

Edited by

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YOUNG PEOPLE AND SOCIAL MEDIA

Contemporary Children's Digital Culture



VERNON PRESS

CRITICAL PERSPECTIVES ON SOCIAL SCIENCE

Larry Moralez, University of Central Florida, Shion Guha, Marquette University, Pamela Wisniewski, University of Central Florida

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About the Collection

This edited collection explores Children, Youth, and Digital Culture — in particular the practices, relationships, consequences, benefits, and outcomes of the experiences of young people with, on, and through social media — by bringing together a vast array of different ideas about childhood, youth, and young people's lives. The ideas here are drawn from scholars working in a variety of different and often seemingly disparate disciplines, and more than just describing the social construction of childhood or the everyday actions in children's lives, this collection seeks to encapsulate not only how young people exist on social media but also how their physical lives are impacted by their digital presence.

One of the goals for exploring youth interaction with social media is to unpack the structuring of digital technologies in terms of how young people access the technology to use it as a means of communication, a platform for identification, and a tool for participation in their larger social world. During longstanding and continued experience in the broad field of youth and digital culture, we have come to realize that not only is the subject matter increasing in importance at an immeasurable rate, but the amount of textbooks and/or edited collections has lagged behind considerably. There is a lack of sources that fully encapsulate the cannon of texts for the discipline, or the rich diversity and complexity of overlapping disciplines that create the fertile ground for studying young people's lives and culture. Our hope is that this text will occupy some of that void and act as a catalyst for future interdisciplinary collections and research.

The intended audience for this collection is undergraduate students studying Child and Youth Studies. However, given the interdisciplinary nature of the collection, this text would lend itself to proficiency in a variety of disciplines and courses in anthropology, psychology, sociology, communication studies, cultural studies, media studies, medicine, education, human rights, biology, literature, film studies, geography, and more. It will also distinguish itself within a constantly evolving media landscape by drawing on the most current and up-to-date research and theories across the landscapes of more than a dozen different academic fields.

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About the Editors

Dr. Steve Gennaro has a Ph.D. from McGill University that explores intersections of media, technology, psychology, and youth identity. He completed a Postdoc in Philosophy of Education at UCLA with Douglas Kellner. He is one of the founding members of the Children, Childhood, and Youth Studies Program at York University and is the author of *Selling Youth*, and co-author, with Blair Miller, of *The Googleburg Galaxy* (forthcoming Lexington 2022). Dr. Gennaro regularly publishes in areas related to the philosophy of technology, education, critical theory, and media studies of youth, identity, and politics.

Blair Miller is a published author and poet. He has a Bachelors in Philosophy and a Master's in Film Studies, and his scholarship and publications continue to explore the connections between the self and media technologies. Blair teaches at York University in the Department of Humanities and the Department of Film Studies, where he has taught *Stories in Diverse Media*, *Popular Technology and Cultural Practice*, and *Information and Technology* among others for the last decade.

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About the Authors

The Office of Research – Innocenti (Sonia Livingstone, Marium Saeed, and Daniel Kardefelt Winther) is UNICEF's dedicated research centre. It undertakes research on emerging or current issues to inform the strategic direction, policies and programmes of UNICEF and its partners, shape global debates on child rights and development, and inform the global research and policy agenda for all children, and particularly for the most vulnerable.

Office of Research – Innocenti publications are contributions to a global debate on children and may not necessarily reflect UNICEF policies or approaches.

John Tobin is the Francine V McNiff Chair in International Human Rights Law and Professor at Melbourne Law School at the University of Melbourne, where he researches and teaches in the area of human rights with a special interest in children's rights. His book, *The Right to Health in International Law*, was published by Oxford University Press in January 2012. John has provided human rights training and advice as a consultant and on a pro bono basis on numerous occasions to organisations such as UNICEF, Law Reform Commissions, the Law Institute of Victoria, Judicial College of Victoria, the Victorian Equal Opportunity Commission, NGOs, statutory bodies, Government Departments and community groups. He is the editor of *The U.N. Convention on the Rights of the Child: A Commentary* (OUP 2019).

Dr. Shelley Boulianne is an Associate Professor in Sociology at MacEwan University. Dr. Boulianne studies citizens' engagement in civic and political life. She has published several meta-analysis projects and systematic reviews about the role of digital media in political participation. Her research has since expanded to understand a variety of factors that influence patterns of civic and political participation. She is interested in citizens' participation in boycotts, petitions, marches and demonstrations, public consultation exercises, and political talk.

