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ORIGINAL ARTICLE

Cyberbullying, help-seeking and mental health in young Australians: implications for public health

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Abstract
Objectives To examine the relationship between young Australians' cyberbullying experiences, their help-seeking practices and associated mental well-being and social connectedness, with a view to informing national health and well-being agendas.
Methods An online survey was administered to young people aged 12–18 years ($n = 2{,}338$), recruited across Australia in year 2 of a larger 4-year study.
Results Youth with no experience of cyberbullying had better well-being profiles and mental health overall. Conversely, cyberbully victims, had poorer well-being and mental health and tended not to engage with online support services, in spite of being more likely to be online after 11 pm. Parents and peers were identified as key sources of help for most young people when dealing with problems.
Conclusions Cyberbullying is a public health issue particularly for vulnerable youth whose mental health and well-being is impacted more than those not involved. As youth are spending increasing time in the 24/7 online environment, there is a need to develop initiatives that engage young people and encourage help-seeking online, whilst concomitantly building capacity of parents and peers to support their well-being.

Keywords Cyberbullying · Help-seeking · Mental health · Youth · Australia · Cyberbully-victim

Introduction

Achieving and sustaining well-being, and simultaneously reducing youth depression, anxiety and suicidal intent continues to be a core underpinning of many public health programs. One recognized determinant of well-being in adolescents is the extent to which an individual feels socially connected with others (Jose et al. 2012) Young people increasingly connect with others online, and the impact of this on young people's relationships and well-being is important to consider.

Whilst technology has been used in ways that have impacted positively on relationships, (Costabile and Spears 2012; Kuntsche et al. 2009; Spears 2012; Spears et al. 2012), it also has been used to the detriment of others' well-being. One technology-related behavior that potentially has devastating effects on a young person's well-being and mental health is cyberbullying (Campbell et al. 2012, 2013; Srabstein and Leventhal 2010). Research has shown that victims of cyberbullying experience significantly more social difficulties and higher levels of anxiety, depression and suicidal ideation than victims of traditional bullying (Campbell et al. 2012; van Geel et al. 2014); also are likely to suffer academically; and are twice as likely to attempt suicide than those who have not been cyber-bullied (Tokunaga 2010; van Geel et al. 2014). Greater feelings of isolation, hopelessness and instability also are reported (Luxton et al. 2012), which are key indicators of social

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disconnection, and ill-health. Clearly, cyberbullying has the potential to be a public health issue, and in addition to these personal costs noted above, economic modeling estimates have shown that the direct costs of untreated mental health disorders in young Australians aged 12–25 was in the vicinity of $10.6 billion (Access Economics 2009, p. ii). Improving young people's ability to seek help is one way of ameliorating the impact of cyberbullying on the individual and the community at large. This paper examines the relationship between cyberbullying, help-seeking and mental health and well-being with a view to informing public health debates.

Determining cyberbullying prevalence is fraught with methodological difficulties. One definition describes cyberbullying as 'bullying and harassment of others by means of new electronic technologies, primarily mobile phones and the Internet' (Smith et al. 2013, p. 3). Whilst there remains an absence of a universally agreed definition of bullying, there is acceptance of the key components: an intent to harm, a power differential between the parties, and repetition over time. There is, however, contention regarding how these translate online: with repetition being a key area of debate (Spears et al. 2014b, p. 7). An examination of recent Australian studies takes account of the differing methodologies (definition provided/none provided/list of behaviors only); timeframes (this term/year/ever); and frequencies (once or more often/every few weeks or more often) employed, and has revealed that prevalence of cyber-victimization for Australian minors in a year, approximates 20 % (Spears et al. 2014a, p. 37). This falls within the international range of between 10 and 40 % (see Kowalski et al. 2014, p. 36, for a review).

