



Scoping Bullying and Cyberbullying Victimization Among a Sample of Gifted Adolescents in Ireland

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Abstract

Research has indicated that gifted adolescents experience an increased amount of bullying and cyberbullying compared to their non-gifted peers. However, there has not been a sufficient attempt to investigate the extent of bullying and cyberbullying victimisation among gifted adolescent populations in Ireland. A total of 195 gifted adolescents between the ages of 14 and 18 years completed a comprehensive online survey assessing the bullying and cyberbullying prevalence, wellbeing, indicative mental health, and friendship quality outcomes. The results showed considerably higher prevalence rates of bullying and cyberbullying victimisation among gifted adolescents compared to an all-Ireland national prevalence rate. Bullying and cyberbullying victimisation was associated with higher levels of negative outcomes. Females, LGBTI+, and twice-exceptional participants scored significantly lower on satisfaction with life and significantly higher on negative outcomes compared to other gifted participants. The results are discussed alongside recommendations for anti-bullying policies and teacher education provisions.

Keywords Gifted · Prevalence · Bullying · Cyberbullying · Adolescents

Bullying is a worldwide pervasive phenomenon. The United Nations Educational, Scientific and Cultural Organisation [UNESCO] recently estimated that as many as one in three children have experienced bullying by their peers at school in the last month (UNESCO, 2019). More concerningly, children who can be perceived as 'different' in any way (e.g. being gifted), are often more susceptible to the experience of bullying (Coleman & Cross, 2005; Kerr & Cohn, 2001; Peterson & Ray, 2006; UNESCO, 2019).

Conceptually, traditional bullying and cyberbullying can both involve negative unwanted behaviours (e.g. hitting, kicking, verbal abuse, making threats, and excluding others) that are repeated and intentional and are carried out whereby

there is a power imbalance between victims and perpetrators (Olweus, 1997; Smith et al., 2008). However, cyberbullying can somewhat differ from traditional bullying (Slonje & Smith, 2008) whereby the perpetrators strategically use digital devices and the Internet to target victims outside of school hours (Heirman & Walrave, 2008), they can use anonymity to protect their identity from the victim (Vandebosch & Van Cleemput, 2008), and extend their bullying behaviour into various digital environments whereby the victim is present (Hinduja & Patchin, 2008). Despite conceptual differences, victimisation from both traditional and cyberbullying can occur (O'Moore, 2014; Sjørsø et al., 2020) which are worryingly prevalent in Irish schools (Foody et al., 2017; O'Moore, 2012).

There is much consensus that traditional bullying and cyberbullying are detrimental to adolescent wellbeing (Baldry, 2004; Feijóo et al., 2021; Foody et al., 2019; Gaffney et al., 2019; Patchin & Hinduja, 2015; Ortega et al., 2009; Przybylski & Bowes, 2017; Smith et al., 2019; UNESCO, 2019; Wolke et al., 2013). The adverse psychosocial effects on adolescent wellbeing attributed to traditional bullying and cyberbullying involvement can include increases in depression and anxiety (Perren et al., 2010), loneliness (Şahin, 2012), feelings of not 'belonging' in school (Renick

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& Reich, 2021; Glew et al., 2005), moral disengagement (Mazzone et al., 2016), and suicide ideation (Hinduja & Patchin, 2010).

Bullying and Cyberbullying of Gifted Adolescents

Children and adolescents who are academically gifted can demonstrate the “possession and use of outstanding natural ability, called aptitudes, in at least one ability domain, to a degree that places an individual at least among the top 10% of age peers” (Gagné, 2012, p. 4). Specific aptitudes vary among gifted individuals but can involve an unusual alertness, excellent memory, advanced comprehension of words and phrases, deep and intense feelings and emotions, a wide range of interests or extreme focus on a specific interest, developed curiosity, and complex reasoning (Clark, 2013; National Association for Gifted Children [NAGC], 2020; Webb et al., 2007). Such aptitudes can be reflected in the following areas (National Council for Curriculum and Assessment [NCCA], 2007): general intellectual ability or talent, specific academic aptitude or talent, visual and performing arts and sports, leadership ability, creative and productive thinking, mechanical ingenuity, special abilities in empathy, and understanding and negotiation.

Some gifted adolescents can also have *dual statuses* (NAGC, 2020). These include an LGBTI+ identity and twice-exceptionality (or 2e) whereby adolescents present with both giftedness and identify as LGBTI+ or have an additional special needs diagnoses e.g. specific learning difficulty (Baldwin et al., 2015). It has been argued that gifted adolescents can often identify as LGBTI+ due to their questioning and exploratory nature (Hegarty, 2011; Wexelbaum & Hoover, 2014).

Past research has demonstrated that the majority of gifted children can hide their abilities and talents in an effort to fit in with peers which has also resulted in purposefully underachieving in school (Coleman & Cross, 1988; Cross et al., 2015, 2017). This research trend evident in the giftedness literature appears to echo some of the more well-known trends about the outcomes of school bullying. Peer pressure and poor school performances are known outcomes of bullying and cyberbullying (Gao et al., 2020; Halliday et al., 2021; Livazović & Ham, 2019; Oliveira et al., 2018). Thus it appears that some of the known outcomes of school bullying are also evident among gifted children in schools (Coleman & Cross, 1988) and worthy of greater attention by anti-bullying researchers and practitioners.

Peterson and Ray (2006) offered several reasons for why gifted adolescents generally may be greatly susceptible to the dangers of bullying such as asynchronous child development, i.e. their inner experiences and self-awareness are

qualitatively different from the norm (Silverman, 2002), and non-stereotypical gender behaviour, i.e. gifted children’s gender and sexuality preferences and behaviour can significantly differ from their same-sex peers (Kerr & Multon, 2015). Additionally, this susceptibility to bullying appears to magnify when gifted adolescents also self-identify as LGBTI+ (Graytak et al., 2009). Having dual statuses of both gifted and LGBTI+ (NAGC, 2020) could plausibly add additional victimisation concerns like the societal victimisation often experienced by minority groups (Llorent et al., 2016; McCormack-Huhn, et al., 2019; Warner et al., 2017; Sweeting & West, 2001).

