Social Media, Not So Social: Exploring the Ethical and Administrative Implications of Cyberbullying Research as It Pertains to Its Detection, Measurement, and Implementation of Preventative Strategies in Schools

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Abstract: The digital revolution in the 21st century has paved the way for the proliferation of social networking sites such as Facebook, Twitter, Instagram, Snapchat, TikTok, and others, which has helped to perpetuate civilization's age-old power imbalances in the form of cyberbullying. This article examines how cyberbullying among adolescents is being detected, measured and mitigated, and highlights some ethical considerations for school leaders. This conceptual research paper reviewed and analyzed forty-four scholarly sources, belonging to a wide range of disciplines, from cyber ethics to computer science, which expose cyberbullying as a social justice issue. This article invites school leaders to work within the Critical Transformative Leadership for Social Justice framework when navigating the ethical challenges that may arise with cyberbullying detection, measurement and mitigation initiatives. This paper urges digitally novice adults to keep pace with digitally savvy adolescents, and for policy makers to collaborate with micro-celebrities (i.e., social media influencers) to raise awareness around cyber ethics and digital citizenship among K–12 students.

Keywords: Social Media, Cyberbullying, Critical Transformative Leadership for Social Justice, Digitally Novice, Digitally Savvy, Influencers, Digital Citizenship

Introduction

The emergence of Web 2.0, which refers to the 21st century interactive internet applications, has revolutionized the way we communicate with each other (Nnaji, 2019). Web 2.0 made way for the emergence of social networking sites such as Facebook, Twitter, Instagram, Snapchat, TikTok and others, to be an integral part of our lives (Balakrishnan et al., 2020). While social media platforms have allowed people to stay connected and maintain friendships across geographical lines, it has also given rise to cyberbullying, leaving adolescents vulnerable to trauma, social isolation, disengagement from curriculum content, and in extreme cases, suicidal ideation (Van Hee et al., 2018; Hinduja & Patchin, 2010). Hinduja and Patchin (2010) define cyberbullying as, "willful and repeated harm inflicted through the use of computers, cell phones and other electronic devices" (p. 208). The anonymity, telepresence and transmissibility features of social media provide additional, and rather, elusive, avenues for anti-social behaviours such as harassment, exclusion, stalking, and so forth (Kizza, 2017; Van Hee et al., 2018); thereby perpetuating similar power imbalances of traditional bullying between the aggressor and the victim.

Evolutionarily speaking, "bullying has been a part of the human experience since our earliest ancestors" (Diamanduros & Downs, 2019, p. 65)—from hunter-gatherers, to agriculturalists, to modern day industrialists—the human mind has been wired to improve one's surrounding (i.e., their social status). While this interest has played an important role behind human productivity and creativity (Schulz, 2022; TED, 2011), it has also, historically, created tension and pitted one group of humans against another. The legacy of historical conflicts, such as colonization, still permeates through society today (Lopez, 2020), as evidence by the COVID-19 vaccine hesitancy among the Indigenous population in Canada (Greenwood & MacDonald, 2021), the deepening distrust of law enforcement within the African American community following the death of George Floyd (Sparks, 2020; Gottbrath, 2020), and so forth.

In addition to the imbalances of physical strength and social status associated with traditional bullying, cyberbullying also reflects a discrepancy in technological savviness between the oppressor and the oppressed (Whittaker & Kowalski, 2015). This divide in technological savviness could be representative of the socio-economic class divide between the historically oppressed and oppressor communities (Lopez, 2020). This is consistent with the studies reported by Elbedour et al. (2020) and Bergold et al. (2020), illuminating that the victims of cyberbullying do not typically belong to mainstream culture for a variety of intersecting factors including race, religion, gender, socio-economic status, et cetera (Hankivsky, 2014). This reinforces the notion that schools are microcosms that reflect the stereotypes and injustices of the society at large (Bettmann & Moore, 1994). Since cyberbullying is an extension of the social justice issues we face in society, this paper urges leaders to work within the Critical Transformative Leadership for Social Justice (CTLSJ) framework,

as outlined by Shields (2014). This critical framework emphasizes the transformation of systemic inequities that contribute to cyberbullying over lesser reforms that solely target isolated incidences of cyber-injustices (Table 1). Therefore, the CTLSJ framework's attention to holistic transformation is critical when examining social justice issues like cyberbullying (Shields, 2014).

