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# Being safe online: Exploring the perceived importance and ease of undertaking tasks associated with managing online safety

*Catherine Beavis, Sandra McQuinn, Roberta Thompson & Donna Pendergast*

## Abstract

Significant efforts worldwide have gone into developing cybersafety education for young people. In many countries, key government bodies, community organisations, charity groups and school sectors have engaged in program and curriculum development with the aim of improving students' cybersafety awareness and digital literacy. In Australia, the Australian Communications and Media Authority (ACMA) delivers cybersafety programs, presentations and resources to teachers, librarians, children, parents, carers and other community members through its Cybersmart branding, including the Cybersmart Outreach Program. Drawing on data from the 2011 evaluation of the effectiveness of the ACMA Cybersmart Outreach Program in schools, this paper discusses distinctions between what junior secondary students rated as 'easy' and what is 'important' in relation to managing online safety, and proposes that closer attention to this distinction might present useful guidance for this age group in the development of future education programs.

Worldwide, the rapid uptake of communication technologies offers many benefits for young people (Australian Communications and Media Authority, 2009; Guan & Subrahmanyam, 2009; Johnson, L. Adams, S., & Cummins, M., 2012). Synchronous online networks, smartphones and internet-enabled tablets are rapidly becoming indispensable tools for young people to connect. In young people's everyday lives, interactive platforms have the capacity to increase engagement with peers and provide many benefits for social development, the representation of self, the exchange of information and the establishment of relationships and values. Within both formal and informal education contexts, these communicative spaces have the potential to influence and enrich intellectual development (Collin, Rahilly, Richardson, & Third, 2011). The value and significance of these technologies for educational purposes has been well documented internationally, and is the subject of much research (e.g. Selwyn, 2013; New Media Consortium, 2012; Ito et al., 2009).

An ongoing challenge is finding ways to support young people to engage in safe and productive ways within such fora. Despite the popularity and effective use of the internet and a range of online tools for academic purposes, community anxiety over these educational transformations remains at the forefront of public discussion. In particular, concerns are raised about online sociality, identity formation and relationship building, potential exposure to risky material, and the intensification of online aggression, especially cyberbullying (Cross et al., 2009; Livingstone, Haddon, Görzig, & Ólafsson, 2010; Ringrose, Gill, Livingstone, &

Harvey, 2012; Third, Richardson, Collin, Rahilly, & Bolzan, 2011). Although most young people navigate online spaces safely and effectively, concerns about their wellbeing and their online practice continue to be pervasive issues in digital literacy debates (Cross et al., 2009; Livingstone, Haddon, Görzig, & Ólafsson, 2011; Third, Richardson, Collin, Rahilly, & Bolzan, 2011). Australian Bureau of Statistics (ABS) figures for 2009 (ABS, 2011) found that three percent of the 79% of Australian children aged 5 to 14 years who used the internet (72,000 children) had reported experiencing personal safety or security issues through their use of the internet or phone. In the same period, the Australian Covert Bullying Prevalence Study (Cross et al., 2009) reported that more than a quarter (27%) of Year 4 to 9 students had been exposed to some form of bullying. These children indicated that different forms of bullying were prevalent at school, but that hurtful teasing was most common. Of this group, seven to ten percent had experienced instances of cyberbullying. By 2012, the percentage of children aged 5 to 14 years who accessed the internet had risen to 90% and 29% of this same age group owned a mobile phone, although phone ownership increased with age (e.g. 73% of children 12 to 14 years old owned a mobile phone) (ABS, 2013). For the vast majority of children the use of these technologies presents few safety issues; however, a significant problem remains with respect to children's knowledge, vulnerability and practices, and the need for education and support. In addition, attention to age-range variations between national and international studies needs further consideration if cross study comparisons are to be made.

In light of rapid changes to communication and educational landscapes, in 2008, the Australian Government committed \$125.8 million towards the development of a comprehensive national cybersafety plan to help parents and educators reduce the online risks to Australian youth. One of the outcomes from this funding scheme is the ACMA's Cybersmart brand, which delivers cybersafety programs, presentations, and resources, including the Cybersmart Outreach Program, to teachers, librarians, children, and parents/carers. In 2010/11, the Griffith Institute for Educational Research (GIER, 2011) carried out an evaluation of the Cybersmart Outreach Program. In this paper, we describe briefly the findings of that research and focus on an unexpected finding emerging from a small slice of the data, exploring the perceived importance and ease of undertaking tasks associated with managing online safety. The findings from this study can assist in shedding some light on the difficult question of student uptake of messages, in particular in the junior secondary years.

### Cybersafety and Government Education Programs

Significant efforts worldwide have gone into developing cybersafety education for young people. The importance of extending young people's digital practices to include effective online practice is represented by the increasingly visible presence of cybersafety programs, resources and websites. In many countries, key government bodies, community organisations, charity groups and school sectors have engaged in program and curriculum development with the aim of improving students'

cybersafety awareness and digital literacy. For example, in the United States these include the National Crime Prevention Council, the Department of Health and Human Services, the United States Education Department and the Cyberbullying Research Centre, and the Centre for Safe and Responsible Internet Use; in Canada, the Centre for Digital and Media Literacy; and in the United Kingdom, the Department of Education and the Child Exploitation and Online Protection Centre. Around the world, further examples of government and organisational involvement can be found, such as ACMA's Cybersmart brand, which is the focus of this paper.