In Australia, up to 99 % of young people are using the Internet on a daily basis (Burns et al. 2013; Green et al. 2011), creating an imperative to understand the intricacies of negative impacts such as cyberbullying on well-being, and to find ways to intervene and support young people in their social connections. Whilst many studies have documented young people's increasing time spent online and associations with cyberbullying: including age and gender differences in their activities and behaviors; and increasing use of mobile devices, social networking services and privacy management (ACMA, Australian Communications and Media Authority 2013), to our knowledge, none to date have specifically examined when young people are online, and the consequences of this in terms of their social interactions and health and wellbeing. This is surprising given that this is a 24/7 environment and cyberbullying is perceived to occur at any time. Given also the overlap known to exist between traditional bullying and cyberbullying (Cross et al. 2009; Smith et al. 2008) where those who engage offline, also engage online, the multiplier effect for victims on their mental health is important to note.

Historically, public health has been closely aligned with social issues and many health initiatives have promoted and incorporated cross-sectoral programs to realize successful health outcomes (Puska and Ståhl 2010). Cyberbullying is a complex social and mental health issue, which crosses the on/offline sectors, operates in a 24/7 setting and which, therefore, requires an array of tailored responses. Currently, many of those responses are centered on the education sector, in schools. However, ensuring that those who are victimized online can seek timely help in that setting is important, especially if it occurs out of school hours.

Online platforms now provide both informal (friends or family) and formal sources (psychologists and professional counselling services) (Rickwood 2012) suggesting greater availability of help-seeking opportunities generally; however, young people have been found to not necessarily engage with sources of help available to them. Ellis et al (2013) report that only 13 % of young men and 31 % of young women actually seek help when needed. Ivancic et al. (2014, p. 7), in the Youth Mental Health Report of over 14,000 young Australians, noted some distinctions in the types of help sought, however. Over 60 % of young Australians aged 15–19 with a probable serious mental illness were not comfortable seeking information, advice or support from professional services such as telephone hotlines, online counselling and/or community agencies, but were comfortable accessing friends and the Internet as sources of information, advice or support. In the context of cyberbullying, victims have been found to avoid reporting cyberbullying incidents (Smith et al. 2008), while also feeling they should be able to deal with the issue on their own (Murray-Harvey et al. 2012). Dooley et al. (2010) also found that cyberbullying victims are less likely to report and seek help than those who are traditionally bullied.

In light of these issues, this paper examined cyberbullying, mental health, well-being and help-seeking of young people with a view to informing public health debates and initiatives.

The present Safe and Well Online study, a research component of the national Australian Young and Well Cooperative Research Centre hypothesized that use of online social marketing campaigns, cogenerated with young people, would positively impact on attitudes and behaviors regarding respect for self and others, and help-seeking behaviors. It further posited that these would be mediated by youth practices online, mental health, gender and age. The campaigns targeted cyberbullying and being respectful online (Keep It Tame), and sending positive, affirming messages to others online (@ppreciate).

This paper specifically addresses the following six research questions: (1) What is the extent of young people's cyberbullying experiences? (2) What is the nature of

the relationship between the Internet practices, including time (when young people engage online) and cyberbullying statuses? (3) To what extent do young people's experiences of cyberbullying impact on their mental well-being? (4) To what extent do young people's experiences of cyberbullying impact on their level of social connectedness? (5) What is the nature of help-seeking practices (Rickwood et al. 2005) across ages, gender and cyberbullying statuses? (6) How can this research inform public and mental health and wellbeing intervention models?

Method

The findings reported in this paper are drawn from the second year (2013) of a four-year cross-sectional study ($N = 2{,}338$). A pilot study in year 1 ($n = 165$) tested the methodology and theoretical model. As individuals could choose to respond to questions or not, the numbers involved are noted for each of the reported analyses. Young people's mental health and well-being, help-seeking, and social connectedness is examined, using the subsets of cyberbullies, cybervictims and cyberbully victims and Internet use with a view to informing public health agendas. The study was granted ethics approval by the University of South Australia Human Research Ethics Committee, and all participants had parental consent and provided their own informed consent.

