Empathetic Play: Proposal of an Interactive Storytelling Game as an Intervention to Cyberbullying

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Abstract: This paper describes the research and design of a prototype video game as an intervention for cyberbullying. The game focuses on empathy, which has been shown to have a positive effect on prosocial behavior, and storytelling, which has been shown to be an integral part in developing empathy with another person. By implementing current research on cyberbullying and approaches in how to deal with cyberbullies, the resulting game takes the player through a week in the life of a middle school student and their interaction with multiple cyberbullying personas. At the end of the game the player is given a choice in how to deal with their own personal cyberbully and observe the consequences of their actions. The presented game is primed for research studies into the effects that empathy, storytelling, and games can have when designing cyberbullying interventions.
Keywords: game-based learning, empathy, digital storytelling, cyberbullying

Introduction

Cyberbullying is defined as a series of events in which a person is intentionally harmed by another person or group through the use of information and communications technology. Cyberbullying can take many forms, including text information, pictures, and videos exchanged on messaging platforms and phones, public content posted to the Internet, or even by creating fake social networking profiles of the victim (Pearce, Cross, Monks, Water, & Falconer, 2011). It is unclear as to how many students experience cyberbullying, but it is estimated that an average of 6 to 30% of students are victims of some form of cyberbullying harassment (Patchin & Hinduja, 2012a). Boys have been shown to have a much higher probability of taking part in traditional bullying than girls, though there are conflicting results in the gender tendencies of participating in cyberbullying, with some studies reporting no gender differences (Ang & Goh, 2010).

With the prevalence of smartphones and other communication outlets that are available in and out of school, cyberbullies can target their victims from any place at any time. Long-term victims of bullying of any form often suffer long-term negative social and physical health outcomes in addition to negative mental outcomes such as an increased chance of bad behavior, substance and alcohol abuse, violence (Pearce et al., 2011), and increased thoughts of suicide (Patchin & Hinduja, 2010). With its wide range of impacts, it is necessary for teachers, parents, schools, and students themselves to look for solutions in preventing cyberbullying.

Achieving success in school-wide prevention of in-person bullying often requires multiple interventions (Pearce et al., 2011). One successful example is the three-year longitudinal study of the Friendly Schools program, which consisted of a combination of whole-school intervention (faculty training, bullying management, school policy, monitoring), family intervention (home activities, newsletters, parental awareness), and classroom intervention (student-centered activities, student understanding, anti-bullying tactics, bullying prevention, bullying behavior, etc.). Students who participated in the study reported fewer instances of observing bullying after 12, 24, and 36 months, being bullied after 12 and 36 months, and were much more likely to report bullying after 12 months (Cross, Monks, Hall, Shaw, Pintabona, Erceg, Hamilton, Roberts, Waters, & Lester, 2011). However, results of similar studies have shown mixed results (Pearce et al., 2011; Cross et al., 2011). In addition, several of these interventions do not apply to the online world of cyberbullying, such as teacher supervision. Taking this information into consideration, combined with the lack of research on successful anti-cyberbullying programs, it is apparent that new and ongoing interventions to prevent cyberbullying are needed.

While a single intervention to address all of these problem areas is unlikely, one main attribute in predicting cyberbullying perpetrators is a lack of empathy (Brewer & Kerslake, 2015). One of the antidotes for lack of empathy may be through the use of storytelling. Storytelling has been shown to cause a release of oxytocin in viewers, a chemical believed to be related to empathic response (Barraza & Zak, 2009). Knowing the personal story of another person has been identified as an important part in establishing an empathetic relationship with them (Gallagher, 2012). With this information, we have used the game-making software Unity 3D to create an empathy-building, story-driven game to increase student awareness and combat cyberbullying in an engaging, relatable manner. The rest of this document details the research and design process in creating the game and future directions for the project.