A prominent concern in online safety internationally is cyberbullying. The primary concern behind cyberbullying behaviour is the documented negative outcomes for targets. In less severe cases, young people report anxiety, depression and poor physical health, which may lead to school absenteeism and poorer academic achievement (Dempsey, Sulkowski, Nichols, &

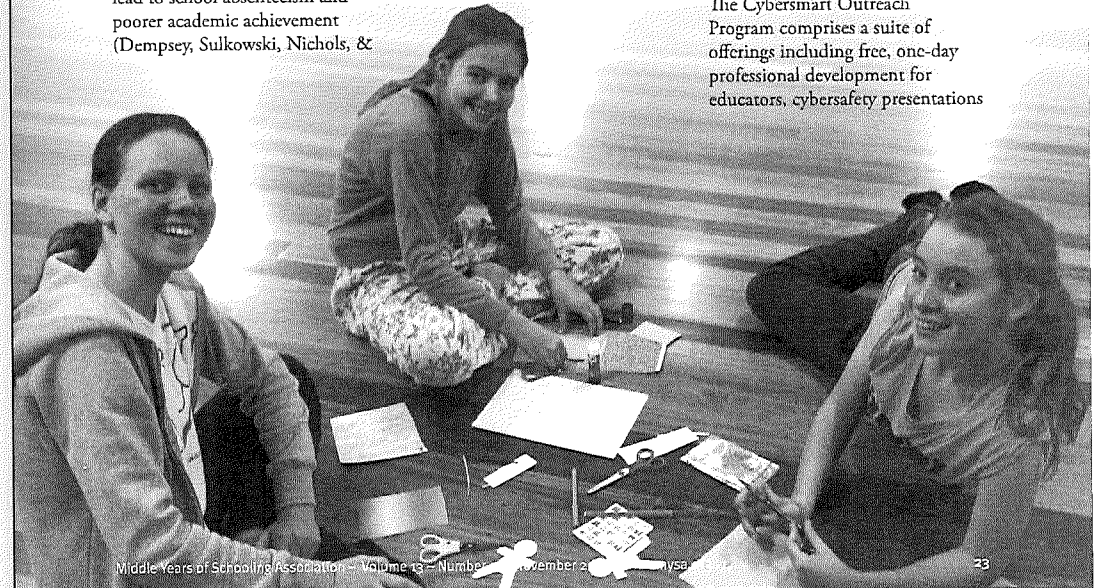
Storch, 2009; Hinduja & Patchin, 2007; Patchin & Hinduja, 2010; Ybarra & Mitchell, 2007). At the extreme, cyberbullying is linked to teen suicide and peer murder (Kowalski, Limber, & Agatston, 2008; Patchin & Hinduja, 2010). In addition, the practice of sexting has renewed concerns about digital responsibility, digital reputation, and digital citizenship. Cybersafety programs are beginning to address these aspects of online engagement by encouraging young people to think about how they represent themselves online and how they manage their digital footprint (ACMA, 2013). The potential for young people to experience these and other negative consequences raises serious concerns for their safety and wellbeing online and offline.

In Australia, there is a multi-jurisdictional, multi-sectored approach to cybersafety education and digital learning. Many agencies work together in an effort to expand student online learning opportunities and to reduce risks

to young people in those contexts. Federal agencies include, but are not limited to, the ACMA and the Department of Broadband, Communications and the Digital Economy. There are also several specialised educational programs linked to and supported by community organisations such as *Bullying. No way!* (Australian Education Authorities website) and *eSmart* (funded by The Alannah and Madeline Foundation). In addition, each state and school sector mandates cybersafety and digital learning protocols. Individual schools shape these guidelines into policies and procedures for teacher and student online practice and learning. The primary governmental provision for online safety education provided to Australian children, parents/carers and teachers is the free, national education Cybersmart Outreach Program offered by the ACMA.

### ACMA Cybersmart Outreach Program evaluation

The Cybersmart Outreach Program comprises a suite of offerings including free, one-day professional development for educators, cybersafety presentations



at schools and other locations for students, parents/carers and teachers (Internet Safety Awareness Programs (ISAP)), a comprehensive website that includes classroom work and other resources for students and teachers, and a helpline and a self-paced online education program for teachers. In 2010, the GIER was commissioned to evaluate the effectiveness of the Cybersafety Outreach Program in changing students' online attitudes, practices and behaviours. Specifically, the research objectives were to (i) identify reported change and increased cybersafety awareness in students, teachers and parents/carers following program involvement, (ii) map actions and strategies undertaken by participants following program involvement, (iii) provide an account of the perceived effect and value of participants' actions and strategies following program involvement and (iv) provide suggestions to the ACMA about how the program might be refined, reinforced and improved for relevant parties (GIER, 2011).

The evaluation indicated an overwhelming endorsement of the program by participating students, parents/carers and teachers. In summary, the research found:

- Students in most schools reported that they had learnt significant new information by attending an ISAP. Many reported taking specific actions as a result, including changing privacy settings, limiting personal information displayed on social networking sites and blocking users.
- Teachers overwhelmingly reported they learnt new information and that the presentations had equipped them to better deal with their

- Parents/carers reported that they felt less fearful and more confident about their children's online interactions as a result of attending an ISAP. They were also more accepting of the positive role of online engagement in their children's lives and more open to discussing it with them (ACMA, 2012).

