBIP-Q y del ECIP-Q. *Psicología Educativa*, 22(1), 71-79. <https://doi.org/10.1016/j.pse.2016.01.004>
- Osmanağaoğlu, N., Creswell, C., & Dodd, H. F. (2018). Intolerance of Uncertainty, anxiety, and worry in children and adolescents: A meta-analysis. *Journal of Affective Disorders*, 225, 80-90. <https://doi.org/https://doi.org/10.1016/j.jad.2017.07.035>
- Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—a web and mobile app for systematic reviews. *Systematic Reviews*, 5(1), 210. <https://doi.org/10.1186/s13643-016-0384-4>
- Patchin, J. W., & Hinduja, S. (2006). Bullies Move Beyond the Schoolyard: A Preliminary Look at Cyberbullying. *Youth Violence and Juvenile Justice*, 4(2), 148-169. <https://doi.org/10.1177/1541204006286288>

References

- Peebles, E. (2014). Cyberbullying: Hiding behind the screen. *Paediatrics & Child Health*, 19, 527. <https://doi.org/10.1093/pch/19.10.527>
- Perry, J., Lundie, D., & Golder, G. (2019). Metacognition in schools: what does the literature suggest about the effectiveness of teaching metacognition in schools? *Educational Review*, 71(4), 483-500. <https://doi.org/10.1080/00131911.2018.1441127>
- Pintrich, P. R. (2002). The role of mtacognitive knowledge in learning, traching and assessing. *Theory Into Practice*, 41, 219-225. https://doi.org/10.1207/s15430421tip4104_3
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., & Duffy, S. (2006). Guidance on the conduct of narrative synthesis in systematic reviews. *A product from the ESRC methods programme Version*, 1(1), b92.
- Pranjić, N., & Bajraktarević, A. (2010). Depression and suicide ideation among secondary school adolescents involved in school bullying. *Primary Health Care Research & Development*, 11(4), 349-362.
- Prenksy, M. (2001b). Digital natives, digital immigrants, part II. So they really think differently? *On the horizon*, 9(6), 1-6.
- Prensky, M. (2001a). Digital Natives, Digital Immigrants Part 1. *On the horizon*, 9(5), 1-6. <https://doi.org/10.1108/10748120110424816>
- Radloff, L. S. (1977). The CES-D Scale. *Applied Psychological Measurement*, 1, 385 - 401.
- Raes, F., & Van Gucht, D. (2009). Paranoia and instability of self-esteem in adolescents. *Personality and Individual Differences*, 47, 928 - 932.
- Reynolds, W. M. (2002). Reynolds Adolescent Depression Scale In S. Goldstein & J. A. Naglieri (Eds.), (2nd ed., pp. 1265-1267). Psychological Assessment Resources. https://doi.org/10.1007/978-0-387-79061-9_2439
- Robinson, E., Power, L., & Allan, D. (2011). What works with adolescents? Family connexions and involvement in interventions for asolescent problem behaviours. *Family Matters*, 88, 57-64.
- Ronald, A., Sieradzka, D., Cardno, A. G., Haworth, C. M., McGuire, P., & Freeman, D. (2014). Caracterization of psychotic experiences in adolescence using the specific psychotic expereinces questionnaire: findings from a study of 5000 16-year-old twins. *Schizophrenia Bulletin*, 40, 868-877.
- Rosenberg, M. (1965). Rosenberg self-esteem Scale (RSES). In APA (Ed.), *PsycTests*.
- Roussis, P., & Wells, A. (2008). Psychological factors predicting stress symptoms: Metacognition, thought control, and varieties of worry. *Anxiety, Stress, & Coping*, 21(3), 213-225. <https://doi.org/10.1080/10615800801889600>
- Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D., & Patton, G. C. (2018). The age of adolescence. *The Lancet Child & Acolescent Health*, 2(3), 223-228. [https://doi.org/https://doi.org/10.1016/S2352-4642\(18\)30022-1](https://doi.org/https://doi.org/10.1016/S2352-4642(18)30022-1)
- Selkie, E. M., Fales, J. L., & Moreno, M. A. (2014). Cyberbullying prevalence among US middle and high school-aged adolescents: a systematic review and quality assessment. *Journal of Adolescent Health*, 58, 125-133.