A growing body of prevalence studies demonstrate high bullying and cyberbullying victimisation rates experienced by gifted children and adolescents (González-Cabrera et al., 2019; Ogurlu & Sariçam, 2018; Peterson & Ray, 2006). Peterson and Ray (2006) found that 67% of the surveyed 432 gifted eight graders had experienced at least one type of bullying in the United States throughout their lifetime. Similarly, González-Cabrera et al. (2019) showed a cyber-victim rate of 31.5% among the 255 surveyed gifted school students in Spain over a 5-month school period. In Turkey, Oğurlu et al. (2018) noted that bullying victimisation mean scores were significantly higher among the 142 surveyed gifted students compared to 142 non-gifted students (106.02 versus 95.75).

These gifted bullying prevalence studies highlight the importance of expanding on the problem spaces in the fields devoted to tackling bullying and cyberbullying (Volk et al., 2017). However, less focus has been given to dual-status gifted populations (e.g. LGBTI+ and 2e) in previous gifted prevalence research. In Ireland, an additional challenge for researchers is that gifted children are not typically identifiable in schools and may require the assistance of gifted education centres such as the *Centre for Talented Youth Ireland* (CTYI) for recruitment and identification (O’Reilly, 2013). There is also the issue that the wider representation of gifted children and adolescents in Ireland is compromised as many of these adolescents likely cannot access CTYI due to accessibility or financial reasons. Despite these challenges, establishing bullying and cyberbullying prevalence rates among specific groups (i.e. gifted adolescents) is vital to the understanding of the wider social and developmental context for all young people (Foody et al., 2017).

Giftedness and Bullying in Ireland

In Ireland, the results of a nationwide youth mental health survey called *My World Survey* indicated an increase of self-reported mental health issues among young people since a previous wave of the same survey was conducted in 2012 (Dooley et al., 2019; O’Reilly et al., 2021). In the

same nationwide study, bullying victimisation was reported by 39% of the global adolescent sample (Dooley et al., 2019). School bullying among the *seldom-heard groups* was among the major identified factors that contributed to the increases in reported mental health issues. According to McEvoy (2015), *seldom heard* can be used to describe young people who have fewer opportunities to participate and be represented in research. This may particularly concern some gifted children who are LGBTI+, or present with an additional mental health diagnosis (2e), and/or come from a minority ethnic background.

It could also be argued that having an exceptional ability (e.g. giftedness) may not be entirely advantageous in an Irish school environment. In addition to a greater susceptibility to bullying, gifted adolescents are usually at risk socially, emotionally, and academically, to chronically under-challenged and non-inclusive educational settings (Gross, 2002; Neihart et al, 2002; O'Reilly, 2013). O'Reilly (2013) has previously stated that there are a lack of provisions for exceptional ability (i.e. lack of teacher education, undefined concept of giftedness, and need for acceleration programmes) in the Irish education system.

The problems of school bullying and cyberbullying generally are pervasive in Ireland (Corcoran & Mc Guckin, 2014; Foody et al., 2018; O'Moore & Minton, 2003). An island of Ireland nationwide meta-analysis determined an 11.8% victimisation rate and an 8.1% perpetration rate of traditional and cyberbullying involvement across the general population of adolescents in post-primary schools (Foody et al., 2017).

Substantially less is known about bullying and cyberbullying in Ireland's gifted context. Existing research has documented how gifted adolescents report cyberbullying in Ireland (Connolly, 2018), and that school bullying is a concern among parents of gifted adolescents (Cross et al., 2019). However, there remains a dearth of knowledge into the prevalence and extent of bullying and cyberbullying among Ireland's gifted adolescent populations, particularly including the dual-status groups (LGBTI+ and 2e).

The Present Study

This research study attempts to investigate an indicative prevalence rate for bullying and cyberbullying victimisation among a sample of gifted adolescents in Ireland. In doing so, an empirical study is outlined with considerations to the dual statuses of some gifted adolescent populations (e.g. LGBTI+ and 2e) who are included in the makeup of the wider gifted adolescent population. The study findings are discussed in relation to practical recommendations for the Irish education system and adolescent mental health more broadly. The general aims of this scoping study are: (i) to

investigate indicative bullying and cyberbullying prevalence rates among a sample of gifted adolescents currently attending post-primary schools in Ireland, and (ii) to investigate the extent of different associations with wellbeing, mental health-related, and friendship outcomes among gifted adolescents with dual statuses. The research questions are:

RQ1: What is the prevalence rate of traditional bullying and cyberbullying victimisation among a gifted adolescent sample in Ireland?

Bullying and cyberbullying prevalence rates will be estimated using the *Olweus Bully/Victim Questionnaire* (Olweus, 1996) and the *Cyberbullying and Online Aggression Survey* (Patchin & Hinduja, 2015) self-report measures for traditional bullying and cyberbullying frequencies (Tables 1 and 2). Victims' and non-victims' scores across a variety of wellbeing, indicative mental health, and friendship-related outcomes will be statistically compared (Table 3) to estimate victimisation associations with indicative mental health, wellbeing, and friendship outcomes.

RQ2: To what extent do different gifted adolescent population groups differ across wellbeing and mental health-related outcomes?

As gifted populations are diverse but considerably under-represented in global research (O'Reilly, 2013), an additional focus is given to gifted population dual-status groups (i.e. LGBTI+ and 2e) and gender in this research. Prior research has indicated that young people who identify as LGBTI+ or have a disability can experience additional victimisation generally (e.g. Abreu & Kenny, 2018; Wright & Wachs, 2020). Additional statistical analyses involving gifted adolescents who belong to these dual-status groups will also be performed (Table 4). Hierarchical multiple regressions can estimate the additional extent of variances explained by such dual statuses across wellbeing and indicative mental health related outcomes.