The purpose of this paper, therefore, is to examine how cyberbullying among adolescents is being detected, measured and mitigated, and what the ethical considerations are for school leaders who are working within the CTLSJ framework. This paper will report some of the prevailing approaches to detection, measurement and prevention in the findings section, and address the ethical dilemmas that school leaders may encounter in the discussion section.

Methodology

To satisfy the scope of this study, the author first conceptualizes the CTLSJ framework as an operative lens to tackle cyberbullying. The study then draws from the Social-Ecological (SE) framework to conduct a literature review to explore the multi-faceted nature of cyberbullying. The following section examines the CTLSJ and SE frameworks, and the data collection method.

Conceptual Framework

Cyberbullying in schools is an extension of the social justice issues we face, threatening adolescents' short and long-term well-being. The CTLSJ framework, as outlined by Shields (2014), can be an operative lens through which leaders can approach ethical dilemmas when detecting, measuring and mitigating cyberbullying in schools. The eight tenets of the CTLSJ framework (see Table 1) calls for leaders to: promote deep and equitable change; deconstruct and reconstruct knowledge frameworks; have an eye for emancipation, equity and justice; address inequitable uses of power; emphasize both public and private good; practice interdependence, interconnectedness and global awareness; balance critique with promise; and exhibit moral courage. A leader working within this framework is more than just a manager; they should detect inequities and have the moral courage to dismantle unjust frameworks that perpetuate historical power imbalances and hierarchies. Thus, the CTLSJ framework encourages leaders to detect cyber-injustices and through a multi-stakeholder approach develop prevention and intervention strategies in order to create a more inclusive school environment.

Table 1

Eight Tenets of the CTLSJ Framework According to Shields (2014)

Tenet	Description
1: Deep and Equitable Change	Emphasizes a move away from surface-level changes to transforming systemic inequities.
2: Deconstructing and Reconstructing Knowledge Frameworks	Calls leaders to examine existing knowledge frameworks that perpetuate historical injustices related to hierarchy and exclusion.
3: Emancipation, Equity and Justice	Invites leaders to employ the "capability approach" to dismantle systemic barriers that limit students' freedom and opportunities.
4: Addressing Inequitable Uses of Power	Requires leaders to challenge power structures (misuse of power) that benefits one group of people over another.
5: Emphasizing Both Public and Private Good	Underlines the need for leaders to create education policies that benefit both the individual and the community.
6: Interdependence, Interconnectedness, and Global Awareness	Reminds leaders to see themselves as a part of a larger community that involves other stakeholders. Leaders are also encouraged to instill in their students a sense of global citizenship.

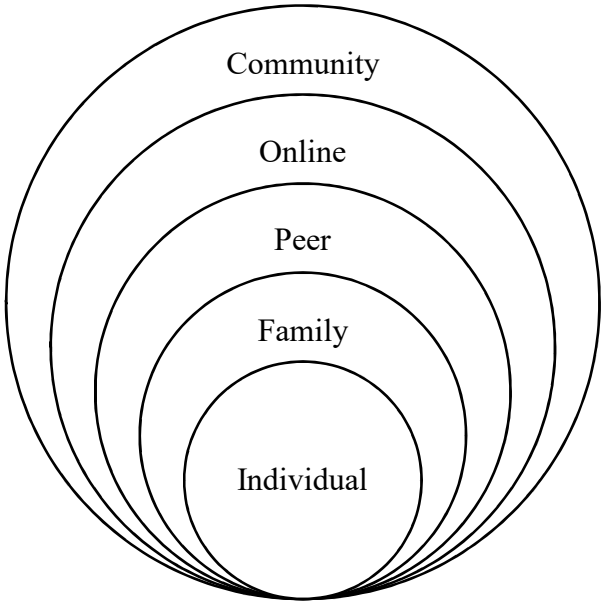
7: Balancing Critique with Promise	Cautions leaders that critique alone is insufficient. A leader needs to make continuous progress towards equity in order to build confidence in their followers.
8: Exhibit Moral Courage	Empowers leaders to take risks and stand up for unpopular beliefs.