To ensure a diverse sample of young people (aged 12–18 years) who were active online, recruitment involved a combination of conventional school-based and online strategies. Using similar strategies to major studies undertaken in Australia (e.g., ACMA, Australian Communications and Media Authority 2013) online approaches included using an industry accredited online research panel; a lead generation agency, (which targets sites where individuals fit the sample criteria); and parent and community associations were approached via websites and social media.

Using these methods, a relatively even age and gender distribution was achieved (males 44 %; females 56 %) with all Australian states and territories represented. Demographic characteristics reflected national figures: 2.3 % of the sample identified as Aboriginal and Torres Strait Islanders (2.5 % nationally) and 14.7 % spoke a language other than English (19 % nationally). However, only 5.9 % reported having a disability (17.4 % nationally) (Australian Bureau of Statistics 2011, 2012, 2013).

Measures

The survey was hosted by an online survey platform (Qualtrics). Survey measures included young people's engagement with the Internet, help-seeking, mental health and well-being and experiences of cyberbullying.

Each of these previously published, reliable and valid measures collectively provides a comprehensive picture of the well-being of young people in this study. Due to space constrictions, individual items are not listed, but are readily available from the authors. The alphas for the study's sample are provided in parenthesis: mental health continuum short form (Keyes 2002, 2007) measures general well-being (14 items ($\alpha = 0.96$); *DASS 21* (Lovibond and Lovibond 1995), examines the constructs of: depression, (7 items) ($\alpha = 0.94$); Anxiety (7 items) ($\alpha = 0.92$); Stress (7 items) ($\alpha = 0.91$); Social Connectedness Scale (Lee et al. 2001, 2008) examines notions of belonging and inter-personal associations and connections with others: (15 items) ($\alpha = 0.93$); Help Seeking (Rickwood et al. 2005), examines future help-seeking intentions (15 items) ($\alpha = 0.85$).

A definition of cyberbullying was not included due to the need to streamline surveys for online use, making them shorter and more relevant for online users. An extensive list of behaviors, the timeframe and frequencies reflecting commonly used, previously published methods of determining cyberbullying were employed (see Spears et al. 2014a). Two cyberbully/victim scales were thus employed to ascertain individuals' cybervictim, cyberbully, and cyberbully victim experiences: 'In the previous term how often have you been bullied/bullied others in the following ways?' The following cyber-related response options: Pictures, webcam or video clips, Phone calls, Email, Chat sites, Instant messaging, e.g., MSN Messenger, Social networking sites, e.g., Facebook, Online gaming, Webpage, Twitter, Some other way not listed above, were measured on a 6-point frequency scale: never, only once or twice, every few weeks, about once a week, most days, every day. Three indices (cybervictim, cyberbully, and cyberbully-victim) were created using a cut-off score of once or more often in the previous school term (see Frisén et al. 2013; Smith et al. 2013). Higher reported frequencies (every few weeks or more often) will enable comparison with traditional bullying, and are not reported here (see Solberg and Olweus 2013). Those who reported having been victimized on at least one of the response options during the preceding term, but with no bullying items checked, were classified as cybervictims. If at least one of the bullying behavior options had been reported during the preceding term, but no victim items were checked, they were classified as a cyberbully. If at least one victimization item *and* at least one bullying item had been reported during the preceding term, they were classified as cyberbully victim. Those who reported never being a bully or victim were classed as non-involved.

Results

As noted above: sub-sample sizes stated below vary as a function of non-response to respective items

Young people's cyberbullying experiences

Of the total sample ($n = 2{,}338$), 1,934 young people (Missing, $n = 404$) responded to the cyberbullying-related items, with just over half ($n = 1{,}000$) reporting that they had not had any experience of cyberbullying in the previous school term, either as a victim or perpetrator (Non-involved). Of the remainder: 535 young people reported they had been victims of cyberbullying once or more often in the previous term; 365 were deemed cyberbully victims, and 34 reported they had cyber-bullied others. Analysis of variance was conducted to examine the effect of age and gender on cyberbullying status, with no significant effect evident (see Table 1).