Method

Design and Participants

Participants were recruited through their admittance to the *Centre for Talented Youth Ireland* (CTYI) in order to guarantee that all participants were psychometrically assessed for giftedness. Prospective gifted CTYI students met the *CTYI Talent Search* criteria in order to take the *School and College Aptitude Test* for giftedness (Barnett et al., 2006), which involves: (i) outstanding demonstrable aptitude in either mathematical and/or verbal reasoning, and (ii) a previous standardised aptitude score within the 95th percentile or above on a standardised aptitude assessment such as the

Table 1 Reported traditional bullying experiences ($n=57$) by gender

Traditional bullying victimisation	Frequency $f/\%$	Chi-square	Sig./ V
How often have you been bullied at school in the current school year?	18/31.5	0.30	0.58/0.02
Females	12/21.0		
Males	6/10.5		
I was called mean names, was made fun of, or teased in a hurtful way	31/57.4	0.10	0.75/0.04
Females	18/31.5		
Males	13/23.6		
Other students left me out of things on purpose, excluded me from their group of friends, or completely ignored me	30/52.6	0.22	0.63/0.09
Females	17/29.8		
Males	13/22.8		
I was hit, kicked, pushed, shoved around, or locked indoors	10/17.5	1.91	0.17/0.009
Females	4/7.0		
Males	6/10.5		
Other students told lies or spread false rumours about me and tried to make others dislike me	19/33.3	0.07	0.80/0.02
Females	11/19.3		
Males	8/14.0		
I had money or other things taken away from me or damaged	10/17.5	0.50	0.05/0.05
Females	5/8.7		
Males	5/8.7		
I was threatened or forced to do things I didn't want to do	13/22.8	1.55	0.21/0.09
Females	10/17.5		
Males	3/5.3		
I was bullied with mean names, comments, or gestures with a sexual meaning	13/22.8	2.90	0.09/0.01
Females	5/8.7		
Males	8/14.0		

Frequency is referring to the number of participants who reported each bullying experience. Participants did not have to answer all questions

Drumcondra Reasoning Test (Educational Research Centre, 2016). The study deployed indicative, non-diagnostic self-report questionnaires.

G*Power determined that a minimal sample size of 180 was required to achieve at least an 80% power size estimation at the 0.05 level for the statistical approaches taken in this study (Erdfelder et al., 1996).

The participants recruited were 195 adolescents: females ($n=117$, 60%), males ($n=76$, 39%) and non-binary ($n=2$, 1%). The average age of a participant was 15.3 years of age ($SD=1.0$, range=14–18 years). The ethnicities of the participants were white Irish ($n=159$, 81.5%), white other ($n=13$, 6.7%), mixed race ($n=9$, 4.6%), and other ethnicities including black Irish, Chinese, and others ($n=14$, 7.2%). Participants reported their current sexual orientations as heterosexual ($n=111$, 56.9%), bisexual ($n=43$, 22.1%), homosexual ($n=21$, 10.8%), asexual ($n=9$, 4.6%), and other sexualities including queer, questioning, and unsure ($n=11$, 5.6%). Participants were currently attending post-primary non-fee paying schools ($n=169$, 86.7%), post-primary fee-paying schools ($n=22$, 11.3%), and other types of post-primary schools such as Educate Together ($n=4$, 2.1%).

Participants reported the multiple technical areas they felt that their giftedness were representative: specific aptitude or talent ($n=169$, 86.7%), creativity and productive thinking ($n=108$, 55.4%), special abilities in empathy, understanding and negotiation ($n=74$, 21.5%), leadership ability ($n=67$, 34.4%), visual and performing arts, and sport ($n=65$, 33.3%), and mechanical ingenuity ($n=42$, 21.5%). In the school context, participants also reported the school subjects they felt that their giftedness was advantageous for: sciences ($n=158$, 81%), humanities and social sciences ($n=127$, 65.1%), languages ($n=106$, 54.4%), applied sciences ($n=57$, 29.2%), and business studies ($n=56$, 28.7%). Some participants ($n=38$, 19%) reported having at least one other formal diagnoses and had the option of selecting more than one in the survey: mental illness ($n=23$, 12%), autism spectrum disorders ($n=11$, 5.6%), dyspraxia ($n=9$, 4.6%), physical disability ($n=4$, 2.1%), specific learning disability ($n=2$, 1%), and sensory impairment ($n=1$, 0.5%). These participants were considered as 2e in the present study.

Table 2 Reported cyberbullying experiences ($n = 47$) by gender

Cyberbullying victimisation	Frequency <i>fl%</i>	Chi-square	Sig./ <i>V</i>
Thinking only of this school year, have you been cyberbullied?	10/21.2	0.40	0.53/0.05
Females	7/14.8		
Males	3/6.4		
Someone posted mean or hurtful comments about me online	7/14.9	1.0	0.33/0.07
Females	3/6.4		
Males	4/8.5		
Someone posted a mean or hurtful picture online of me	5/10.6	0.00	0.98/0.00
Females	3/6.4		
Males	2/4.2		
Someone posted a mean or hurtful video online of me	3/6.4	1.01	0.33/0.00
Females	1/2.1		
Males	2/4.2		
Someone created a mean or hurtful web page about me	3/6.4	0.95	0.33/0.07
Females	1/2.1		
Males	2/4.2		
Someone spread rumours about me online	10/21.2	0.50	0.48/0.05
Females	5/10.6		
Males	5/10.6		
Someone threatened to hurt me through a text/whatsapp message	4/8.5	0.20	0.66/0.03
Females	2/4.2		
Males	2/4.2		
Someone threatened to hurt me online	6/12.7	1.93	0.17/0.10
Females	2/4.2		
Males	4/8.5		
Someone pretended to be me online and acted in a way that was mean or hurtful to me	4/8.5	1.93	0.66/0.03
Females	2/4.2		
Males	2/4.2		

Frequency is referring to the number of participants who reported each bullying experience. Participants did not have to answer all questions

Measures

The measures in this study consist of a self-report demographic survey, bullying and cyberbullying questionnaires, and various self-report measures on depression, anxiety, stress, wellbeing, loneliness, and friendship quality.