References

- Shochet, I. M., Dadds, M. R., Ham, D., & Monatague, R. (2006). School Connectedness Is an Underemphasized Parameter in Adolescent Mental Health: Results of a Community Prediction Study. *Journal of Clinical Child and Adolescent Psychology*, 35(2), 170-179. https://doi.org/https://doi.org/10.1207/s15374424jccp3502_1
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry*, 49(4), 376-385. <https://doi.org/10.1111/j.1469-7610.2007.01846.x>
- Sorrentino, A., Sulla, F., Santamato, M., di Furia, M., Toto, G. A., & Monacis, L. (2023). Has the COVID-19 Pandemic Affected Cyberbullying and Cybervictimization Prevalence among Children and Adolescents? A Systematic Review. *Int J Environ Res Public Health*, 20(10). <https://doi.org/10.3390/ijerph20105825>
- Spear, L. P. (2008). The Psychobiology of Adolescence. In K. K. Kline (Ed.), *Authoritative Communities: The Scientific Case for Nurturing the Whole Child* (pp. 263-280). Springer New York. https://doi.org/10.1007/978-0-387-72721-9_12
- Steeves, V. (2014). *Cyberbullying: Dealing with Online Meanness, Cruelty and Threats*. MediaSmarts.
- Strauss, J. S. (1969). Hallucinations and delusions as points on continua function: Rating scale evidence. *Archives of General Psychiatry*, 21(5), 581-586.
- Tashakkori, A., Johnson, R. B., & Teddlie, C. (2020). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Sage publications.
- Thomas, H. J., Connor, J. P., & Scott, J. G. (2015). Integrating traditional bullying and cyberbullying: Challenges of definition and measurement in adolescents - A review. *Educational Psychology Review*, 27(1), 135-152.
- Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior*, 26(3), 277-287. <https://doi.org/10.1016/j.chb.2009.11.014>
- UKCIS. (2022). *Education for a connected world framework*. UK Council for Internet Safety Retrieved from <https://www.gov.uk/government/publications/education-for-a-connected-world>
- Vandebosch, H., & Van Cleemput, K. (2008). Defining cyberbullying: A qualitative research into the perceptions of youngsters. *CyberPsychology & Behavior*, 11(4), 499 - 503. <https://doi.org/https://doi.org/10.1089/cpb.2007.0042>
- Wang, X., & Cheng, Z. (2020). Cross-Sectional Studies: Strengths, Weaknesses, and Recommendations. *Chest*, 158(1, Supplement), S65-S71. <https://doi.org/https://doi.org/10.1016/j.chest.2020.03.012>
- Wells, A. (2002). Worry, metacognition and GAD: Nature, consequences, and treatment. *Journal of Cognitive Psychotherapy*, 16(2), 179.
- WHO. (2001). Strengthening mental health promotion. In: Geneva.
- WHO. (2019). *Coming of age*. Retrieved February from <https://www.who.int/news-room/spotlight/coming-of-age-adolescent-health>

References

- Wilkinson, S. (1988). The role of reflexivity in feminist psychology. *Women's Studies International Forum*,
- Willig, C. (2013). *Introducing Qualitative Research In Psychology* (3rd ed.). McGraw-Hill Education.
- Wolak, J., Mitchell, K., & Finkelhor, D. (2006). *Online victimization of youth: Five years later*. .
- Zhu, C., Huang, S., Evans, R., & Zhang, W. (2021). Cyberbullying among adolescents and children: A comprehensive review of the global situation, risk, factors and preventive measures. *Frontiers in public health*.(634909).
- Zimaitis, I., Degutis, M., & Urbonavicius, S. (2020). Social Media Use and Paranoia: Factors That Matter in Online Shopping. *Sustainability*, 12(3).