Internet practices, time (when engaging online) and cyberbullying status

Of the 2,205 young people who provided a response (missing, $n = 133$), 93.5 %, ($n = 2{,}060$) reported using the internet at least every day or almost every day. Due to the 24/7 setting, and that cyberbullying could potentially occur at any time of the day or night, it was hypothesized there would be differences in internet practices, specifically use of the internet after 11 pm, between those who reported no involvement in cyberbullying and the remaining cyberbullying statuses. To specifically examine this, a Chi-square test of Independence was completed, and found to be significant, ($\chi^2(3,\ 1{,}932) = 33.13,\ p = 0.000$), albeit with a small effect size, Cramer's $V = 0.131$. Inspection of individual cells revealed that young people in the cyberbully-victim category were significantly more likely (54.8 %) than the overall average (43.4 %), to be online after 11 pm, whilst those non-involved were significantly below the average (38 %), indicating they were less likely to be using the internet after 11 pm. Despite the overall association between access to the internet after 11 pm and cyberbullying status, it cannot be concluded that the percentage of cybervictims or cyberbullies who use the internet after 11 pm was significantly higher or lower than the overall average percentage of 43.4 %.

Experiences of cyberbullying and mental well-being

It was hypothesized that young people who had experienced or who had been exposed to cyberbullying would have poorer mental health than those who had not been involved. Univariate analysis of variance of the DASS 21 (Lovibond and Lovibond 1995) found a significant overall effect on Cyberbullying Status, $F(3,\ 1{,}869) = 67.41$, $p < 0.000$, $\eta p2 = 0.098$. Tukey post hoc analysis revealed significant pairwise differences, specifically, cyberbully victims ($n = 353,\ M = 6.41,\ \text{SD} = 5.73$) were significantly more depressed than those non-involved ($n = 972,\ M = 2.43,\ \text{SD} = 3.81,\ p = 0.000,\ d = 0.82$) and cybervictims ($n = 516,\ M = 4.19,\ \text{SD} = 5.19,\ p = 0.000,\ d = 0.41$). In addition, those non-involved had significantly lower depression scores than cyberbullies ($n = 32,\ M = 5.13,\ SD = 5.01,\ p = 0.000,\ d = 0.61$).

Univariate analysis of variance revealed significant main effects with regard to levels of anxiety, $F(3,\ 1{,}876) = 58.35$, $p < 0.000$, $\eta p2 = 0.085$. Tukey post hoc analysis found that cyberbully victims ($n = 351,\ M = 5.15,\ \text{SD} = 5.39$) were significantly more anxious than those non-involved ($n = 976,\ M = 1.87,\ \text{SD} = 3.20,\ p = 0.000,\ d = 0.74$) and cybervictims ($n = 521,\ M = 3.45,\ SD = 4.71,\ p = 0.000,\ d = 0.34$). In addition, those non-involved had significantly lower anxiety scores than cybervictims ($p = 0.000,\ d = 0.39$).

Univariate analysis of variance revealed significant effect in relation to stress, $F(3,\ 1{,}879) = 69.47$, $p < 0.000$, $\eta p2 = 0.100$. Tukey post hoc analysis found that cyberbully victims ($n = 353,\ M = 7.15,\ \text{SD} = 5.31$) were significantly more stressed than those non-involved ($n = 978,\ M = 3.23,\ \text{SD} = 3.88,\ p = 0.000,\ d = 0.84$) and more stressed than cybervictims ($n = 520,\ M = 5.08,\ \text{SD} = 5.04,\ p = 0.000,\ d = 0.40$). In addition, those non-involved had significantly lower stress scores than both cyberbullies ($n = 520,\ M = 5.34,\ \text{SD} = 4.22,\ p = 0.046,\ d = 0.52$) and cybervictims ($p = 0.000,\ d = 0.41$).

