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Visualising the Cyberbully

Analysing teenagers' expressive drawings

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ABSTRACT

Through the Internet and mobile technologies teenagers immerse themselves in networks of social relationships that often provide unhindered terrain for the cyberbully. Encouraging teenagers to verbalise about relationships with people they cannot see face to face is particularly problematic. Here, we used the generation of visual imagery during a role play activity with over 400 11 to 18 year olds to gain a greater understanding of cyberbullying. Teenagers were asked to carry out a web design activity about cyberbullying; this provided an appropriate context in which they could generate visual data and yielded 129 storyboards. Participants were in role as designers throughout and very open, fluid and productive in the task. Visual analysis highlighted teenagers's reliance on their understanding of physical bullying to portray the cyberbully and identified more concrete manifestations of the cyberbullying threat. The use of a drawing approach with teenagers proved highly productive and the value of tapping into teenagers sophisticated visual language to help them express with great clarity the things that they find difficult to talk about is discussed.

1. INTRODUCTION

Bullying in school is an international problem [1]. With the prevalence of on-line social activity, there has been a significant change in the form that bullying can take, in its medium of delivery and its reach outside of school. Bullying and harassment of adolescents using technology is a broad problem, impacting not only on use of computers but also includes the use the short message service [SMS] on mobile phones [2]. In a study undertaken by NCH [3] where 770 youngsters aged 11 to 19 completed a mobile bullying survey, text bullying was the most significant form of bullying at 14%, followed by Internet chat rooms at 5% and email 4%; "*The school bully – depicted through the ages as the big, burly, and yes, dim kid hovering over the meek – now looms even larger in cyber space*" [4].

Cyberbullying, the term used to describe online bullying behaviours, is the use of electronic devices and information, such as email, instant messaging, text-messages, mobile phones, pagers and Web sites, to send, or post cruel or harmful messages or images about an individual or a group [5]. The problem is compounded because often teachers and to a lesser extent parents, "*are not as facile with the new technology, and are hard pressed to keep tabs on what kids are doing*" [6]. This means that children often communicate in ways which are simply unknown to adults and away from their supervision, so it is difficult to understand the real nature of the problem or what to do about it [7]. However, this perhaps shouldn't be surprising given that, in most cases aggressive acts are usually committed in places where, and at times when, there are few adult witnesses [8]. Electronic communication devices offer bullies access to their victims 24/7, even when the victim is at home [9] and is becoming increasingly prevalent for teenagers [10].

Cyberbullying is a significant issue, however, ensuring that teenagers are aware of it and have strategies in place to combat it poses considerable challenges as unlike physical bullying with its stereotypical

manifestations of the bully and the victim, the cyberbully is never seen face-to-face is consequently much harder to visualise. In this paper, we discuss an approach which tries to capture teenagers' views and understanding of cyberbullying through using expressive drawing. In section 2, we review existing approaches for analysing children's and teenager's expressive drawings, highlighting the benefits of taking a visual approach to collecting information. In section 3 we briefly describe the workshop where children and teenagers took part in a web site design activity focused at combating cyberbullying. In section 4 we present our results, providing an analysis of the expressive drawings of cyberbullying and cyberbullying scenarios and briefly discuss the approach that was used to encourage children to visualise about cyberbullying in a creative and productive context that yield highly insightful illustrative data.

2. CHILDREN'S EXPRESSIVE DRAWINGS

Encouraging children to draw to express their feelings has been a technique used by researchers for some time. From an early age children are encouraged to draw, and it is in drawing that they first begin to express themselves on paper and acquire the motor skills to use a crayon or coloured pen or pencil. The fact that drawing and "colouring in" is a largely undisciplined and fun activity, means that children associate drawing with leisure and relaxation. Drawing is therefore the first medium through which children express and clarify their understanding and ongoing impressions of the world around them [14], [15]. Children's drawings can be remarkably expressive. The work of many modernist and postmodern painters has a child like quality of expressiveness that has been widely acknowledged and many artists have been greatly influenced by children's drawings [16].