Analytical Framework

In order to explore the prevailing literature on cyberbullying detection, measurement and intervention strategies, the author has taken an interpretivist approach, which assumes that multiple realities can be constructed (Williams, 2020) based on one's SE level of influence. Bronfenbrenner's (1977, 1979) SE theory posits six-levels of influence on human behaviour including individual, relationships, organizations, communities, policy, and society. Scholars such as Cross et al. (2015) have adapted Bronfenbrenner's six-levels of influence in order to understand and reduce cyberbullying behaviour. This adapted framework consists of five-levels of influence including the individual-, family-, peer-, online-, and community-level factors (Figure 1). The individual level of influence refers to the adolescents' demographic attributes and their moral stance on cyberbullying and coping skills. The second level, family influence, speaks of the adolescents' relationship with their parents and the level of parental involvement in monitoring online behaviour. The third level, peer influence, discusses friendship dynamics that increases or decreases the risk of either cyberbullying perpetration or victimization. The fourth level, online influence, raises the issue of adolescents' frequency of use and proficiency with technology. Lastly, community influences refer to the school climate and the wider societal structures—from economic policies to governmental laws—that either perpetuate power imbalances and thereby cyberbullying victimization or help to curb such events. The present study employs this five-level framework to inform its literature review.

Figure 1

Cross et al.'s (2015) Adaption of Bronfenbrenner's (1977, 1979) SE Theory



Data Collection

This conceptual paper analyzes the theories, concepts, and findings from a total of 50 articles and one video from TED conferences. Out of the 50 articles, there are two gray literatures, four newspaper sources, and 44 scholarly articles that includes both empirical and conceptual studies, literature reviews, and book chapters (see Table 2). All of the literature originates from English databases, including Google, Google Scholar, and the University of Toronto's library database. The keywords for the search includes "bullying", "cyberbullying", "cyberbullying and student demographics", "social-media use and cyberbullying", "digital savviness and cyberbullying", "cyberbullying and social justice", "social justice and neoliberalism", "critical transformative leadership for social justice", "impacts of colonialism", "cyberbullying perpetrators", "cyberbullying victims", "cyberbullying bystanders", "detecting cyberbullying", "reporting cyberbullying", "cyberbullying questionnaires", "research with young people", "photo elicitation interview", "cyberbullying and machine learning", "cyberbullying interventions", "cyberbullying preventions", "school climate and cyberbullying", "school leadership and cyberbullying", "school psychologists and cyberbullying", "mental and physical health and cyberbullying", "cyber ethics", "ethical dilemmas around cyberbullying", and "digital citizenship". These search terms intend to align the data within the five-levels of influence according to Cross et al.'s (2015) adaptation of Bronfenbrenner's (1977, 1979) SE theory.

The articles are then chosen based on relevance, publication date, and the authors' backgrounds, and placed into two categories: sources related to cyberbullying detection, measurement and mitigation; and those that contribute to theory/concept building (see Table 2). Relevance indicates how closely the sources match the present study's objectives—i.e., how school leaders are detecting, measuring and mitigating cyberbullying events and the ethical considerations. The publication date is another parameter for data collection. Data sources related to cyberbullying range from 2007 to 2021, as this reflects the time period that witnessed the largest expansion, and accessibility of social-media applications. In contrast, the publication date parameters for the theory/concept building sources are more open, ranging from 1977 to 2022. This is due to the fact that concepts of bullying, social justice, ethics, et cetera, predate the 21st century digital revolution.