Demographic Survey

The demographic survey collected participant information such as gender, sexuality, age, type of school attended, nationality, and ethnicity. Participants were also asked if they had a special educational need/disability (SEN/D) diagnosis and what the performance areas (i.e. general intellectual ability, creativity, leadership, etc.) were that represented their giftedness. The demographic questions and answer options were informed by the demographic information obtained from the 2016 Census Report (Central Statistics Office, 2016) and National Council for Special Education

[NCSE] reports about special education needs diagnoses and pupils who are exceptionally able or talented (NCSE, 1993, 2019).

Bullying

The *Olweus Bully/Victim Questionnaire (OBVQ)* is a 40-item categorical questionnaire that categorises participants' self-report experiences of being bullied, bullying others, bystander behaviour, and teacher involvement in bullying incidences (Olweus, 1996). The OBVQ is widely used in prevalence studies (Lee & Cornell, 2009) and was partially adapted to include some characteristic questions (as generally suggested by Kaufman et al., 2020) pertaining to victim and no involvement victimisation groups.

Participants' involvement in bullying behaviour was categorised as victim only, bully only, bully/victims, and no involvement. An example victimisation item is "I was called mean names, was made fun of, or teased in a hurtful

Table 3 Descriptive statistics *M* (*SD*) for traditional bullying and cyberbullying victimisation, gender identity, LGBTI+ identity, and twice-exceptionality (2e) participants on wellbeing and relationship outcomes (*n*=195)

	SWL	Depression	Anxiety	Stress	Loneliness	Companionship	Conflict	Help	Security	Closeness
Traditional bullying										
Victim (<i>n</i> = 56)	20.1(6.7)	13.0(5.4)	14.0(5.6)	16.6(5.4)	10.2(3.0)	11.1(3.5)	9.2(4.0)	19.7(5.0)	17.0(4.0)	19.2(4.6)
Not Involved (<i>n</i> = 131)	22.6(7.5)	8.0(3.0)	12.0(4.5)	12.0(5.4)	8.0(3.0)	12.4(3.5)	7.5(3.0)	21.4(4.1)	17.7(3.4)	20.7(3.3)
<i>t</i> (Cohen's <i>d</i>)	2.2 (0.3)	-1.6(-0.2)	-2.6(-0.4)	-2.7(-0.4)	-4.7*(-0.7)	2.4*(0.4)	-2.9(-0.5)	2.4*(0.4)	1.4(0.2)	2.2(0.4)
Cyberbullying										
Victim (<i>n</i> = 47)	19.0(7.2)	14.7(5.6)	15.7(6.2)	17.2(6.4)	10.3(3.0)	12.0(4.0)	9.2(4.1)	20.3(4.5)	17.7(3.0)	20.2(3.8)
Not Involved (<i>n</i> = 140)	22.7(7.1)	11.4(4.0)	11.5(4.0)	14.2(5.0)	8.1(3.0)	12.0(3.4)	7.7(3.0)	20.1(4.4)	17.4(3.6)	20.3(3.8)
<i>t</i> (Cohen's <i>d</i>)	3.0(-0.5)	-3.6*(-0.7)	-4.2*(-0.9)	-3.2(-0.6)	-4.2*(-0.7)	0.2(0.3)	-2.3(-0.5)	0.6(0.1)	-0.5(-0.1)	0.0(0.0)
Gender identity										
Females (<i>n</i> = 117)	20.5(7.0)	13.5(5.0)	13.8(5.0)	16.4(5.2)	9.4(2.7)	12.4(3.5)	8.2(3.4)	21.3(4.5)	17.7(3.6)	20.8(3.8)
Males (<i>n</i> = 76)	24.1(7.0)	9.8(3.7)	10.1(3.5)	12.1(4.5)	7.2(3.0)	11.4(3.5)	7.9(3.0)	20.2(4.1)	17.3(3.4)	19.4(3.6)
<i>t</i> (Cohen's <i>d</i>)	-3.5(-0.5)	5.7*(0.1)	6.0*(0.9)	6.1*(0.9)	5.4*(0.8)	1.8(0.3)	0.6(0.1)	1.6(0.2)	0.8(0.1)	2.6(0.1)
LGBTI + identity										
LGBTI+ (<i>n</i> = 84)	18.8(7.0)	13.5(5.4)	14.1(5.2)	16.7(5.4)	9.1(2.7)	11.9(3.6)	7.8(2.9)	20.9(4.1)	17.5(3.5)	20.8(3.7)
Non-LGBTI+ (<i>n</i> = 111)	24.0(6.8)	11.1(4.2)	11.3(4.3)	13.5(5.1)	8.2(3.2)	12.1(3.4)	8.3(3.5)	20.7(4.6)	17.5(3.6)	19.9(3.8)
<i>t</i> (Cohen's <i>d</i>)	-5.1*(-0.8)	3.4(0.5)	3.9*(0.6)	4.1*(0.6)	1.9(0.3)	-0.3(-0.0)	-1.0(-0.2)	0.3(0.0)	0.1(0.0)	1.7(0.3)
Twice-exceptional (2e)										
2e (<i>n</i> = 38)	19.0(7.2)	13.7(5.2)	15.7(5.7)	17.2(5.1)	9.2(3.6)	11.4(3.7)	8.2(3.2)	20.2(5.2)	17.4(3.9)	19.7(4.4)
Not 2e (<i>n</i> = 157)	22.5(7.2)	11.7(4.8)	11.7(4.3)	14.3(5.4)	8.5(2.9)	12.1(3.4)	8.0(3.3)	21.0(4.2)	17.5(3.9)	20.4(3.6)
<i>t</i> (Cohen's <i>d</i>)	2.7(0.5)	-2.2(-0.4)	-4.1*(-0.9)	-2.9(-0.5)	-1.2(-0.2)	1.2(0.2)	-0.3(-0.1)	0.9(0.2)	0.2(0.1)	1.0(0.2)