(For a more detailed account of findings for the Cybersmart Outreach Program Evaluation see GIER, 2011).

### Research design

The aim of the project was to identify reported behaviour change among students, teachers, and parents/carers in relation to cybersafety as a result of their participation in the professional development program and the ISAP for students, teachers, and parents/carers in 2009/2010, to provide an evaluation of the success of these programs and recommendations for future developments and research. The research design used mixed methodology where both qualitative and quantitative data gathering and analysis procedures were employed to provide insights from young adolescents, teachers and parents/carers on a national scale. Five surveys were developed, with four focussing on different stakeholders' experience of ISAP presentations (teachers, secondary students and parents/carers) and one on teachers' experience of the one day professional development program.

In this paper, we draw from the online survey undertaken by secondary school students who had participated in the outreach programs, and contextualise findings with comments taken

from free-text responses entered into the surveys, and from focus group interviews in ten case study schools. That data provided a rich picture of patterns of participation in online culture, and insights into the knowledge and practices young people already used in their digital culture/online lives (GIER, 2011). However, it also highlights the patchy nature of knowledge and practices related to online safety among students aged 13 to 15 years. It is this patchiness that this paper goes on to explore.

Schools participating in the survey were a highly specific group consisting of those who had initially requested ACMA's program, in the states in which it was available, who had agreed to follow up contact and who were prepared to complete the survey retrospectively when contacted. As a result, it was not feasible to select participating schools and students on the basis of probability sampling. Instead, the sample is clearly a non-probability sample. Therefore, findings cannot be generalised to a population of students, but rather findings are confined to the sample of students who responded to the survey. In other words, we can point to the presence of a feature in the sample of students but we are unable to indicate the extent to which the feature might be present in a population of students.

The online survey for secondary students resulted in a total of 108 responses from students aged 12 to 17 years. The survey included:

- An initial set of background and demographic questions, focusing on gender, age, school, and year level
- A set of questions asking about their relationship with school and school friends

- A set of questions asking which communication devices they have access to and how often they use the devices and technologies
- A set of questions asking students to rate the extent to which they believed certain monitoring and managing activities of their online behaviours are an important part of their responsibilities, and how easy they thought it was to manage these tasks
- A set of questions about online safety issues, and practices and behaviours in online environments after attending the Cybersafety presentation
- Open-response questions asking students what they learned, how they might have changed the way they view online safety issues, and how they might have changed online behaviours
- A set of questions asking students to evaluate the ACMA presentation.

The student focus group discussions were conducted at designated 'site study' schools – two schools per state across five states (Tasmania, Victoria, South Australia, New South Wales and Queensland). In these focus groups we had the opportunity to investigate further aspects refined from the online survey responses that were of particular interest.

In the next two sections, we present some general information about the students who participated in the survey: who they are; their relationships with school, their teachers and their school friends; and the online communication devices to which they have access. Following that, our interest turns to two sets of questions concerned with online safety and wellbeing.

The students were presented with a set of six tasks, and were asked, first, to rate the importance of each task as a personal responsibility. The students responded on a 5-point scale ranging from 'not important at all' to 'very important'. Second, the students were asked to rate the ease with which the tasks can be managed. For the second set of responses, the students responded on a 5-point scale ranging from 'not easy at all' to 'very easy'.

We present a descriptive overview of the responses in the form of a series of bivariate cross-tabulations. The cross-tabulations show the relationships between 'importance of task' and 'ease with which the task is managed' for each task.

Following that, we present and discuss the results of multivariate cluster analyses applied to each set of responses. The aim of cluster analysis is to identify groups of students so that the profiles for students within a given group across a set of variables are reasonably similar. The non-hierarchical k-means cluster analysis was employed. We follow Cooksey's (2007) advice to use the cluster centres generated by a hierarchical method of clustering as the starting values for the k-means cluster analysis.

There was a small amount of missing data among the responses. Rather than dropping cases with missing data, we impute the missing data using a method outlined by Harrell (2013). The method returns a 'best guess' of the missing data based on the data that is available. Further, the method returns imputed values on the original categorical scale.

Two cluster analyses were performed: on the set of variables

concerned with the importance of the task and on the set of variables concerned with the ease with which the task is managed. Each cluster analysis was performed on six variables. The scales were standardised (with a mean equal to zero and a standard deviation equal to one) so that the scales across the six variables were comparable. However, the results are reported in terms of the original scales.

Following the discussion of the two ways of grouping the students, we ask if there is any relationship between two groupings. We employed a permutation test, a variant of the conventional Pearson  $\chi^2$  test applied to a crosstabulation. For our analyses, we used 50,000 permutations of the data. In addition, we ask if either of the groupings are related to students' age. For the analysis, we employed a further variation of the conventional Pearson  $\chi^2$  test, the Cochran-Mantel-Haenszel test (cmh test). The cmh test allows the age categories to be treated as ordered categories. Everitt and Hothorn (2006) discuss the application of permutation tests to cross-tabulations.

The cluster analyses (both k-means and hierarchical cluster analysis) were performed using functions from the R statistical environment (R Development Core Team, 2011). The imputation of missing data was performed using functions from the Hmisc package (Harrell, 2013), the permutation tests were obtained using the coin package (Hothorn, Hornik, van de Wiel & Zeileis, 2008, 2013) and graphical output was produced using the ggplot2 package (Wickham & Chang, 2013; Wickham, 2009). All three packages are written for the R statistical environment.