Cyberbullying, Empathy, and Digital Storytelling

As the above cited research shows, bullies of any type are more likely to have lower empathetic abilities than non-bullies. Empathy has been shown to be an extremely valuable trait, increasing prosocial behavior (Ang & Goh, 2010) such as generosity, helping, and cooperation (Feshbach, 1983). It is also believed that a person with empathy is better able to observe the direct and negative effects of bullying, and is less likely to adopt or continue that behavior (Jolliffe & Farrington, 2006). Therefore, increasing empathic response in cyberbullies may be an effective way to help stop or prevent negative behavior.

Children who self-reported as being more empathetic also reported being more likely to defend in-person bullying victims (Nickerson, Mele, & Princiotta, 2008). However, this observable behavior is also where the problem of cyberbullying presents itself. Cyberbullies do not see their victims or the emotional consequences of their actions, and therefore even those who would not be bullies normally or who would stop bullying after seeing its effects, continue to cyberbully victims. Given this information, it seems likely that if students were better able to form empathy with cyberbullying victims and observe the consequences of cyberbullying, they would not adopt or continue the behavior, and would be more likely to defend future victims.

One promising method to encourage students to see the consequences of cyberbully actions is through digital storytelling, leveraging technology to communicate in ways that are more interactive than traditional methods. Digital storytelling is defined as storytelling with digital media, which can include images, audio, text, and/or video. In education, digital storytelling has been shown to increase student retention of new material and comprehension of difficult material (Robin, 2006). In interviews with teachers who have used digital storytelling, increases in student engagement and motivation were among the highest responses (Dogan & Robin, 2008).

Empathy is and has been a deeply engrained part of storytelling. As Gallagher (2012) cites, “Understanding persons in the context of their situation – having a sense of what their story is essential to forming an empathic attitude toward them… Empathic reactions are stronger when we understand the personal situation of an individual than if we have abstract, detached, or merely statistical information about the plight of others.” In biological support of this, Barraza and Zak (2009) found that being exposed to an emotional video increases the release of oxytocin, a chemical that is believed to be directly related to the stimulation of empathy. As such, we believe digital storytelling in a game format may an appropriate medium to both engage students and increase empathy.

Design Process and Implementation of Game

Bullying in general is found to be more prevalent in junior and middle school students than high school students (Jolliffe & Farrington, 2006), so the content of this game (writing and scenarios) is focused on that of a middle school student. Cyberbullying is also defined as a process that is repeated over time through information and communication technology (Pearce et al., 2011), so we designed the game to take players through a week in the life of a fictional student—named Jordan Gonzalez—by interacting with and reading content, messages, and thoughts from the character’s personal computer.

We focused on user personas when creating the characters. A persona is an imaginary person meant to represent the target audience or user, and is helpful when thinking of user behavior (Dix et al., 2004, p. 201). For our personas, we looked at stopcyberbully.org’s (2016) four main types of cyberbullies: the vengeful angel, power-hungry or revenge of the nerds, mean girls, and the inadvertent bully. Due to the smaller scope of the prototype, we chose to focus on two of these personas: ‘mean girls’ and ‘vengeful angel’.

Vengeful angels don’t see themselves as bullies, but instead think they are righting wrongs other cyberbullies have made. A vengeful angel is a bully to another cyberbully, oftentimes a cyberbully who has hurt a friend of the ‘angel.’ The vengeful angel often views their actions as being just or rightful retaliation. Often,

vengeful angels don't realize that their own actions can have real consequences as well. The best way to deal with a vengeful angel is to teach them that their actions also have consequences and that counter-bullying is never the answer (Patchin & Hinduja, 2012b). The 'mean girls' form of cyberbullying is mainly conducted out of boredom or for entertainment purposes. These types of bullies are looking for a reaction, mainly from their fellow peers. Mean girls will often stop when they don't receive the attentions they desire, or find their victim unresponsive, a tactic Patchin and Hinduja (2012b) also recommend.