Table 1 Cyberbullying status percentage by gender and age, Australia 2013

Cyberbullying status (N = 1,934)	Gender ($N = 1{,}927$[a])		Age (years) ($N = 1{,}934$[a])						
	Female (N)	Male (N)	12	13	14	15	16	17	18
Non-involved (51.7 %; $n = 1000$)	54.9 (547)	45.1 (450)	15.2	13.3	12.8	16.4	16.7	15.3	10.3
Cybervictim (27.7 %; $n = 535$)	58.9 (314)	41.1 (219)	11.2	17.0	14.4	17.8	15.1	17.0	7.5
Cyberbully (1.8 %; $n = 34$)	51.5 (17)	48.5 (16)	11.8	5.9	20.6	29.4	8.8	14.7	8.8
Cyberbully-victim (18.9 %; $n = 365$)	52.2 (190)	47.8 (174)	10.2	14.2	15.9	18.6	17.3	12.3	11.5

[a] Not all participants answered gender and age questions

Young people's mental health (Keyes 2002, 2007)

Univariate analysis of variance found a significant main effect regarding mental health scores. Specifically, Tukey post hoc analysis revealed that cyberbully victims ($n = 357$, $M = 60.92$, SD = 15.14) had significantly poorer mental health than young people in the non-involved category ($n = 982$, $M = 70.81$, SD = 13.89, $p = 0.000$, $d = 0.68$) and those in the cybervictim category ($n = 527$, $M = 65.71$, SD = 15.68, $p = 0.000$, $d = 0.31$). In addition, young people who indicated they were non-involved in cyberbullying in the past term reported significantly better mental health than cybervictims ($p = 0.000$, $d = 0.34$).

Experiences of cyberbullying and level of social connectedness (Lee et al. 2001, 2008)

It was hypothesized that young people who had not experienced cyberbullying, either as a victim or perpetrator, would be more socially connected than the remaining cyberbullying statuses. Univariate analysis of variance did reveal a significant effect, $F(3, 1{,}895) = 43.46$, $p < 0.000$, $\eta p2 = 0.064$. Tukey post hoc analysis showed that cyberbully victims ($n = 354$, $M = 54.99$, SD = 15.57) were significantly less socially connected than those non-involved ($n = 978$, $M = 63.68$, $SD = 14.45$, $p = 0.000$, $d = 0.57$) and cybervictims ($n = 527$, $M = 59.25$, SD = 15.15, $p = 0.000$, $d = 0.28$). In addition, young people who were non-involved were significantly more socially connected than cybervictims ($p = 0.000$, $d = 0.30$).

Help-seeking practices across age, gender and cyberbullying status

It was hypothesized that help-seeking practices would differ depending on age, gender and cyberbullying status. Responses for the help-seeking items were measured on a five point scale from highly unlikely to highly likely.

Multivariate analysis of variance found a significant gender effect with the 14 sources of help from which young people would seek assistance, $F(15, 838) = 2.18$, $p < 0.006$, $\eta p2 = 0.038$. Post hoc univariate tests (Bonferroni corrected) found that females ($M = 3.55$, SD = 1.29) were more likely to seek help from friends than males ($M = 3.16$, SD = 1.36), $F(1, 852) = 18.44$, $p < 0.001$, $\eta p2 = 0.021$ There were no significant gender differences found in the remaining help-seeking behaviors.

The results of the analysis of variance for help-seeking sources by age are detailed in Tables 2 and 3. It is posited that some of the findings align with developmental stages

Examination of response patterns from those who were identified as cyberbully victims revealed that approximately a quarter of the cyberbully victims were highly likely to seek help from a friend or parent. Conversely, they report being highly unlikely to seek help online. Specifically, 54 % were highly unlikely to seek help from self-help apps and 45 % highly unlikely to seek help from phone helplines. This group was also highly unlikely to seek help from more formal channels such as online help from professionals (53 %) and doctors (45 %).