Twice-exceptional participants who selected more than one additional diagnosis were tallied the same as those who selected one. SWL refers to Satisfaction with Life

Females did not report significantly more bullying ($\chi^2(1, n=117)=1.05, p>0.05$) or cyberbullying ($\chi^2(1, n=117)=1.33, p>0.05$) victimisation than males. LGBTI+ participants did not report significantly more bullying ($\chi^2(1, n=84)=0.53, p>0.05$) or cyberbullying ($\chi^2(1, n=84)=0.42, p>0.05$) victimisation than non-LGBTI+ participants. 2e participants did not report significantly more bullying ($\chi^2(1, n=38)=1.3, p>0.05$) or cyberbullying ($\chi^2(1, n=38)=3.5, p>0.05$) victimisation than non-2e participants

*Denotes significance at $p < 0.01$ level

Table 4 Two-step hierarchical multiple regression output across five outcome variables

Step and variable	Outcome variables											
	SWL		Anxiety		Stress		Depression		Loneliness			
	B	St. error	Beta	St. error	Beta	B	St. error	Beta	St. error	Beta		
1												
(Constant)	19.08	8.05		10.86	5.09	9.39	6.05		13.24	5.48		3.10
Age	0.25	0.52	0.04	0.03	0.33	0.29	0.39	0.06	-0.13	0.35	-0.03	0.20
Trad victim	-1.60	1.21	-0.10	1.07	0.76	1.85	0.91	0.16*	0.34	0.82	0.03	0.47
Cybervictim	-2.12	1.30	-0.13	3.41	0.84	2.05	1.00	0.16*	2.90	0.90	0.25*	0.51
R ²	0.04			0.13		0.07			0.07			0.17
Adj. R ²	0.02			0.11		0.05			0.05			0.15
2												
(Constant)	17.62	7.73		15.40	4.67	12.17	5.68		14.92	5.29		3.00
Age	0.31	0.49	0.04	-0.06	0.29	0.23	0.36	0.05	-0.15	0.33	-0.03	0.20
Trad victim	-1.72	1.14	-0.11	1.32	0.69	2.18	0.84	0.19*	0.58	0.78	0.05	0.44
Cybervictim	-1.61	1.23	-0.10	2.62	0.76	1.33	0.92	0.10	2.29	0.86	0.20*	0.48
Female	2.54	1.07	0.17*	-3.14	0.64	-3.77	0.79	-0.34*	-3.03	0.74	-0.30*	0.41
LGBTI+	-3.93	1.06	-0.27*	0.88	0.64	1.59	0.78	0.15*	1.25	0.72	0.13	0.41
2e	1.55	1.29	0.09	-2.73	0.77	-1.42	0.95	-0.10	-0.91	0.88	-0.07	0.50
R ²	0.18			0.32		0.24			0.21			0.29
R ² change	0.14			0.19		0.17			14.10			0.12
Adj. R ²	0.15			0.29		0.21			0.18			0.26

Dichotomous independent variables were coded as follows: 0 = trad victim, 0 = cybervictim, 0 = female, 0 = LGBTI+, 0 = 2e. SWL refers to Satisfaction with Life

*Denotes significance at $p < 0.01$ level

way” and an example perpetration item is “I hit, kicked, pushed and shoved him or her around or locked him or her indoors”. As per scale instructions, the Olweus definition of bullying was provided to participants at the beginning of the survey: “We say a student is being bullied when another student, or several other students (i) say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names, (ii) completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose, (iii) hit, kick, push, shove around, or lock him or her inside a room, (iv) tell lies or spread false rumours about him or her or send mean notes and try to make other students dislike him or her, and (v) other hurtful things like that. When we talk about bullying, these things happen repeatedly, and it is difficult for the student being bullied to defend himself or herself. We also call it bullying, when a student is teased repeatedly in a mean and hurtful way. But we don’t call it bullying when the teasing is done in a friendly and playful way. Also, it is not bullying when two students of about equal strength or power argue or fight.”

Additional questions offered to participants included perceptions for why they felt they were victimised such as: “Thinking of your entire life, have you ever been bullied because you are gifted/ have a diagnosis/because of your sexuality” and a question about how gifted participants dealt with bullying as it occurred such as: “purposefully performed worse at school”. These questions were added based on the considerations of the gifted adolescent context as detailed previously (e.g. Coleman & Cross, 1988; Cross et al., 2017).

Cyberbullying

The Cyberbullying and Online Aggression Survey Instrument (COAS) is a 49-item questionnaire that categorises participants’ experiences of cyberbullying offending and victimisation (Patchin & Hinduja, 2015). Example cyberbullying victimisation and perpetration items on the COAS are “Someone posted mean or hurtful comments about me online” and “I threatened to hurt someone online”. This survey also collects contextual information about where cyberbullying occurs (e.g. in a chat room) and how it occurs (e.g. someone posted mean or hurtful comments about me online). Before answering the questions, participants were offered the Patchin and Hinduja (2015) definition of cyberbullying as per the COAS scale instructions: “Cyberbullying is when someone repeatedly harasses, mistreats, or makes fun of another person online or while using cell phones or other electronic devices”. The COAS was adapted in the present study to align with the scoring procedure of the OBVQ to aid with prevalence estimations.

Depression, Anxiety and Stress

The Depression, Anxiety and Stress Scale (DASS-21) is a multidimensional measurement of the severity of symptoms typically associated with depression, anxiety, and stress (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 is a non-diagnostic self-report measurement with a sufficient number of items self-assessed on a likert scale for three constructs: depression (e.g. “I couldn’t seem to experience any positive feeling at all”), anxiety (e.g. “I was worried about situations in which I might panic and make a fool of myself”) and stress (e.g. “I found it hard to wind down”). Cronbach’s Alpha was calculated for each DASS construct to determine internal reliability: depression ($\alpha=0.90$), anxiety ($\alpha=0.86$) and stress ($\alpha=0.88$).