In the context of art education Jolley et al [16] investigated children's expressive drawings and in particular the ability to express happy and sad qualities in their drawings. In a study of drawings of children aged 4 to 12 years, both the quantity and quality of expressive happy and sad drawings of predetermined and free topics increased with age. Further correlations between expressive scores and performance on a visual realism drawing task tentatively indicated that expressive and realism skills in drawings are only weakly related. However, assessing the ability of children to express themselves has far wider implications that simply assessing artistic ability.

Professionals, in all kinds of contexts, who need to elicit information from children have to overcome a communication barrier to tap into what children are thinking. Creative therapies provide unique and powerful means for helping children to recover from trauma for example [17]. Mental health practitioners use drawing as a quick screening tool to highlight the need for further detailed psychiatric assessment. Koppitz's emotional indicators checklist for mental health involves the child in 'Human Figure Drawing' or HFD. Developed in 1968, Koppitz spent many years analysing and interpreting children's HFDs. Koppitz found that the HFDs could be analysed in two different sets of signs and indicators; the first relating to children's age and level of maturation, or developmental items and the second set relating to children's attitudes and concerns, called emotional indicators. Using a checklist of the basic components of a figure drawing to assess developmental items and a checklist of other signs, special features and omissions, Koppitz used the HFDs to reflect and reveal the child's anxieties, concerns and attitudes[18].

Comparing three different strategies for interviewing children about emotionally laden events, Salmon et. al. [19] used draw and tell, re-enactment and tell, and verbal – simply tell, to find out if children's language ability and/or temperament affected the information that interviews were able to obtain from the children in the study. They reported that children in the drawing interview condition reported more information than those in the other two interview conditions.

Focusing specifically on the face, other researchers have investigated children's ability to represent emotions in their drawings. Sayd [19] found that in their drawings of facial expressions, children show a preference for the mouth and other representative indicators over the eyebrows to reflect emotion in faces. In a study which involved children aged 4 to 10yrs, children's drawing of the mouth was better than that of the eyebrow – this the researchers associated with the ability to draw oblique lines and not paying attention to detail.

To date, much attention has been given to the use of drawing to elicit information from children, but much of this work is focused on children between the ages of 4 to 12 yrs because it is difficult to get these children to express their emotions verbally. However, once children reach the age of 12 there seems to be an

assumption that it is no longer valuable to look at their drawings and there is a gap in the research in this area. While it must be accepted that children's intellectual and language ability from aged 12 make other methods seem more feasible and practicable, getting teenagers to verbalise about damaging relationships with people they cannot and probably will never see, remains an issue. It must also be recognised that the extent to which children inhabit a 'visual' world is unprecedented. Children are increasingly the target of complex visual messages, and it seems logical that their 'visual language' and accuity to pictures and *the visual* is more sophisticated than that of children who grew up before the 'digital age'.

The following study set out to look at children's understanding of the cyberbully, encouraged them to express their ideas in drawings and text and identified an important gap in terms of children's heavy reliance on stereotypical images of the bully and victim to express their understanding of cyberbullying. Further, it will be argued that this gap would have been harder to detect and appreciate from information gathered through more traditional research methods. In particular it highlights the value of taking a role play approach and an appropriate task to disguise the data gathering activity, turning it into a fun and productive activity.

3. METHODS: DESIGN WORKSHOP

The design workshop took place in the assembly hall of a large secondary school in the North of England in which there was plenty of space for children and teenagers to do group work. The hall accommodated roughly two hundred children at a time, so the workshop was run four times across the day. The groups comprised the following: Group 1: children from Years 7 and 8, aged 11 to 12yrs; Group 2: children from Year 9, aged 13 to 14yrs; Group 3: children from Years 10 to 11, aged 15 to 16yrs; Group 4: young people from the 6th Form aged 17-18yrs.

Fig. 1. Group of children involved in storyboard designs on cyberbullying

Each workshop began with a thirty minute presentation on different 'roles' within bullying situations – including the bully, the victim and the bystander. Children were then introduced to the idea of cyberbullying and the many different forms this can take and were introduced to the software product FearNot designed to provide children with strategies for dealing with bullying situations. The presenters took an interactive approach, encouraging children to contribute to the discussion and ensuring that they understood the goals of the workshop.