### Students, their communication technologies and their relationships with school, teachers and friends

A total of 108 students responded to the secondary school survey. They represented five schools located in regional centres in Queensland and Tasmania, in metropolitan Brisbane (Queensland) and Hobart (Tasmania), and in far western suburbs in the Greater Western Sydney region (New South Wales). The students who agreed to participate came from four Catholic secondary schools and one Anglican secondary school. The respondents were nearly all girls (87%), aged between 12 and 17 years. They represented all secondary year levels (Years 7 to 12 in Tasmania and New South Wales and Years 8 to 12 in Queensland), but the majority (76%) were in Years 8, 9, and 10. Interestingly, given that the large majority of students completing the survey were girls, this suggests that the patterns of usage, attitudes and behaviours identified through the survey may conform to gendered patterns of engagement in their use of the internet and digital media, and what they saw as acceptable or normal behaviour.

Students were asked whether they had access to a range of online technology and communication devices at home. Figure 1 shows a summary of their responses. The devices and technologies are listed down the page in increasing order of access. Nearly all of the students had an email account and a game console; fewer students owned computers, mobile phone, or other mobile devices. Somewhat smaller numbers owned smartphones, and only a small number of students owned tablets.

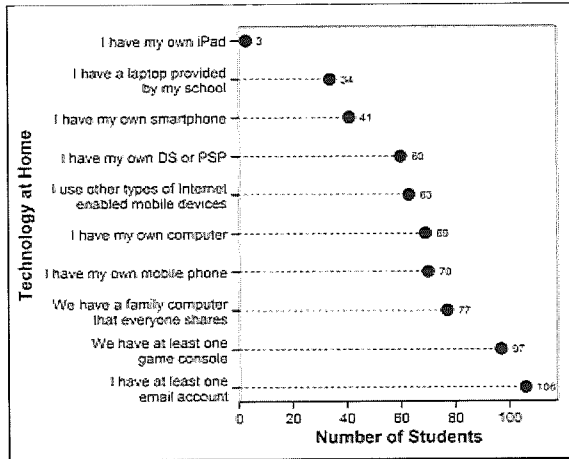


Figure 1: Number of students who have access to online communication technology and devices

When asked how much time they spent on the internet outside of school, just under half (47%) claimed they spend less than two hours each day, and another 22% claimed they spend between two and three hours per day. At the other end of the scale, nearly one quarter (23%) claimed they spend more than four hours per day. There was a similar pattern for mobile phone use, with slightly more than half (55%) either do not have a mobile phone (10%) or use their mobile phone for less than half an hour each day (44%). At the other end of the scale, a little more than one quarter (26%) claimed they use the mobile phones for more than one hour per day. However, for these students, frequency of internet use does not appear to be related to frequency of mobile phone use (spearman correlation = 0.06).

Students were asked to indicate levels of agreement with six statements concerning their relationships with school and with

friends and teachers at school. There was some missing data among the responses so that the number of valid responses ranged between 103 and 107. A summary of the responses in the form of stacked bar plots is given in Figure 2. The statements are shown down the page in decreasing order of the number of students who agreed with each statement. The length of each bar segment represents the percent of students who responded in each response category. The numbers within the segment give the number of students who responded in each response category.

The majority of the students agreed that their relationships with school and with their friends and teachers at school are positive, with fewer than ten students disagreeing with most of the statements. The level of disagreement increases a small amount to fifteen for the statement 'School is a nice place to be', and increases further again to 23 for the statement 'I care what others

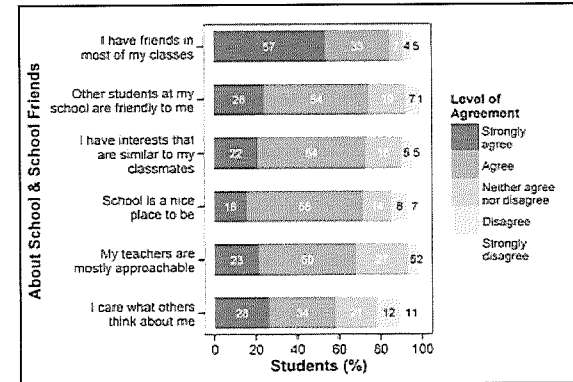


Figure 2: Students' relationships with school, teachers, and school friends

think about me'. The picture that emerges is of a group of students largely comfortable with their relationships at school, with most agreeing or strongly agreeing that they have friends in most classes, and the large majority finding other students friendly and with shared interests, and experiencing school as 'a nice place to be'. The comment with which the greatest number of students disagreed was 'I care about what others think of me', suggesting a level of maturity and self-esteem among these students that might render them less vulnerable to the opinion and judgement of others.