Wellbeing

The Satisfaction with Life Scale (SWLS) is a five-item unidimensional measurement of the subjective satisfaction of their life component of wellbeing (Diener et al., 1985). The SWLS has been deployed extensively to indicate wellbeing and the scores on the SWLS have correlated with alternative measures of mental health. The SWLS contains five items (e.g. “In most ways my life is close to my ideal.”) which are self-assessed on a seven point likert scale ranging from one (“strongly disagree”) to seven (“strongly agree”). A Cronbach’s alpha computation calculated a satisfactory internal reliability score for the SWLS ($\alpha=0.86$).

Loneliness

The Three Item Loneliness Scale (TILS) is a brief three-item unidimensional questionnaire used to self-report the frequency of perceived loneliness (Hughes et al., 2004). The TILS items (e.g. “How often do you feel left out?”) are self-assessed on a three-point Likert scale from one (“Hardly ever”) to three (“Often”) with higher scores indicating higher levels of perceived loneliness. A Cronbach’s alpha computation determined the TILS as having satisfactory internal reliability ($\alpha=0.87$).

Friendship Quality

The Friendship Qualities Scale is a 23-item multidimensional self-report questionnaire that assesses the qualities (i.e. companionship, conflict, help/aid, security, and closeness) of an adolescent’s relationship with their best friend (Bukowski et al., 1994). Participants self-assess items (e.g. “My friend and I spend all our free time together”) on their friendship quality using a five-point Likert scale ranging from one (“never”) to five (“always”). Cronbach’s alpha computations to determine the internal reliability for

the five friendship quality constructs were: companionship ($\alpha=0.83$), conflict ($\alpha=0.83$), help/aid ($\alpha=0.87$), security ($\alpha=0.61$) and closeness ($\alpha=0.82$).

Procedure

Ethical approval was granted by the Dublin City University Research Ethics Committee. In compliance with General Data Protection Regulator (GDPR), the study required both parental and adolescent consent. Parents indicated their consent by reviewing the study objectives and survey questions in an information package over email and allowing their child to access a survey link to the survey questions. The parental information package included a letter detailing the purposes and details of the study along with the participant survey link distributed to parental email accounts.

Participants indicated their consent by an informed consent option and completed the survey. Participants did not have to answer any question they did not want to, they had the option of withdrawing from the study anytime if requested, and could contact the researchers for any queries or questions about any aspect of their participation. Participants were encouraged to take the survey in private and away from potential parental or peer influence. A question was offered to allow participants to state if parents were present when completing the online survey. Those who selected *yes* were removed from analysis. Upon completion of the survey, participants were thanked for their participation and offered the contact details for relevant adolescent mental health services and gifted education resources.

Data collection spanned a 3-month period from September to the final week of November 2019. Data were collected for bullying and cyberbullying throughout participants' entire life, and in the current school year.

Data Analysis Approach

Bullying and cyberbullying victimisation frequencies on the OBVQ and the COAS were tallied to determine the prevalence rates. Following this, bullying and cyberbullying involvement groups were coded into two groups: not involved and victims (inclusive of bully/victims). The following safeguards were put in place to reduce the possibility of achieving type 1 errors: statistical significance was set at the $p < 0.01$ level as multiple group comparisons at the $p < 0.05$ level can sometimes result in increased type one errors (Scott & Mazhindu, 2014), and the Cohen's d effect size estimation was computed accordingly (Albers & Lakens, 2018; Sullivan & Feinn, 2012). Effect sizes and variances are reported where necessary. All statistical analyses were carried out using both IBM SPSS and JASP open-source software (JASP Team, 2019).

Results

Bullying victimisation and perpetration were coded by tallying the 2 or 3 times per month, once a week, and several times a week individual item answer responses in line with the repeated aspect of the bullying definition by Olweus (1996). Participants were then categorised into the following groups to determine the frequency of bullying and cyberbullying involvement: victim only, bully only, bully/victim, and no involvement.

Traditional Bullying Victimisation

Participants reported that they had experienced traditional bullying at some point throughout their entire lives ($n = 108$, 55.4%). Traditional bullying victimisation frequencies in the 3-month school year period were as follows: no-involvement ($n = 132$, 67.7%), victim only ($n = 53$, 27.2%), bully only ($n = 6$, 3.1%), and bully/victims ($n = 4$, 2.1%). Table 1 displays the reported traditional bullying experiences by gender on the OBVQ.

Cyberbullying

Participants reported that they had been a victim of cyberbullying at some point in their entire lives ($n = 61$, 31.3%). Cyberbullying involvement frequencies in the 3-month school period were reported as follows: no-involvement ($n = 140$, 71.8%), victim only ($n = 36$, 18.5%), bully only ($n = 8$, 4.1%) and bully/victim ($n = 11$, 5.6%). Table 2 displays the reported cyberbullying experiences by gender.

Reported Actions, Cyberbullying Media, and Perceived Reasons for Victimisation

Victims of traditional bullying reported the actions they took when they experienced traditional bullying: told a parent about it ($n = 63$, 32.3%), hoped the bullying just stopped on its own ($n = 57$, 29.2%), tried to blend in better ($n = 47$, 24.1%), told a friend about it ($n = 36$, 18.5%), told a teacher about it ($n = 22$, 11.3%), attempted to hide their giftedness by performing worse at school ($n = 14$, 7.2%), told a counsellor about it ($n = 8$, 4.1%), and a variety of other reasons including: just putting up with it, confronting the bully, and had not realised they were being bullied until much later on ($n = 34$, 17.4%).