Children were then asked to produce one design storyboard of either a poster, a web site or a game to raise awareness among children like themselves of cyberbullying and how to stop it happening. Children were asked to get into groups of four to six, given sheets of A3 paper and coloured felt tip pens and allowed to find a suitable space to work on the task within the school hall [Fig. 1]. The workshop activity was facilitated by four researchers, including the two presenters and one member of the school staff responsible for ICT teaching across the curriculum. Where there were any uncertainties about the task, the facilitators explained further what the children were being asked to do. Facilitators did not get involved with any group discussions with children about the task; this ensured that the children were not directed or steered in their design activity during this part of the workshop. Children were given just over 40min to complete the task. By the time children had found a place to work and had the materials they needed, they probably had approximately thirty minutes to complete the task. Workshops were conducted in 90min cycles. During each workshop cycle there was very limited opportunity for children to glean ideas from other groups as they

were spread out across the large hall and in the stage area at the front; it is important to bear this in mind in the discussion that follows. In addition, no specific direction was given about the content of storyboards in terms of the requirement for pictures and/or text.

At the end of each workshop, design storyboards were collected, labelled and stored for later analysis. Each group were required to produce one design storyboard. At the end of the session Group 1: [11-12yrs]submitted a total of 39 storyboards; Group 2: [13-14yrs] submitted 24 storyboards; Group 3: [15-16yrs] submitted 37 storyboards and Group 4: [17-18yrs] submitted 29 storyboards. In total, 129 design storyboards were submitted, although four were either almost blank or with illegible text; consequently at the end of the workshop 125 design storyboards were available for analysis. The entire workshop took 6 hours to complete; just short of one full school day.

4.   Results and Interpretation

The composition of the storyboards were categorised according to whether the children had used "T" text only, "P" pictures only or "TP" text with pictures in their designs. Storyboards were further categorised according to whether the children and teenagers had produced early design storyboards for a web site, "W"; designed a game, "G" or made early sketches that could neither be discerned as either a web site or a game "S".

Table 1. Categorisation of Design Storyboards

Composition	Total	%	Design	Total	%
"T"	28	22%	"W"	26	21%
"P"	7	6%	"G"	6	5%
"TP"	90	72%	"S"	93	74%

The majority of design storyboards, 72%, were composed of both text and pictures and predominantly consisted of early sketches which were not specifically web sites or games. The lack of differentiation of design storyboards may be due to the fact that children only had 30min to complete the activity. However, this lack of differentiation into web sites or games did not reduce in any way the expressiveness of the work undertaken, particularly the pictures, which provided a very rich source of visual data about cyberbullying for analysis.

Where children had thought up a title or strap-line, this was recorded. The written content generated by the children was recorded, alongside a description of the visual design that the children had created, in the form of a written scenario or narrative. These 125 design storyboards provided a significant body of text and pictures for analysis. Given the volume of design artifacts it is impossible to analyse here all the material generated, however certain themes featured strongly in the children's interpretation of what was expected. In the analysis that follows, these themes will be discussed with reference to a small selection of children's design storyboards. Unless otherwise stated, the drawings shown are extracts from larger storyboards.

Evidence of Children's Use of Technology: throughout the design storyboards there is evidence in both text and pictures of the manner in which technology is part of the everyday lives of the children who took part in the workshop [Fig. 2]. There are numerous illustrations of computers, keyboards, mice and mobile phones in particular. The written text on the storyboards is also indicative of familiarity with technology and in particular there are many instances where the children write in text speak, abbreviating words and reducing sentences down to a few truncated words.