The third criteria involves the researchers' diverse backgrounds. This study synthesizes the work of scholars from a wide range of disciplines including cyber ethics, psychology, leadership, research methods, social work, and computer science. This interdisciplinary approach intends to provide multiple perspectives, enhancing both the depth and breadth of this paper. The author has also strived to give voice to scholars from diverse walks of life, including those from the USA, Malaysia, South Africa, Argentina, Germany, and Jordan, while also including a number of papers with females as either the sole or the lead author. This approach of providing an equitable representation of authors who were historically underrepresented in academia is in line with Ahmed's (2017) call for an increase in citing marginalized voices as a means to reshape power imbalances. The subsequent sections will discuss their work as it pertains to cyberbullying detection, measurement and preventative strategies.

Table 2

A Breakdown of the Type and Number of Sources That Informed This Study (n = 51)

Topics	**Types of Sources**		**Publication Date**
	Scholarly Sources	Alternative Sources	
Cyberbullying: related to detection, measurement, prevention, and ethics.	22 from empirical and conceptual studies, literature reviews, and book chapters	2 gray literatures	2007-2021
Theory/Concept Building:	22 from empirical and conceptual studies,	4 newspapers 1 TED conference video	1977-2022

related to social media, social justice, CTLSJ, SE theory, research methods, ethics, neoliberalism, etc.	literature reviews, and book chapters

Findings

Cyberbullying events present a multifaceted problem, which will require a multi-level approach to detection, measurement, and intervention strategies to mitigate and prevent future cyber-aggressions from occurring. The following section will explore key elements of these approaches.

Cyberbullying Detection and Measurement

Cyberbullying can be detected and measured using both quantitative and qualitative methods. Some of the quantitative instruments employed by scholars include the European Cyberbullying Intervention Project Questionnaire (Del Rey et al., 2015), Rosenberg Self-Esteem Scale, and School Connectedness Measure (DePaolis, & Williford, 2019). These surveys are closed-ended and measure the various indicators of cyberbullying victimization. For instance, the European Cyberbullying Intervention Project Questionnaire quantifies the prevalence, frequency, and severity of victimization; while the Rosenberg Self-Esteem Scale attempts to decipher one's overall attitude towards themselves; and the School Connectedness Measure strives to assess the degree to which students feel supported in their school community. While these closed-ended scales allow researchers to quantify large data sets cost-effectively, it restricts participants the opportunity to elaborate on their responses and thereby limit the depth and richness of the data collected (Williams, 2020).

In order to obtain context-rich data, there are qualitative methods that rely on the stories of victims, bullies, and bystanders. Employing narrative methods to gather the lived experiences of young people has two key benefits: firstly, human beings are natural storytellers and are easily persuaded by stories; secondly, it invites adolescents to act as co-researchers alongside adults (Vanderbosch & Green, 2019), thereby reducing the hierarchical divide between the participant and the researcher. One of the methods gaining acceptance in eliciting young people's stories is the Photo-Elicitation Interviewing (PEI) technique. This technique is a "qualitative approach in which images, generated by the researcher or the participant, are used as the starting point for the interview" (Pabian & Erreygers, 2019, p. 78). Some of the advantages of PEI include the production of context-rich data and encourages participants' control over the research direction (Meo, 2010). PEI has also shown to have therapeutic implications. Padgett et al. (2013) demonstrates that photos taken by the participants generated a sense of gratitude among formerly homeless adults. This is consistent with Tuck and Yang's (2014) call for researchers to not only elicit stories of pain but also accomplishments, especially from participants belonging to historically marginalized groups.