Cybervictims revealed that they were highly likely to seek help from parents/carers (48 %), indicating that this is a key help-seeking reference group for young people in this category, followed by friends (26 %) and siblings (22.5 %). In contrast, cybervictims (and similarly with cyber bully-victims), would be highly unlikely to access online help, regardless of the way online help was delivered or packaged. Specifically, 60 % of cybervictims indicated they would be highly unlikely to seek help from self-help apps, or online from a non-professional (58 %) or phone helpline (51 %).

These findings taken together reveal a consistent pattern in terms of the mental health and overall well-being of young people when examined by the cyberbullying status. Young people in the cyberbully-victim category, in particular, reported poorer mental health, lower levels of social connectedness, and greater stress, anxiety and depression. Profiling of this group shows they were also more likely to access the internet after 11 pm, yet by contrast, they are highly unlikely to access help online, with a quarter seeking help firstly from friends.

Discussion

This paper examines the relationship between young Australian's cyberbullying experiences, their help-seeking practices, social connectedness and associated mental health and well-being profiles, with a view to informing public health and well-being agendas. Findings confirmed that the well-being of young people can be significantly compromised by their involvement and experiences of cyberbullying (e.g., Campbell et al. 2012, 2013; Dooley et al. 2010; Smith et al. 2013; Spears et al. 2009, 2014a, b). Young people who reported no involvement in, or experience of, cyberbullying, overall had a more positive well-being profile: in comparison to the other cyberbullying roles. Unlike studies which have focused on the negative aspects of cyberbullying, for the first time, this study presents comprehensive profiling to establish well-being characteristics and help-seeking and internet practices specific to each group. Additionally, findings from this study have confirmed the increased vulnerability of cyberbully victims, which highlight the importance of a

Table 2 Age by help seeking sources: downward trends, Australia 2013

	12 year olds ($N = 248$)	18 year olds ($N = 184$)	*df* (7, 1,877)	
	Mean (SD)	Mean (SD)	*d*	Overall *F* (age)
Parents	4.39 (0.92)	3.57 (1.38)	0.71	11.7 ($p = 0.000$)
Other family member	3.36 (1.36)	2.75 (1.33)	0.45	8.0 ($p = 0.000$)
Teacher	3.43 (1.27)	2.37 (1.29)	0.83	19.3 ($p = 0.000$)
Professional at school	2.93 (1.38)	2.30 (1.28)	0.47	6.3 ($p = 0.000$)

Table 3 Age by help seeking sources: upward trends, Australia 2013

	12 year olds ($N = 248$) Mean (SD)	18 year olds ($N = 184$) Mean (*SD*)	*df* (7, 1,877)	
			d	Overall *F* (age)
Boyfriend/girlfriend	1.88 (1.30)	2.92 (1.57)	0.77	19.9 ($p = 0.000$)
Phone helpline	1.92 (1.18)	2.11 (1.23)	0.12	2.9 ($p = 0.009$)
Online help from a professional	1.75 (1.08)	2.04 (1.20)	0.25	2.6 ($p = 0.015$)
Online help from a non-professional	1.75 (1.11)	2.13 (1.20)	0.33	4.1 ($p = 0.000$)
Self-help app	1.63 (1.04)	2.02 (1.16)	0.36	4.3 ($p = 0.000$)
Not seeking help from anyone	1.85 (1.20)	2.15 (1.24)	0.25	3.8 ($p = 0.001$)

targeted public health response to meet the needs of this group in particular, but all those involved, in general.

Positioning cyberbullying as a public health issue ensures that young people's experiences of this phenomenon are recognized as seriously impacting on the health and well-being of those involved, and are not trivialized as an artifact of them not 'turning off the technology'.

Promoting health and preventing illness are often noted as key objectives of a public health approach (Australian Institute of Health and Welfare 2013). Given that findings from this study demonstrated that cyberbullying can compromise the well-being of young people, it is evident that cyberbullying is a contemporary public health risk, particularly when considered as a contributor to poor mental health and, potentially, suicidal ideation (Luxton et al. 2012; van Geel et al. 2014).