Data were also collected for the specific media where cyberbullying victimisation ($n = 47$) occurred: in a chatroom ($n = 4$, 8.5%), through email ($n = 7$, 14.9%), through instant messages ($n = 6$, 12.7%), by text messages and WhatsApp ($n = 5$, 10.6%), through mobile phone ($n = 6$, 12.7%), through picture/ video

messages ($n=7$, 14.9%), on Facebook ($n=6$, 12.7%), on Twitter ($n=5$, 10.6%), on Snapchat ($n=7$, 14.9%), on Instagram ($n=6$, 12.7%), on Yellow ($n=7$, 14.9%), on a different social networking site ($n=7$, 14.9%), on YouTube ($n=6$, 12.7%), in virtual worlds such as Second Life, Gaia or Habbo Hotel ($n=6$, 12.7%), in Massively Multiplayer Online Role Playing Games (MMORPGs) such as World of Warcraft ($n=5$, 10.6%), and playing online with X-Box, PlayStation, Wii, PSP or similar devices ($n=6$, 12.7%).

Participants were asked about the perceived reasons for why they felt they were victimised (by either traditional bullying or cyberbullying) throughout their entire lives: for having “giftedness” ($n=59$, 30%), for having a diagnosis ($n=5$, 2.5%), for their gender ($n=16$, 8%), for their sexuality ($n=26$, 13%), and their ethnicity ($n=16$, 8%). It is to be noted that the perceived reasons were asked reflective of participants’ lifespan and not solely within the first three months at school. Reasons were offered to participants as explicit options on the questionnaire and not as an open-text box response.

These additional questions about the reported actions victims took after being victimised, where cyberbullying victimisation was reported, and the perceived reasons for why they felt they were victimised were not considered towards the bullying and cyberbullying prevalence rates.

Outcomes and Victimisation

Table 3 shows descriptive statistical information (mean and standard deviation), independent T -test scores (t), and effect size estimations (Cohen’s d) across outcome variables between victims of bullying and cyberbullying, and different gifted populations.

Gender and Dual-Status Variances on Outcomes

Five 2 step hierarchical multiple regressions were computed to determine the extent of the additional variances of five outcome variables that can be explained by the gender identity, LGBTI+, and 2e dual status among all gifted adolescents in the dataset. Participant age and victimisation were entered in step 1 so that the extent of the variances for gender identity, LGBTI+ identity, and 2e dual status could be determined in step 2. Prior to executing the regression, the following statistical assumptions were inspected: linearity, homoscedasticity, multicollinearity, and independent residual values (Tabachnick & Fidell, 2013). The results in Table 4 display the additional extent of the variances explained by gender, LGBTI+ identity, and 2e on five outcome variables: satisfaction with life, anxiety, depression, stress, and loneliness.

Discussion

The aims of this study were to investigate the prevalence rates of traditional bullying and cyberbullying victimisation among a sample of gifted adolescents in Ireland (RQ1), and to determine how much of the variance of wellbeing and mental health outcomes can be explained by the gender, LGBTI+ and 2e dual statuses of gifted adolescents (RQ2).

Prevalence of School Bullying and Cyberbullying

RQ1 concerned prevalence rates of bullying and cyberbullying victimisation rates of gifted adolescents in Ireland. High victimisation prevalence rates for traditional bullying (27.2%) and cyberbullying (18.5%) were estimated among this gifted adolescent sample. These high victimisation rates are congruent with increased victimisation rates reported in other gifted prevalence studies (González-Cabrera et al., 2019; Oğurlu & Sarıçam, 2018; Peterson & Ray, 2006). In the Irish context, these figures are also considerably higher compared to a meta-analysis result that indicated a victimisation prevalence rate of 11.8% among young people attending post-primary schools (Foody et al., 2017). Also consistent with the vast majority of the bullying and cyberbullying literature (Patchin & Hinduja, 2015; Şahin, 2012), the study findings indicate that bullying and cyberbullying victimisation is associated with higher anxiety, stress, depression, and loneliness among gifted adolescents generally. Small to medium effect sizes were also detected which may suggest that gifted adolescent mental health, wellbeing, and relationship outcomes are not solely impacted by involvement in bullying and cyberbullying alone.

It should be noted that there have been different approaches towards investigating bullying and prevalence rates in gifted samples by researchers generally. Although this study employed well-known and consistent measures of bullying and cyberbullying, the global research community have employed a variety of bullying prevalence instruments that were not designed purposefully for the gifted context. Foody et al. (2017) noted that different conceptions of bullying exist which may vary across research and applied settings. It may be a fruitful endeavour for a multidisciplinary team of researchers interested in the intersection of bullying and giftedness to determine a *gifted-specific* understanding of bullying and cyberbullying. Such efforts could also benefit from taking a co-research approach with gifted young people to determine this understanding and the appropriate ways victimisation can be measured and subsequently prevented.

Females, LGBTI + Identity, and 2e Dual Status

RQ2 concerned the gender and dual statuses (NAGC, 2020) of gifted adolescents that could be attributed to related mental health outcomes. The study findings showed that a substantial amount of problem mental health related outcome variances could be explained by gender, LGBTI + identity, and the 2e dual statuses of gifted adolescents in this sample. In other words, bullying and cyberbullying victimisation arguably contributed to low satisfaction with life and higher indicative mental health problems, but not to the same extent as some of the more wider social and developmental contexts (Foody et al., 2017) characteristic of gifted adolescent development.

There is also an evident congruency with the results of a recent national adolescent mental health study in Ireland (Dooley et al., 2019) which reported that adolescent mental health in Ireland is generally worse than it was in 2012. Young girls in particular have reported significantly higher anxiety scores than male children in recent years in Ireland (Dooley et al., 2019) which was also somewhat echoed in the results in the current study. Despite this, female participants did not appear to experience significantly more bullying victimisation compared to their male or other gender peers. Although substantially developing anti-bullying procedures in Irish schools (Department of Education and Skills Anti-Bullying Procedures, 2013) might explain this, it does not explain why females reported significantly high depression, anxiety, stress and loneliness scores compared to their male peers in the current study. However, there is a known trend that young girls often report and talk about problem mental health more often than their male peers in Ireland (Dooley et al., 2019; O'Reilly et al., 2021).