While qualitative methods provide context-rich data, there are limitations when working with human beings, who often exercise self-censorship during such interviews (Williams, 2020; Pabian & Erreygers, 2019). Similarly, the phrasing of the items/questions in quantitative methods may influence participants' responses, making these instruments susceptible to the framing bias effect (Williams, 2020). To circumvent these challenges, the field of computer science has made significant strides in using Machine Learning Models (MLM) that can automatically detect cyber-aggression on social media platforms. Some examples of MLM include, but are not limited to, Naïve-Bayes, Random Forest, J48 (Balakrishnan et al., 2020), and Support Vector Machine (Van Hee et al., 2018). These intelligent systems rely on a pre-programmed bag of inflammatory words/phrases that are coded into the computer program, which would be used to flag cyberbullying activity. While these tools exhibit great effectiveness, it falls short of achieving complete accuracy on two-fronts. Firstly, not all MLM is able to detect cyberbullying on platforms that are password protected, as is the case with the Salesforces Radian6 detection tool (Whittaker & Kowalski, 2015). Secondly, the list of words and their modifiers used to program the detection tool may not be completely accurate in detecting cyberbullying. This is because adolescents (and adults) write informally, using slang and short-hand spellings when communicating on social media platforms. For example, a bully may use "u r a" instead of "you are a", which may yield false negatives when detecting cyberbullying. Awareness of these various

tools can enhance the efficacy with which school officials detect and measure the occurrence of cyberbullying in schools.

Cyberbullying Prevention and Intervention

Through effective detection and measurement, school leaders can begin to implement prevention and intervention strategies through a multiple-stakeholder approach. The following section explores the key role of students, parents, teachers/leaders, and psychologists.

First and foremost, students who were either victims or bystanders will need to report cases of cyberbullying to their parents and teachers. This encourages schools to develop effective, anonymous reporting systems that protect their identity (Hinduja & Patchin, 2018a). Furthermore, given the telepresence nature of cyberbullying, parents must be vigilant in monitoring their child's Internet activities at home since most cyber-aggression occurs outside of school hours when adolescents have more access to their electronic devices. Parents and teachers must also be cognizant of key indicators of victimization and perpetration, which includes changes in academic performance, loss of interest in things they were previously passionate about, and so forth (Hinduja & Patchin, 2015). It is imperative for parents, teachers, and administrators to educate students about digital citizenship through the use of case studies that present ethical dilemmas to students and invite them to have healthy discussions in small groups (Hinduja, & Patchin, 2018b). In addition to raising awareness of cyber ethics, it is necessary for schools to have effective psychotherapy tools to help students cope with victimization. Elbedour and colleagues (2020) emphasize the role of school psychologists as agents of change as well as outlining some prominent techniques including art and music therapy, creative writing, role playing, among others. Other authors like DeSmet et al. (2018) have looked at tools such as digital games to help with prevention and intervention. One example is The Friendly ATTAC game, which aims to promote positive bystander behaviours, and employs effective background stories of characters as motivational tools. This list of intervention and prevention strategies is not exhaustive; of course, each school must adopt a blended approach that meets their unique needs.

Discussion

This analysis exposes cyberbullying as a social justice issue plagued with gaps in trust, digital savviness, responsibility, hierarchical structure, and economic policy initiatives. The detection, measurement, and implementation of anti-cyberbullying programs in schools, however, poses several ethical challenges. The following discussion explores how the eight tenets of the CTLSJ framework (Table 1) guide school leaders in alleviating cyberbullying and navigating the ethical difficulties that they may encounter.