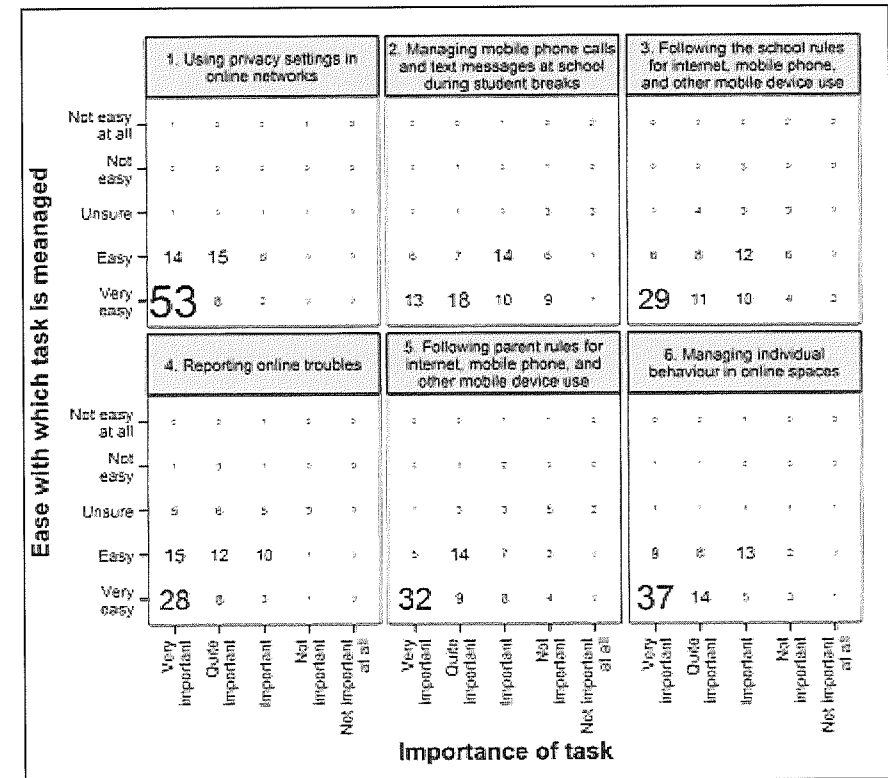


Figure 3: Cross Tabulations of Responses

### Beliefs and practices concerning online safety and wellbeing

Students were presented with six tasks concerned with online safety and wellbeing, and were asked to rate the **importance** of each task in maintaining their own online safety and wellbeing. For the same set of practices, the students were asked to rate **how easy** it was to manage each task. There was some missing data in each set of tasks so that for the 'importance of task' set, the number of valid responses ranged between 102 and 107, and for the 'ease with which the task is managed' set, the number of valid responses ranged between 101 and 106. Figure 3 gives a summary of the responses in a series of cross-tabulations. The tasks are shown in the strip at the top of each chart. The horizontal axis gives the scale for their rating of the importance of the task, and the vertical axis gives their rating for the ease with which the task is managed. The numbers in the body of the chart give the number of students in each cell of the cross-tabulation. In addition, the font size of each number is in proportion to the number of students in each cell of the cross-tabulation; that is, a small font represents few students, a large font represents many students.

The majority of the students rate the tasks as important. More than 90% of the students rate the three tasks that do not involve rules of some kind (Tasks 1, 4 and 6) as important. A somewhat smaller percentage, but still more than 80%, rates the two tasks that involve school or parental rules as important. However, only 71% rate the task 'Managing mobile phone calls ... during school breaks' as important. There is an interesting

distinction here between initiatives one needs to take oneself (Tasks 1, 4 and 6 – using privacy settings in online networks, reporting online troubles, and managing individual behaviour in online spaces), and obeying rules set by others, whether parents (Task 5) or teachers (Task 6), about when and how to behave. The perceived importance of Task 2 (managing mobile phone calls and text messages during breaks) is less than for the other items, suggesting that for many students adhering to guidelines set by teachers and parents may be as much a matter of obedience as one of safety, and that in times regarded as outside the parameters of home and the school timetable, responsibility shifts, and decisions about mobile phone use and texting are the student's own. If this is the case, figures for Task 2 may more accurately reflect students' sense of the potential 'dangers' of mobile phones as somewhat less severe than figures for Tasks 3 and 5 suggest, when mobile phone use is linked both with other digital contexts (the internet and other mobile device use) and with the need to obey parental or teacher rules.

Students' rating of the ease with which a task is managed show a similar pattern to those seen in ratings of importance. The majority of students rate the tasks as easy to manage (for all except one task, more than 80% rate the tasks as easy). The percentage for the exception, 'Reporting online troubles' is slightly lower at 75%. Again, this figure is suggestive in a number of ways. Reasons may relate to students not knowing where or how to report online troubles, to how they see themselves and wish to be seen by others, or to managing relationships with figures in authority to achieve outcomes that will not impact

upon future actions negatively. As one older girl reported, she would not talk to adults about online problems because she feared they would limit her online participation – 'adults will over-react and it will cause more trouble for me'. In response to the free-text question in the survey 'How do you think the presentation could be improved?' another, younger, student wrote 'by helping people practice how to tell a parent without them taking away your phone or Facebook'. However, overall most students rated gaining new information about reporting online troubles from the ACMA program as valuable for themselves and others.

Is there a relationship between importance and ease? Figure 3 shows that there is an association between students' ratings of importance and their ratings of the ease with which the task can be managed. Most responses are at the 'important' end of the importance rating and at the 'easy' end of the rating for ease of managing the task. Further, as discussed above, there is a pattern evident for Tasks 2, 3, 5 and 6; namely, there are large numbers of students who find management of the task easy enough, but some of these students are not so concerned with the importance of the task.