As previously cited, there are conflicting results as to the gender ratio of cyberbullies. Therefore, when designing the game, we selected gender-neutral names for the characters, allowing students to perceive the friend (Dylan) and victim (Jordan) as whatever gender they imagined. However, due to writing limitations, we could not unassign the cyberbully a gender. Keeping with the cyberbully archetype of a 'mean girl,' we assigned the bully to be a female antagonist for the time being. However, in the future we would like to add gender options to the game when selecting a character: boy, girl, trans, other, etc., with appropriate pronouns. In this way, the game would not only be more representative of possible real-world scenarios, but would also hopefully help in building empathy by allowing students to personify themselves more through the characters and the gender with which they identify.

The main portion of the game entails learning about the protagonist and their interactions with their bully (Figure 1), who appears to be a new friend in the beginning. At the climax of the tale, the player learns that the bully is using subterfuge to create a fake social media account of their victim (Jordan), and is presented with a choice on how to react: either laugh and ignore the bully, tactics currently recommended in dealing with certain types of cyberbullies (Patchin & Hinduja, 2012b), or take the advice of a friend (vengeful angel) and create a website to bully the peer (mean girl) in retaliation, a scenario with potentially devastating consequences.

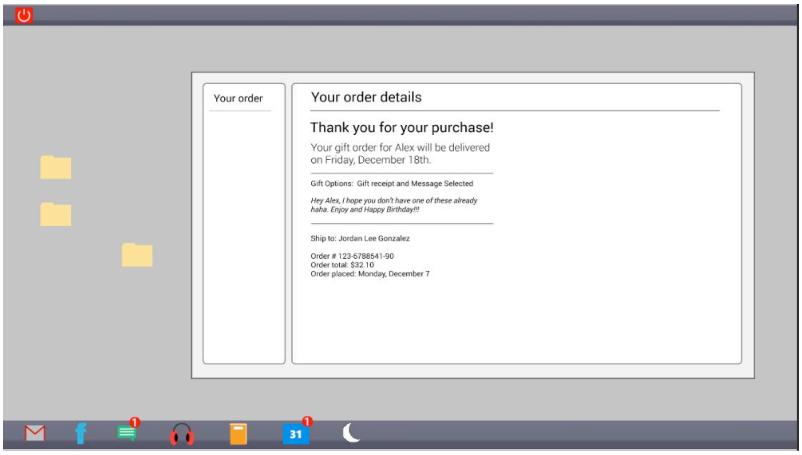

Figure 1. Interface for the prototype game, wherein the player interacts with the character's computer.

The climax and aftermath of the choice is meant to teach students how and how not to deal with cyberbullying. If the player chooses to retaliate, something Patchin and Hinduja (2012b) stress never to do, they receive a message from their friend (vengeful angel) who tells them that the cyberbully is in the hospital after hurting herself. The player is able to see that the approach of the vengeful angel is not appropriate either, and that cyberbullying has real consequences. The other choice the player has is to comment in a good-humored nature to the malicious social media account the cyberbully has created, ignore the profile, and is afterwards encouraged to tell a parent. This is the better choice, covering three more of Patchin and Hinduja's (2012b) ten tips for dealing with cyberbullies: talk about it, ignore the bully, and laugh.

However, we felt it was also important for the player to see how both actions play out in order to learn all four tips in dealing with cyberbullies, and, most importantly, increase empathy in the player if they are a real-life victim, bully, or bystander. Once the player has made their decision and observed the aftermath, they are given the opportunity to reverse time to make the other choice. This way, if the player is a real-life victim or a friend of a victim they can see how unrewarding being the bully is, and if they're a bully they can see how harmful their actions are to their victims. Bystanders of cyberbullying may see both sides of the spectrum. In this way students in all roles will be more likely to make appropriate decisions in the future and empathize with different cyberbullying roles.

Future Directions

In this paper we have detailed the research and design of an interactive storytelling video game as an intervention for cyberbullying. As the product is in a prototyping state, it will be necessary to test with users and implement feedback to validate writing, initial student impressions, and that the game actually elicits an emotional response. After implementing feedback, the game will be ready for initial research studies. The game will hopefully serve as a new intervention to combat cyberbullying and provide a basis for future research. If successful, the game may help to stop current cyberbullies from continuing to bully, prevent future cyberbullies from starting, and help give advice to cyberbullying victims.

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