Ethical Issues with Cyberbullying Detection and Measurement

Although self-reporting of cybercrime as a victim or bystander is the best first step, studies reported by Elbedour et al. (2020) have shown that there is a reluctance to report instances of cybercrime. A victim usually faces the ethical dilemma surrounding freedom of access versus safety. In other words, a victim may not report for fear of having electronic device privileges revoked by their parents. Since technology has become an integral part of their daily lives, victims would rather sacrifice their safety to maintain their freedom of access to these devices. Bystanders, on the other hand, do not report for reasons such as fear of being targeted by perpetrators in the future; as well they feel the officials (the adults) are incapable of action due to their digital naivety (Bastiaensens et al., 2016). The victim and bystanders' reluctance to report illustrates a trust gap between adults and children. Another study finds that bystanders will only intervene or report the incident if they socially identify with the victim (Byers & Ceruli, 2021). These researchers report that white students are less willing to intervene during a racially charged bullying incident for fear of being accused of exhibiting a white saviour complex, a trait that is intricately tied to the legacy of colonialism. However, these authors also reveal that friendship dynamics took precedence above social identity, for the sense of empathy towards friends was stronger compared to that towards strangers.

It is evident that trust building and empathy harnessing are key challenges for a CTLSJ leader. In order to build empathy, leaders are encouraged to work within the radical empathy model (Sellars & Imig, 2021) in a way that encourages people from across social identities to form deep connections with each other. This

could be a step toward deconstructing any hierarchical organization as a result of colonialism (Lopez, 2020). In order to build trust, adults are encouraged to value the opinion of adolescents. This is echoed by researchers who employ the participants-as-researchers methodologies such as PEI (Meo, 2010; Padgett et al., 2013).

While the PEI technique offers promising results, the studies of Meo (2010) and Padget et al. (2013) bring to light several ethical dilemmas and tensions that are involved when researching with humans, particularly adolescents—such as privacy, intellectual property, and the asymmetrical relationship between the researcher and participant. Firstly, it is important for researchers to develop consent forms prior to the start of the experiments, which should outline the parameters in which the photos should be taken, as well as give the researchers the right to publish some or all of the images (Pabian & Erreygers, 2019). The participants should also be required to get written consent from anyone they wish to include in their photos, which would reinforce the importance of privacy and intellectual property. Furthermore, by deploying the students-as-researchers approach, adolescents become co-researchers with control over the direction of the research. This has the potential to narrow the trust gap between adults and adolescents and reduce the hierarchical power arrangement between the researcher and the participant, which aligns well with the first three tenets of the CTLSJ framework.

The use of consent forms, however, present additional ethical concerns that are antithetical to narrowing the hierarchical power arrangement. First and foremost, depending on the age of the adolescent, parental/guardian/caretaker consent may be required before they can participate in any studies. Unfortunately, this can cause some students to feel less empowered, for it reinforces the hierarchical divide between youths and adults (Goredema-Braid, 2010). Furthermore, consent forms may inadvertently inform parents of their child's involvement with cyberbullying, which, as discussed above, is the root cause of self-censorship among many youths. That is to say that family dynamics and parental disciplinary styles play a critical role in dividing students who participate as student-researchers and those who are reprimanded (Cross et al., 2015). This dilemma encourages leaders to be guided by tenets 3 and 4 of the CTLSJ framework—meaning, they should only select participants on a volunteer basis, rather than through coercive means—where all of the information regarding the purpose of the study, nature of consent forms, et cetera, are made absolutely transparent to the student-researchers. Another option for the CTLSJ leader in this situation is to employ MLM to detect and measure cyberbullying, thereby guaranteeing the anonymity of vulnerable youths.