Fig. 2 Evidence of children's use of technology

There are also many examples of where children create domain names for their web site designs. Also as this workshop involved six former pupils [aged 16-18 years], there is evidence of a deeper understanding of web technologies, e.g. a storyboard that refers to the Linux system and malware. In general the drawings and text generated by children across the workshop provides strong evidence of their familiarity with Internet technologies and mobile communication. This evidence is strongest where children create scenarios where they illustrate the technology actually in use in bullying situations e.g. where children draw mobile phones with text present on the LCD or where children draw computer interfaces, likewise that carry bullying images or bullying phrases.

Illustrations of Technology Being Used for Bullying: Across all age ranges children and young people depicted technology, mainly computers and mobile phones displaying bullying language [Fig. 3]. For example, there were 18 occurrences where children drew pictures of either mobile phone displays or computer screens carrying the text "I hate you" or "I h8 u". In addition there were two instances where children had included the text message "U R FAT" on the display of the mobile phone In most cases the mobile phones or computer equipment was drawn in reasonable detail.

Fig. 3 Illustrations of technology being used for bullying
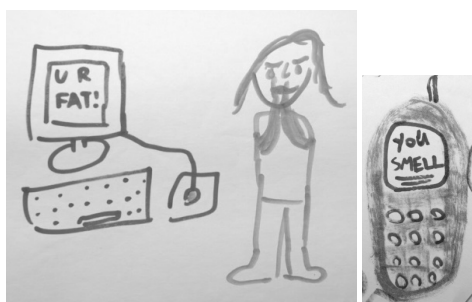
Stereotypes of 'The Bully' and 'The Victim in Children's Drawings: wherever children depicted bullies and victims their drawings closely conformed to popular stereotypes [Fig. 4].

Fig. 4 Stereotypes of 'The Bully' and 'The Victim'
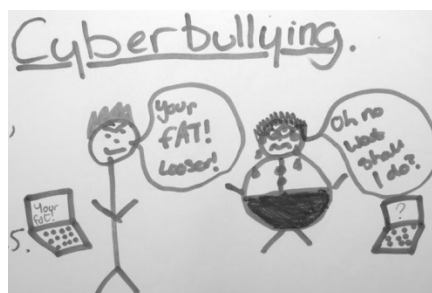
For example bullies were usually larger, had nasty stern faces and said horrid things. Victims were either drawn very fat, very small, wore glasses and were saying things that portrayed them as powerless and submissive. While in cyber-bullying scenarios the victim is unlikely to ever see who it is that's bullying them, children still perceived bullies and victims in these stereotypical roles. In the absence of any concrete experience of what a cyberbully looks like, children assume that they conform to popular perceptions of what bullies and victims look like and how they behave.

Depiction of Bullying Scenarios: In a number of instances, children depicted actual scenarios using match stick characters using technology, engaging in a bullying scenario [Fig. 5]. Although some groups did take into account broader bullying 'roles' of the bully, victim, bystander and defender, the majority of roles that featured in drawn scenarios were polarised around the roles of the bully and the victim. These scenarios were typified by the bully saying nasty things via the mobile phone and the victim taking a passive role in the sense that they were not responding to the bullying remark. In the majority of scenario drawings, the drawn characters are represented as physically confronting each other, with the technology they are using adjacent to them. Given the uncertainty surrounding the manifestations of the cyberbully, and the more complex pattern of roles defining bully and victim, likewise children's drawings conform to stereotypical views of these negative relationships. This in turn suggests that children need more concrete manifestations of the cyberbully and cyberbullying behaviour to help them visualise and guard themselves against the potential threat.

Fig 5. Depiction of physical bullying scenarios

Illustrations of Effecting Change in Bullying Behaviour in Virtual Worlds: There were a number of instances where children opted to design a 'before' and 'after' scenario showing the bullies and victim before any intervention including how this impacted upon the life of the victim, and the changes to visual context after the bullying situation had been resolved [Fig 6].

Fig 6. Drawings of before and after scenarios in virtual worlds


It is clear from these drawings that children clearly recognise the negative impact of bullying in general on other children's happiness, health and well being. Further children were able to visualise with some very sophisticated drawing, children who were very sad in the bullying scenario and children whose lives had been transformed because the bullying threat had been removed. Compositionally, the negative 'before'

scenarios were usually smaller and confined to a small region of the design, on upper left hand side of the paper – with the happier scenario dominating the design.