Currently, most cyberbullying preventions and interventions fall within the parameters of the education sector. As a public health issue, responsibility shifts to broader stakeholders in the community, and a cross-sectoral response involving health, education, technology, and legal considerations, is possible.

Further, results supported the hypothesis that the help-seeking practices of young people did differ depending on their age, gender and cyberbullying status, with findings suggesting that when they are online is important. The current study adds to the literature on cyberbullying, social, emotional and mental health and help-seeking in several ways. It extends work by Campbell et al. (2012); Campbell et al. 2013) on mental health impacts for those involved in cyberbullying and Dooley et al. (2010) who found that most cyber victims would seek help from friends and parents, but not use phone helplines or websites.

The current study found that nearly half of those in the cybervictim category were highly likely to seek help from parents and over a quarter indicated that they would seek help from friends, but not necessarily access online help sources. This suggests that online help sources need closer alignment with the needs of young people. Luxton et al. (2012) advocated for the 'public promotion of direct and easy avenues for people to access help through social media sites', yet, more needs to be done to promote available online help sources and to better understand why some groups of young people do not seek help online, especially when they are online late at night when parents and friends may not be available to help.

Strengths and limitations

This is the only study that we know of which has examined the relationship between cyberbullying status, help-seeking and mental health and well-being. This study used previously published, reliable measures and adds to what is already known about cyberbullying through consideration of wellbeing profiles and in particular confirms that cyberbully victims are potentially the most vulnerable of all status groups in terms of well-being. This study also examined online behaviors within a commonly-used timeframe of the previous term at school (Solberg and Olweus 2013) and used common frequency patterns (e.g., Smith et al. 2008). Using only a set of behaviors to determine cyberbullying without including a definition, however, may be considered a limitation. However, with

the increasing use of mobile technologies, for survey delivery and data gathering, there is a need to establish more streamlined survey design so as to maximize data collection efficiently. Choosing to use the frequency cut-off 'once or more often' meets the current suggestion that repetition is perceived differently in online environments (see Frisén et al. 2013; Smith et al. 2013). Whilst the online survey provided an opportunity to reach a diverse and large number of young people, it is cross-sectional and a possibility of self-selection bias exists.

Given the 24/7 nature of the online environment, this study contributes to the field by identifying that it may not be the amount of time spent online which impacts on cyberbullying status, but when they are online: with clear consequences of this evident in terms of their social interactions, help-seeking behaviors and health and well-being.

Conclusion

These findings revealed a consistent pattern in terms of the mental health and overall well-being of young people when examined by their cyberbullying status. Young people in the cyberbully-victim category, in particular, reported poorer mental health, lower levels of social connectedness, and greater stress, anxiety and depression than either those non-involved or cybervictims. This has implications for public health initiatives whose mandate includes protecting and improving the health of entire populations (Luxton et al. 2012, p. 198). Young people in the digital age represent a new challenge to public health responses, as they are connecting socially in different ways, and are being impacted adversely by the negative aspects of their social networking.

Those administering public health prevention and outreach programs for young people need to be cognizant of the fact that some young people appear unwilling to seek help from online services, including self-help apps and websites. This is despite the fact that they spend large amounts of time online with their social experiences increasingly straddling both off and online settings, and with findings showing that some of the more vulnerable groups are using the internet after 11 pm. Further investigation of the barriers specific to help-seeking for cyberbullying and mental health issues is warranted, especially for cyberbully victims. It is likely that most of the online support resources have been designed by adults and premised upon a sound evidence base, but possibly without credible authentic input by young people. In addition to building the capacity of cross-sectoral stakeholders as part of a targeted, structured public health response to dealing with cyberbullying, engaging youth to define the problem and then co-create the resources/interventions that are intended for them, potentially will increase usefulness, uptake, and positively impact on young people's well-being.

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