Ethical Issues with Cyberbullying Prevention and Intervention

Given the anonymity and telepresence nature of cyberbullying, school officials are faced with the ethical dilemma of whether or not they should intervene in perpetrations that occur outside of school hours by someone who may not even attend that school (Shapiro & Stefkovich, 2011). The leader may also struggle with drawing the line between freedom of speech and safety (Shapiro & Stefkovich, 2011)—i.e., when does freedom of speech become not free? In such instances, a CTLSJ leader is encouraged to be knowledgeable of the judicial system in which they operate. For instance, from the USA's judicial lens, in the 1960 court-case of Tinker v. Des Moines Independent Community School District, 393, the court decided in favour of school officials inhibiting student speech if that speech creates an unfavourable learning environment at school (Willard, 2007; Ng, 2012). Another noteworthy case is the 1998 Supreme Court case involving Gebser v. Lago Vista Independent School District, 524, which reveals that schools could be held liable if a school official has actual knowledge of discrimination and fails to respond adequately, which includes reporting to the appropriate authority (Willard, 2007). A CTLSJ leader will also need to be aware of the rules and regulations set forth by the profession's governing body. From a Canadian perspective, some examples of anti-cyberbullying code of conduct include the Policy/Program Memorandum (PPM) 144 in Ontario and the Positive Effective Behaviour Supports (PEBS) in Nova Scotia (Ng, 2012). Both Ontario and Nova Scotia's education governing bodies stress that school officials have the responsibility and the authority to intervene in cyberbullying cases when it disrupts the learning environment of the students (Ng, 2012).

One of the primary ways school officials can prevent and intervene in cyberbullying aggressions is by working closely with parents in developing digital management strategies. This approach is informed by tenet 6 of the CTLSJ framework. However, from the author's extensive high school teaching experience in China, communicating with parents regarding their child's overuse of technology can pose numerous challenges. The primary point of contention boils down to: on whom does the responsibility fall under to monitor

technology use? Social media applications, like WeChat and QQ, are ubiquitous in Chinese society—from posting photos and videos to purchasing goods, communicating with your employer and booking hospital appointments—these tools are critical for survival. Given the need for, and pervasiveness of, digital technology among Chinese youths, the line separating productive use and destructive use of technology becomes increasingly critical. This is why we as educators encourage parents to take a more active role in monitoring Internet use at home. While most parents will be onboard despite their digital naivety, some will push back and shift the responsibility back on to the school, while a small minority will stand against curbing technology use, citing numerous benefits. The author's personal experience from China has similarities with Hester and Fenn's (2014) findings that a number of parents in the USA did not consider cyberbullying to be an urgent issue. A more recent study from Turkiye also demonstrates that parents are usually unaware of the cyber-victimization experienced by their children (Uludasdemir & Kucuk, 2019). These examples not only reinforce digital naivety in adults but unearths gaps in trust and responsibility between certain parents and the school. This is in line with Toler Williams' (2001) findings that there is a distrust of the mainstream establishment among the African American community. This distrust among certain communities could be the result of various factors, one of which points to the historical injustices that were committed against them (Lopez, 2020). In this case, the CTLSJ leader must not only narrow the trust gap between adults and children, but also the one separating parents and school officials using the Community Advocacy aspect of the Culturally Responsive Leadership (CRL) framework (for strategies see, Khalifa et al., 2016).

Alongside parents, school psychologists and counselors are important stakeholders with whom CTLSJ leaders are encouraged to collaborate in mitigating the effects of cyberbullying victimization, which also aligns with the sixth tenet of the CTLSJ framework. However, adequate access to school psychologists and other support staff may be limited by the chronic underfunding of public education, a consequence of neoliberal globalization (Joshee, 2008). Under such austerity measures, the CTLSJ leader faces the ethical dilemma around balancing their own job security with the moral courage to critique the fiscal policies of the status quo in order to secure sufficient funding for vulnerable students (Shields, 2014). This is in line with tenets 5, 7, and 8 of the CTLSJ framework.

Concluding Remarks

Social media has provided new, and more elusive, avenues for the continuation of civilization's age-old power imbalances in the form of cyberbullying. Having a CTLSJ leader encourages whole system transformation that is both socially just and ethically sound. This requires innovative methods of detection and measurement including PEI and intelligent systems. Otherwise, victims of cyber aggression could suffer from suicide ideation. This urgency for leaders to act is further solidified by the fact that cyberbullying in schools can be a gateway to cybercrime in the real world such as hacking and identity theft (Granitz & Loewy, 2007). If unchecked, cybercrime has the potential to be the next silent pandemic—which, if fortified with another health crisis like COVID-19, could test the fate of humanity at an unprecedented level. This is why the school systems, through a multi-stakeholder approach, have the responsibility to teach cyber ethics in a way that encourages students to reflect on their digital footprint.