Bullies Getting Their "Come-uppance" Through Justice and Retribution: children were inventive when it came to depicting bullies being found out and getting the 'justice they deserved' [Fig. 7]The elaborate scenario depicted in Fig. 7 shows the cyberbully at their computer, being judged by 'God', taken away in handcuffs and then locked into a prison cell indefinitely – with the key thrown away. This was one of a number of scenarios where the bully is caught, judged and punished. However, there were also many scenarios where the cyberbully is stopped but then joins a happy group including the victim, so the children in the study were not always totally damning of the cyberbully.

Fig 7. Bullies getting their 'come-uppance'
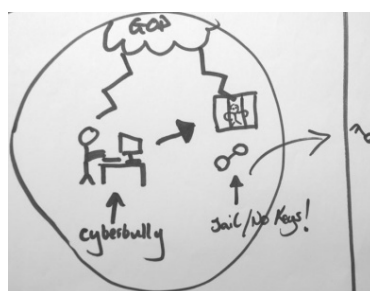
5. DISCUSSION

Teenagers are fast becoming the primary consumers of digital devices and on-line social activities. Ensuring that children and teenagers are alert of the dangers and threats of cyberbullying is only part of the solution. Teenagers must also have appropriate strategies for coping with cyberbullying and this is a critical issue for educators and parents. One of the main challenges of developing strategies for cyberbullying is for teenagers to visualise the bully or victim in this new social space. In our study, teenagers frequently reverted to what they know of real life direct bullying to visualise and conceptualise the threat of cyberbullying. This perspective is not particularly appropriate, as it gives children a poor understanding of the damage that can be done to them by cyberbullies and likewise fails to help them appreciate the potential damage they could be inadvertently doing to others.

In the design workshop reported above, groups of children aged 12 to 18 produced some very sophisticated drawings which reflected the role of technology in their lives, provided insights into how computers and mobile phones are used in cyberbullying, hinted at the narrow, stereotypical view that children have of bullies and victims in cyberbullying scenarios, provided insights into children's emotional understanding of what it is to be bullied and the benefits of stopping bullying behaviour in terms of children's happiness and well being and highlighted children's strong sense and need for justice and retribution. In the drawings children attempted to visually convey 'cyberbullying', by associating physical bullying scenarios with technology positioned adjacent to bullies and victims in their drawings. It was clear from the drawings that both the lack of face to face interaction with the cyberbully and the paucity of concrete imagery to support further understanding, children do not have any real visual experience to tap into – both in terms of what cyberbullies look like or where and when they carry out bullying activity. This inability to visualise cyberbullies, it is argued, could make them more vulnerable because they cannot realistically comprehend the nature of the cyberbully. In the absence of real experience of the cyberbully, children hang onto outmoded and stereotypical views of bully and victim which is at least unhelpful and at worst could leave them unprepared to deal with the threat.

However, engaging participants in a role play activity which was relevant to the context and problem domain, made the data generation process much more palatable for children and teenagers by turning it into a fun, positive and productive experience. The storyboards generated, revealed a wide variety of relevant, interesting and sometimes surprising visualisations. Involving children in design work around cyberbullying behaviour, particularly in groups, has several important benefits. In engaging both existing and potential

victims and bullies in discourse with their peers around these kinds of negative behaviours raises awareness, it enabled collaboration, but in a non-threatening way. Bullies in particular have the opportunity to recognise the outcomes of their behaviour themselves, rather than having an adult address them in a critical way.

To conclude, some would argue that there is an extrinsic difficulty in coming to conclusions based solely on childrens' drawings. However, the collection of such a rich data set would it is argued, not have been possible with more traditional evaluative methods, not only because of the problems of eliciting data on such a nebulous and problematic domain, but because of the inability to predict the scope or nature of childrens' real online experiences. In this research, the use of a drawing approach yielded valuable insights into the domain of the cyber-bully, and paved the way for further research and insights into this increasingly disturbing problem.

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