Chapter 4
Social Interactions and Automated Detection Tools in Cyberbullying

Michael J. Moore
Osaka University, Japan

Tadashi Nakano
Osaka University, Japan

Tatsuya Suda
The University Netgroup Inc., USA

Akihiro Enomoto
University of California, USA

ABSTRACT

Face-to-Face bullying is a traditional form of bullying in which bullies attack victims through physical, verbal, or social attacks. Cyberbullying is a new form of bullying. Cyberbullies abuse digital media to attack victims (such as attacks through websites, social networking services, blogging, e-mail, instant messaging, chat rooms, and cell phones). Cyberbullying and face-to-face bullying share many similarities. For example, bullies achieve power over a victim in both cyberbullying and face-to-face bullying. On the other hand, cyberbullying has differences from face-to-face bullying that arise from characteristics of digital media such as anonymity and rapid spreading of attacks. This chapter highlights key concerns of cyberbullying stemming from the use of digital media and discusses existing models of face-to-face bullying which may aid in model cyberbullying. This chapter then introduces state-of-the-art research in automated tools to detect cyberbullying. Finally, this chapter concludes with future perspective of research in automated tools to detect cyberbullying.

INTRODUCTION

In the digital age, many types of social, educational, and economic interactions are conducted through digital media. Digital media provides the storage and transmission of information in various formats through websites, social networking services, blogging, email, instant messaging, chat rooms, and cell phones. Formats of digital media include text, audio, image, and video data. Although digital media enhance many positive social, educational, and economic interactions by providing ubiquitous access to communication, by increasing the speed of communication, by reaching a broad audience, and by allowing anonymous individuals to interact; digital media also worsen negative social, educational, and economic interactions. Cyberbullying is one such social interaction which is negatively impacting society. Cyberbullying is the abuse of digital media to cause psychological and social harm to a victim(s) (Li, 2007; Kowalski, Limber, & Agatston, 2008; Hinduja & Patchin, 2009; Tokunaga, 2010). Cyberbullies leverage the capabilities of digital media to increase the psychological and social harm caused to victims of cyberbullying.

Cyberbullying is a growing concern with significant psychological and social problems for individuals involved in cyberbullying. For example, cyberbullying has been associated with several recent suicides (Ruedy, 2008; Lewin, 2010; Hinduja & Patchin, 2010). Another significant problem is aggression or violent retaliation by victims of cyberbullying. For example, victims of cyberbullying were eight times more likely to carry a weapon to school (Ybarra, Diener-west, & Leaf, 2007). There are also a variety of other significant psychological and social problems for cyberbullies and victims of cyberbullying which include emotional distress, depression, aggression, poor parent-child relationships, substance abuse, rule-breaking problems, academic difficulties, and delinquency (e.g., detentions, suspensions, or skip-

ping school) (Ybarra & Mitchell, 2004; Ybarra, Mitchell, Wolak, & Finkelhor, 2006; Ybarra et al., 2007; J. Wang, Nansel, & Iannotti, 2011). As digital media use continues to grow, other significant psychological and social problems may also be observed such as eating disorders, chronic illness, running away from home, excessive psychosomatic symptoms, neuroticism, antisocial behavior, criminal conviction, or violent death (Ybarra & Mitchell, 2004; Patchin & Hinduja, 2006; Ybarra et al., 2007; K. Moore, 2011; Englander, 2012).

Face-to-face bullying is a traditional form of bullying in which bullies attack victims through physical, verbal, or social attacks (Olweus, 1991). Unlike cyberbullying, bullies in face-to-face bullying use non-digital media communication to bully (e.g., face-to-face talking, body language, or physical interaction). The key characteristics of face-to-face bullying are (1) the attacks are intentional, (2) the victim of face-to-face bullying perceives damage as the result of the attacks, (3) the attacks occur repeatedly, and (4) the bully has power over a victim to prevent the victim from adequate defense from the attacks (Olweus, 1991). These key characteristics are important for defining cases where face-to-face bullying can lead to significant problems.

Cyberbullying and face-to-face bullying share many similarities but have several differences. One similarity is that both use verbal and social attacks to cause harm to the victim. Another similarity is that both use the same key characteristics (i.e., intentional attacks, perception of harm, repetitive occurrence, and power over the victim) to cause psychological or social harm to victims (Smith et al., 2008; Dooley, Pyzalski, & Cross, 2009). One primary difference is that the participants in cyberbullying socially interact through digital media which introduces different characteristics such as anonymity, rapid spreading of communication, and communication anywhere and anytime. Another difference is that cyberbullies can utilize digital media with new capabilities to create new

19 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/social-interactions-automated-detection-tools/75888

Related Content

Inclusive Leadership Amid Civic Unrest Exploring Solutions to Police Brutality and Inequity
Jayne Cubbage, Dakota F. Boodhoo, Priscilla Aquila Cottonand Autumn Jemika Fletcher (2022).
International Journal of Social Media and Online Communities (pp. 1-13).
www.irma-international.org/article/inclusive-leadership-amid-civic-unrest-exploring-solutions-to-police-brutality-and-inequity/305864

The Breastfeeding Controversy and Facebook: Politicization of Image, Privacy and Protest
Yasmin Ibrahim (2010). *International Journal of E-Politics (pp. 16-28).*
www.irma-international.org/article/breastfeeding-controversy-facebook/43598

Event Management in Social Media
Murat Seyfi (2022). *Research Anthology on Social Media Advertising and Building Consumer Relationships (pp. 123-137).*
www.irma-international.org/chapter/event-management-in-social-media/305331

Impact of Social Networking on College Students: A Comparative Study in India and the Netherlands
Rajalakshmi Kanagaveland Chandrasekharan Velayutham (2010). *International Journal of Virtual Communities and Social Networking (pp. 55-67).*
www.irma-international.org/article/impact-social-networking-college-students/49704

Knowledge Media Tools to Foster Social Learning
Alexandra Okada, Simon Buckingham Shum, Michelle Bachler, Eleftheria Tomadaki, Peter Scott, Alex Littleand Marc Eisenstadt (2010). *Social Computing: Concepts, Methodologies, Tools, and Applications (pp. 864-884).*
www.irma-international.org/chapter/knowledge-media-tools-foster-social/39762