We applied the procedure outlined in the 'Methods of analysis' section to the students' responses to the set of variables dealing with 'importance of task'; that is:

- We imputed the missing data
- We standardised each variable
- We applied hierarchical clustering to obtain starting values
- Using the starting values from the previous step, we obtained k-means cluster solutions for

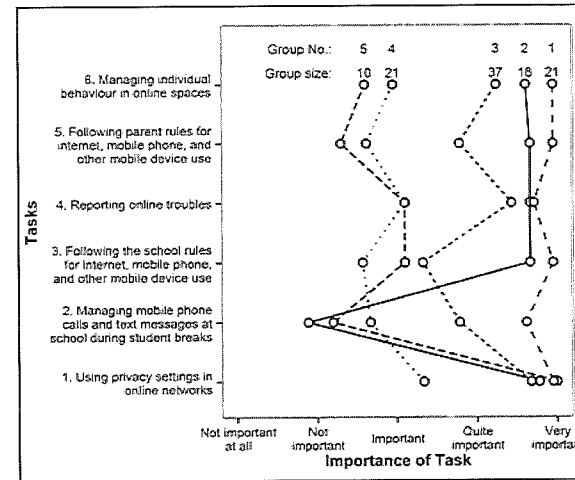


Figure 4: Means for the groups formed on the basis of the 'importance of task' items

- 2-cluster solution through to the 10-cluster solution
- We applied the 'increase-in-variance' rule-of-thumb to determine the optimal number of clusters.

Application of the increase-in-variance rule-of-thumb to the solutions obtained for the 'importance of task' set of items indicated a 5-cluster solution. The 5-cluster solution accounted for 59.9% of the variance (averaged across the six variables), an increase of 5.4% over the 4-cluster solution. Similarly, application of the rule-of-thumb to solutions obtained for the 'ease with which the task is managed' set of items indicated a 5-cluster solution. The 5-cluster solution accounts for 65% of the variance (averaged across the six variables), an increase of 6.7% over the 4-cluster solution. Figure 4 gives the means for each group of students on each variable for the

'Importance of task' set of items; and Figure 5 gives the means for the 'Ease with which the task is managed' set. In both cases, the means are positioned on the original scales.

With respect to the 'importance of task' set of items (Figure 4), we characterise the groups of students as follows:

- Group 1 (21 students) rate all six items as very important.
- Group 2 (18 students) has a similar profile to Group 1 in that Group 2 students rate the importance for five of the six items highly. They differ from Group 1 students in their rating of the item concerned with managing mobile phone calls and text messages at school during school breaks. On the whole, Group 2 students do not rate this item

- as very important.
- Group 3 (37 students) also have a profile similar to Group 1 across the six items, except the students, on the whole, rate the importance of the tasks as slightly less important than the Group 1 students.
- Group 4 (21 students) has a similar profile to Group 3 except the students, on the whole, rate the tasks less important still.
- Group 5 (10 students) has a profile similar to Group 4 profile except for their rating of the importance of using privacy settings in online networks. These students rate this task as important though they rate the other tasks as less important.

All groups except for Group 4 rate the task concerned with privacy settings as very important; whereas, Group 4 students rate it as less important, though still at the 'important' point on the scale.

Turning to the 'ease with which the tasks are managed' set of items (Figure 5), we apply the same procedure to the set of variables as outlined for the 'importance' set. We characterise the groups of students as follows:

- Group 1 (51 students, nearly half the students) claim to have no difficulty with managing any of the tasks.
- Group 2 (12 students) has a profile similar to Group 1 except that Group 2 students claim somewhat more difficulty with managing mobile phone calls and text messages at school during breaks.
- Group 3 (32 students) has a profile similar to Group 1 except that Group 3 students rate the ease with which the tasks are managed somewhat

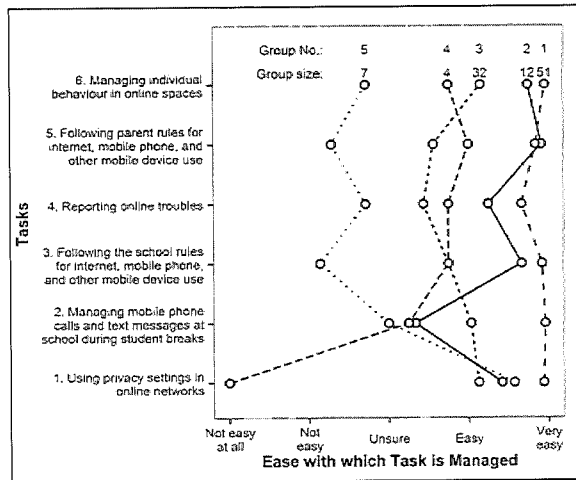


Figure 5: Means for the groups formed on the basis of the 'ease with which task is managed' items

- lower than Group 1.
- Group 4 (4 students) has a profile reasonably similar to that of Group 3 except these four students claim that it is not easy to manage their privacy settings.
- Group 5 (7 students) find it easy to manage the task dealing with privacy settings, but somewhat more difficult than other groups to manage the other tasks.

What does this pattern suggest? The majority of students (83) – those in Groups 1 and 3 – report little difficulty in managing behaviour, following rules, whether from the school or parents, reporting online difficulties, managing phone calls and text messages during breaks and using privacy settings. The 12 students in Group 2 similarly find most tasks easy, with the possible exception of managing phone calls and text messages at school. The seven students in Group 5, by contrast, are 'not sure' about

how easy it is to manage online behaviour, follow rules, report troubles or manage phone calls and texts during breaks. All of these students find managing privacy settings easy. However, for the four students in Group 4, while they find most tasks relatively easy, they find using privacy settings 'not easy at all'.