Limitations

While cyberbullying is a global problem, this study could have been improved by comparing the prevalence and the mitigation strategies of cyberbullying between two geographical regions. While—according to the Cyberbullying Research Centre—most of the research currently originates from the Western world (see https://cyberbullying.org/research/map), the author hopes this paper will urge more scholars from developing nations to examine cyberbullying in their respective regions. This could potentially unearth other points of contentions in addition to the trust, responsibility, digital, hierarchical, and economic policy divides that are exposed in the present study. Furthermore, this paper leaves room for comparing and contrasting the detection, measurement and mitigation strategies between different age groups—i.e., between elementary, middle, secondary and post-secondary schools. Finally, one could argue that solely relying on the CTLSJ framework falls short of completely eradicating cyberbullying. As mentioned above, geographical differences may exist as it pertains to judicial systems, power arrangements within the education system, parental disciplinary techniques, and other social and cultural norms. Future studies should explore how a

CTLSJ leader could benefit from culturally-aware frameworks such as the CRL. This could give rise to a more robust anti-cyberbullying approach that is both socially just and culturally responsive.

Recommendations

Based on the findings of this study, the author would like to propose five key recommendations for the future. Firstly, there is a need for more longitudinal studies as it pertains to cyberbullying research. Most studies tend to be cross-sectional in nature, which illustrates correlation between variables, but not a strong causation. Secondly, there appears to be a lack of a measurement technique that has widespread acceptance in terms of detecting and preventing cyberbullying. This is evident by the wide range of quantitative and qualitative methods outlined earlier. Thomas et al. (2015) also call for a "fundamental definitional criteria" (p. 147) when detecting and measuring cyberbullying. Thirdly, education programs need to better prepare educators and leaders to work within the CTLSJ framework. For instance, Tuters and Portelli (2017) reveal that leaders trained via Ontario's Principal Qualification Program (PQP) are unprepared for social justice actions. Fourthly, individual schools are encouraged to provide cyberbullying prevention training seminars for their staff. This can be achieved by partnering with organizations such the Canadian Red Cross that offer online bullying prevention courses for adults (which can be found at https://www.redcross.ca/how-we-help/violence-bullying-and-abuse-prevention/educators/bullying-and-harassment-prevention/bullying-and-harassment-prevention-programs). During these seminars, staff are encouraged to be reflective on how closely these strategies align with the CTLSJ and SE frameworks, due to their emphasis on the whole system and the whole child, respectively. Lastly, this paper would like to stress the importance for digitally novice adults to keep pace with digitally savvy adolescents. Social media has become an integral part of our livelihood—tantamount to an addiction—and is not going away. Social media's algorithms exploit our body's feedback loop mechanism that acts through the dopamine (body's pleasure hormone) reward system (Burhan & Moradzadeh, 2020), which lights up with each notification (Seymour, 2019). Through "likes" and other forms of reaction, social media's algorithms tap into our innermost psychological desire for attention and validation. Granted, social media provides each of us with a platform (a voice), which could be seen as a positive step towards social justice; however, it has also given rise to micro-celebrities (i.e., influencers). Micro-celebrities, who are also a victim of the algorithm, are relentless in curating attention-seeking content that keeps their followers addicted (Abidin, 2019); and invokes sympathy in them through digital self-harm (Diamanduros & Downs, 2019). To elaborate, some influencers share personal victimization stories, embellished for the sole purpose of receiving attention and sympathy from their followers. Perhaps this has desensitized us to cyber-aggression, where victimhood has not only been normalized, but celebrated. This could be another factor why victims and bystanders express reluctance to report cyberbullying. Policy makers, at the national or provincial levels, should consider collaborating more with influencers to help raise awareness around cyberbullying and digital citizenship by capitalizing on their popularity and reach among adolescents.

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