It is particularly noticeable that LGBTI + adolescents represented a sizable 43.1% of the study participants in this convenient sample. Though it is possible that some degree of sampling error could explain the higher LGBTI + demographic in this study, theoretically this is perhaps not surprising as it has been known that gifted adolescents are more likely to self-identify as LGBTI + due to their introspective behaviour (Hegarty, 2011; Wexelbaum & Hoover, 2014). The study findings are supportive of known research about LGBTI + adolescents more generally who often report higher problem mental health issues (Abreu & Kenny, 2018).

Similar findings were identified in this study for 2e participants. The 2e sample was significantly smaller than the LGBTI + group, and as such, may require additional research efforts to represent this population more broadly. As the 2e group is likely to experience challenges at both ends of the educational needs spectrum (i.e. having high ability and having special educational needs), the lack of provisions in place to safeguard their wellbeing in the Irish school system (O'Reilly, 2013) could arguably be resulting in increased

school bullying victimisation as was demonstrated by the overall high victimisation rate computed in this study.

However, despite typically expected results asserting that identifying as LGBTI + or having a 2e status would be associated with more victimisation scores, the victimisation frequencies did not appear to differentiate among these subsamples within this gifted sample. Caution is advised for researchers and practitioners who may consider this particular result to mean that there are no systemic implications for LGBTI + or 2e gifted participants in relation to bullying and cyberbullying experiences. Research that specifically studies the intersection of giftedness with gender, LGBTI + identity, and the 2e dual status would be greater positioned to draw more meaningful conclusions regarding the systemic extent of victimisation inclusive of school bullying and cyberbullying.

Though these explanations may appear to be rational interpretations of the study findings, the methods undertaken in this study cannot confirm these interpretations due to the executed study design. Replications and more confirmatory research efforts in this context are particularly encouraged in order to interpret these results more conclusively. Despite that, these findings may be particularly relevant to researchers interested in minority based bullying familiar with LGBTI + bullying and cyberbullying intervention and prevention strategies (e.g. Llorent et al., 2016).

Recommendations for Bullying and Cyberbullying Prevention Efforts

The explicit inclusion for giftedness in school anti-bullying policies may serve as an additional provision for the welfare of gifted children in schools. This is possible in Ireland as the Department for Education and Skills (2013) requires Irish schools to have a comprehensive anti-bullying policy which has to include minority groups (e.g. LGBTI +). The indication that some gifted adolescents seem to purposefully perform worse in school to hide their giftedness from bullying victimisation is particularly worrying. Teacher awareness of this well-known behaviour by gifted pupils in schools (Coleman & Cross, 1988; Cross et al., 2017) may also help with preventing bullying victimisation; as bullying victimisation is a known predictor of poor academic output (Oliveira et al., 2018).

In line with a whole education approach, school teachers could also consider giftedness in anti-bullying interventions (e.g. scenarios, depictions, and discussion points) in the classroom. The study findings might suggest that there is an overlap between the lack of provisions in Irish schools for gifted pupils (O'Reilly, 2013) and their likelihood of exposure to school bullying. This may also promote the identification, representation, wellbeing, and involvement of gifted children in classrooms in the Irish school system.

Limitations and Future Directions

This study may offer contributory findings to other prevalence studies especially for the considerations to dual-status gifted adolescent groups (e.g. LGBTI+ and 2e). Methodological limitations must also be noted. One is not being able to compare these results to a non-gifted sample of similar characteristics (e.g. LGBTI+ identity etc.).

Although the recruitment of participants from CTYI could provide a guarantee that the gifted adolescents in this study were psychometrically assessed for giftedness, this also means that the gifted adolescents outside of CTYI are not represented. The Irish mainstream education system does not typically test for giftedness psychometrically using standardised aptitude measures, and as such, it presents difficulties for researchers to recruit other gifted adolescent populations (e.g. gifted adolescents from lower socio-economic backgrounds). There were also statistical limitations such as low sample sizes in the dual-status groups which means that caution must be advised when drawing inferential conclusions about the wider gifted adolescent population in Ireland.

Efforts were made to deter the possibility of parental influence (i.e. encouraging parents to allow their children to complete the survey in private) and the social desirability among the adolescents who consented to participate in the online survey. However, these potential influences could not be definitively ruled out by the researchers.

It may be a worthwhile effort to evaluate the role of external academic acceleration programmes as an anti-bullying intervention for gifted children and adolescents. The provisions experienced in academic acceleration courses could then potentially be adapted and piloted in schools for the prevention of bullying and cyberbullying of gifted pupils. Confirmatory prevalence investigations employing more qualitative approaches are also warranted due to the array of approaches that prevalence researchers can adopt. This can also include comparisons of gifted adolescents with their non-gifted peers.

Conclusion

The study aims were generally achieved as indicative prevalence rates for victimisation were determined and other issues such as representativeness and recruitment issues were identified as part of a scoping study. The results may compliment the more global adolescent mental health research as an evidence-based investigation into the prevalence and indicative impact of bullying and cyberbullying in a gifted adolescent context. Presently, gifted adolescents may well remain as a seldom heard group in large-scale national adolescent mental health studies (Dooley et al., 2019) until more provisions and considerations for giftedness in schools and research contexts are apparent.

Including gifted pupils in school bullying prevention efforts progresses the global efforts set down by UNESCO (2019) who called for the complete eradication of school bullying and violence globally. Striving towards an inclusive education system is paramount for the prevention of school bullying for all of its pupils and the wider society.

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Author Contribution DAL lead the study conception, data analyses, and main write up of the report. RS and MF provided anti-bullying subject-matter, research, and statistical guidance throughout. CO'R and CL contributed with participant recruitment, contributing to the report, and guidance relevant to the gifted context.

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Declarations

Conflict of Interest The authors declare no competing interests.

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