There are a couple of observations that might be made here. The most common reported changes following the ACMA presentation concerned checking or changing privacy settings, and not putting identifiable images or information online. Both the Cybersmart program and students and teachers emphasised the importance of acting in this area. The number of comments regarding changes made suggests that managing this technical aspect provided students with tangible actions they could take, a way to assuage anxiety (whether their own or their parents') and confirmation

of their own sense of control. Group 5's uncertainty about ease of reporting online troubles is consistent with comments from case study interviews reflecting a lack of awareness among students about how to do this, and to whom. More generally Figure 5 suggests that with the exception of the four students in Group 4, young people in this age group are fluent and confident users of online and mobile communication technologies who experience little difficulty, contrary to popular fears.

### Is there a relationship between importance and ease?

We use versions of cross-tabulations to ask if the two groupings are related to each other, and to ask whether or not the group membership is related to students' age.

We find that there are associations between the two group formations ( $\chi^2=11.30, p=0.0012$ ). The numbers of students in the cells of the cross-tabulation are small, but there are two notable and not unexpected associations. Students in the group that rates all tasks as important (Group 1 in Figure 4) tend to be found in the group who find it easy to manage the tasks (Group 1 in Figure 5). Similarly, students who rate the tasks as important except for the task concerned with managing mobile phone calls during school breaks (Group 2 in Figure 4) tend also to be found in the group that rates all tasks as easy to manage except for the task concerned with managing mobile phone calls during breaks (Group 2 in Figure 4).

We find that there is a statistically significant association between groups formed on the 'importance



of the task' items and students' age ( $\chi^2=18.06, p=0.0008$ ). Only three of the groups show a relationship with age: there is a tendency to find younger students in Group 1 – the group that rates all tasks as important (Figure 4) and a tendency to find older students in Groups 4 and 5 – the groups that rate the tasks as less important.

However, we find no statistically significant associations between groups formed on the basis of 'ease with which the tasks are managed' items and students' age; whether we treat age as an ordered variable ( $\chi^2=1.12, p=0.90$ ), or, with fewer restriction, as a purely categorical variable ( $\chi^2=6.72, p=0.96$ ).

**Conclusion**

For students in this study, tasks associated with managing online safety in general presented little difficulty. Most students had little trouble in managing tasks they deemed important, but not all tasks presented to them seemed as important as others. Tasks to do with meeting the requirements of home and school rules, or

managing one's own time, as in managing phone calls and text messages during school breaks, were not seen as particularly important by about a third (31) of the participants. However, reporting online troubles was regarded as important or very important by all. This was also rated as relatively easy to do, by all but seven students; however, this same group of students found obeying rules 'not easy'. Whether this was for technical reasons or more to do with relationships, developing autonomy, and a social context in which such behaviour is not 'cool' is not clear, but this finding is reflective of the complexity of designing programs for working with this age group. More generally, recognition of the distinction between what is important to do, and what is easy, for this age group, might provide sharper focus to some aspects of cybersafety education programs. The existence of this distinction reinforces the value of initiatives taken by ACMA and other government and community agencies to more actively use students' familiarity

and ease in the development of such programs, positioning students as designers and creators of information to support online safety, rather than simply being 'on the receiving end'.

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**References**

Australian Bureau of Statistics. (2011). 8146.0 - Household use of information technology. Australia, 2008-09. *Australian Bureau of Statistics*. Retrieved October 12, 2013, from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/0/5B15663305C2B5DCCA25796600153023?opendocument>

Australian Bureau of Statistics. (2013). 4901.0 - Children's participation in cultural and leisure activities. Australia, Apr 2012: Main features - internet and mobile phones. *Australian Bureau of Statistics*. Retrieved October 12, 2013, from <http://www.abs.gov.au/ausstats/abs@.nsf/Products/4901.0-Apr-2012-Main+Features-Internet+and+mobile+phones?OpenDocument>

Australian Communications and Media Authority. (2009). *Adult digital media literacy needs: Qualitative research report*. Commonwealth of Australia (ACMA). Retrieved from [http://www.acma.gov.au/webcontent/assets/mainlib310665/adult\\_digital\\_media\\_literacy\\_needs\\_research.doc](http://www.acma.gov.au/webcontent/assets/mainlib310665/adult_digital_media_literacy_needs_research.doc)

Australian Communications and Media Authority. (2012). Media Release: Cybersafety presentations for National Child Protection Week. *ACMA*. Retrieved October 12, 2013, from <http://www.acma.gov.au/theACMA/Newsroom/Newsroom/Media-releases/cybersafety-presentations-for-national-child-protection-week>

Australian Communications and Media Authority. (2013). Digital reputations: Don't let your online life affect your real life. *CyberSmart*. Retrieved October 12, 2013, from <http://www.cybersmart.gov.au/teens/how%20do%20%20%20deal%20with/digital%20reputation.aspx>

Collin, P., Rahilly, K., Richardson, I., & Third, A. (2011). *The benefits of social networking services: A literature review*. Melbourne: Cooperative Research Centre for Young People, Technology and Wellbeing. Retrieved from [http://www.uws.edu.au/\\_data/assets/pdf\\_file/0003/476337/The-Benefits-of-Social-Networking-Services.pdf](http://www.uws.edu.au/_data/assets/pdf_file/0003/476337/The-Benefits-of-Social-Networking-Services.pdf)

Cooksey, R. W. (2007). *Illustrating statistical procedures for business, behavioural and social science research*. Prahran, Vic: Tilde University Press.

Cros, D., Shaw, T., Hearn, L., Epstein, M., Monks, H., Lester, L., Thomas, L., & Data Analysis Australia. (2009). *Australian covert bullying prevalence study*. Canberra, ACT: Commonwealth of Australia (Department of Education, Employment and Workplace Relations). Retrieved from <http://www.dcewr.gov.au>

Dempsey, A. G., Sulkowski, M. L., Nichols, R., & Storey, E. A. (2009). Differences between peer victimization in cyber and physical settings and associated psychosocial adjustment in early adolescence. *Psychology in the Schools*, 46(10), 962-972. doi:10.1002/pits.20437

Everitt, B. S., & Hothorn, T. (2006). *A handbook of statistical analysis using R*. Boca Raton, FL: Chapman & Hall / CRC.

Griffith Institute for Educational Research. (2011). *The ACMA Cybersmart Outreach Program evaluation: Qualitative report* (p. 51). Griffith Institute for Educational Research. Retrieved from <http://beta.acma.gov.au/~media/Cybersmart%20Programs/Information/Word%20Document/The%20ACMA%20Cybersmart%20Outreach%20Program%20Evaluation%20Qualitative%20Report%20October%202011%20Griffith%20University.DOCX>

Guan, S.-S. A., & Subrahmanyam, K. (2009). Youth internet use: risks and opportunities. *Current Opinion in Psychiatry*, 22(4), 351-356. doi:10.1097/NCO.0b013e32832bd7c0

Harrell Jr, F.E. (2013). *Hmisc: Harrell miscellaneous*. Retrieved from <http://cran.r-project.org/web/packages/Hmisc/index.html>

Hinduja, S., & Patchin, J. W. (2007). Offline consequences of online victimization: School violence and delinquency. *Journal of School Violence*, 6(3), 89-112. doi:10.1300/J202v06n03\_06

Hothorn, T., Hornik, K., van de Wiel, M. A., & Zeileis, A. (2008). Implementing a class of permutation tests: The coin package. *Journal of Statistical Software*, 28(8), 1-23.

Hothorn, T., Hornik, K., van de Wiel, M. A., & Zeileis, A. (2013). *Coin: Conditional inference procedures in a permutation test framework*. Retrieved from <http://cran.r-project.org/web/packages/coin/index.html>

Ito, M., Horst, H., Bittanti, M., Boyd, D., Herr-Stephenson, B., Lange, P., Pascoe, C., & Robinson, L. (2009). *Living and learning with new media: Summary of findings from the Digital Youth Project*. USA: MIT Press.

Johnson, L., Adams, S., & Cummins, M. (2012). *NMC Horizon Report: 2012 K-12 Edition*. Austin, Texas: The New Media Consortium. Retrieved from <http://www.nmc.org/pdf/2012-horizon-report-K12.pdf>

Kowalski, R.M., Limber, S., & Agaston, P. (2008). *Cyber bullying: bullying in the digital age*. Malden, MA: Blackwell Publishing.

Livingstone, S., Haddon, L., Görzig, A., & Ólafsson, K. (2010). *Risks and safety on the internet: the perspective of European children. Initial findings from the EU Kids Online survey of 9-16 year olds and their parents* (p. 125). London: The London School of Economics and Political Science (LSE). Retrieved from [http://www2.lse.ac.uk/media/lsel/research/EUKidsOnline/Initial\\_findings\\_report.pdf](http://www2.lse.ac.uk/media/lsel/research/EUKidsOnline/Initial_findings_report.pdf)

Livingstone, S. & Haddon, L. (2009). *EU Kids Online: Final report*. LSE, London: EU Kids Online. (EC Safer Internet Plus Programme Deliverable D6.5). Retrieved from <http://psyenc.aqa.org/journals/dp/21714/236/>

Patchin, J.W., & Hinduja, S. (2010). Cyberbullying and self-esteem. *Journal of School Health*, 80(12), 614-621. doi:10.1111/j.1746-1561.2010.00548.x

R Development Core Team. (2011). *R: A language and environment for statistical computing. Reference index*. Vienna, Austria: R Foundation for Statistical Computing. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.144.5507>

Ringrose, J., Gill, R., Livingstone, S., & Harvey, L. (2012). *A qualitative study of children, young people and 'trolling': a report prepared for the NSPCC*. Retrieved from <http://eprints.lse.ac.uk/44216/>

Selwyn, N. (2013). *Education in a digital world: global perspectives on technology and education*. New York: Routledge.

Third, A., Richardson, I., Collin, P., Rahilly, K., & Boltan, N. (2011). *Intergenerational attitudes towards social networking and cyber safety: a living lab*. Sydney: Inspire Foundation.

Wickham, H. (2009). *ggplot2: elegant graphics for data analysis*. New York: Springer.

Wickham, H., & Chang, W. (2013). *ggplot2: An implementation of the grammar of graphics*. Retrieved from <http://cran.r-project.org/web/packages/ggplot2/index.html>

Ybarra, M. L., & Mitchell, K. J. (2007). Prevalence and frequency of internet harassment instigation: Implications for adolescent health. *Journal of Adolescent Health*, 41(2), 189-195. doi:10.1016/j.jadohealth.2007.03.005