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Roslyn M. Satchel is an award-winning media and culture scholar-activist who hails from West Palm Beach, Florida originally. She serves as a professor at Pepperdine University, where she's also faculty advisor to Tau Lambda Chapter. Dr. Satchel's recent book, *What Movies Teach about Race: Exceptionalism, Erasure and Entitlement*, brings her media, legal, and religious background together to examine cultural representations in the most influential films of all time. Dr. Satchel earned a Ph.D. in Media & Public Affairs at LSU, J.D. and MDiv degrees at Emory, and a B.A. in Communication at Howard.

Berkeley Media Studies Group (Laura Nixon, Sarah Han, Pamela Mejia, and Lori Dorfman) is a nonprofit organization dedicated to expanding advocates' ability to improve the systems and structures that determine health. BMSG is a project of the Public Health Institute. BMSG is based in California but works across the U.S. and internationally.

Berkeley Media Studies Group conducts research to learn how the media characterize health issues. Through media advocacy training and consultation, the staff helps advocates, community organizers, and public health practitioners harness lessons from that research and develop the skills they need to shape journalists' coverage of health issues so that it illuminates the need for policies that improve the places where people live, learn, work and play so everyone, no matter where they live, can grow up healthy. BMSG also works with journalists to help them understand the public health implications of the issues they cover.

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Jody Berland is Professor in the Department of Humanities, and Graduate Programs in Communication and Culture, Social and Political Thought, Science and Technology Studies, and Music, York University. She is the author of *North of Empire: Essays on the Cultural Technologies of Space* (Duke University Press, 2009) and *Virtual Menageries: Animals as Mediators in Network Cultures* (MIT Press 2019), founding editor of *Topia: Canadian Journal of Cultural Studies*, and co-editor of *Cultures of Militarization* and other books. She is the principal investigator of the SSHRC-funded project "Digital Animalities: Media Representations of Nonhuman Life," a collaborative multi-researcher project on digitality and animality in the age of risk, which supported research for this chapter.

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Professor Kathleen Armour (University of Birmingham) was formerly Head of the School of Sport, Exercise and Rehabilitation and is now Pro-Vice-Chancellor Education. Her research is in education and in career-long professional learning, and she is particularly interested in bridging the gaps between theory/research and practice. Professor Armour has received over £2.5 million of research funding from research councils, charities and industries, and she is Co-I on the Goodyear projects focused on apps and social media. In her most recent books, she has developed a new translational mechanism – 'pedagogical cases' – to support practitioner learning. This mechanism was recently applied to digital technologies to offer fresh insights into young people's learning. Alongside publishing widely in the field, Kathleen was a REF2014 panelist, is a Fellow of the Academy of Social Sciences and is an International Fellow of the National Academy of Kinesiology.

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Dr. Pamela Wisniewski is an Associate Professor in the Department of Computer Science at the University of Central Florida. She is a Human-Computer Interaction researcher whose work lies at the intersection of Social Computing and Privacy. She is an expert in the interplay between social media, privacy, and online safety for adolescents. She has authored over 75 peer-reviewed publications and has won multiple best papers (top 1%) and best paper honorable mentions (top 5%) at ACM SIGCHI conferences. She has been awarded over \$3 million in external grant funding, and her research has been featured by popular news media outlets, including *ABC News*, *NPR*, *Psychology Today*, and *U.S. News and World Report*. She is an inaugural member of the ACM Future Computing Academy and the first computer scientist to ever be selected as a William T. Grant Scholar.

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Editors' Note

This text brings together more than 30 different authors across over a dozen academic disciplines to provide readers with the most compressive “meta view” of young people’s relationships with social media. While exciting, this type of depth and breadth also presents real challenges. In working to remain consistent with the original publications for many of the reprinted articles, the intentions of the multiplicity of authors, and the wide breadth of academic disciplines, scholarly speciality, and medical practices involved in this collection, we have taken some liberty as the editors to waiver from an entirely consistent document with *Chicago Style* formatting. We have tried, where appropriate, to make adjustments to ensure consistency across the document, however we recognize the importance to discipline-specific work and to the original spirit of the piece for each of the authors, and in some cases, the desires of the original author, publishers, or discipline practice are given priority. This is particularly evident when citing, quoting, and paraphrasing the voices of young people themselves and with social media posts.

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Preface: It Ain't Easy to Theorize or Teach Media

Shirley R. Steinberg

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Incanting a lyric from The Eagles of my days, *it ain't easy* to consider the notions of young people, children, social media and digital culture. When I bought my first Apple 2C, a behemoth machine skinned in undefinable gray/green plastic, I had no idea of what future ramifications it contained. Computers of the mid-80s were close to the price of a used VW Bug, and many of us considered them a type of souped-up Selectric, the ultimate word “processing” apparatus. In a word, to the layperson, teachers, parents, kids, it was a new way to *type*, and with sophistication, play *Pong*...two miraculous changes to our lives: all for the betterment of children, youth and adults.

Many of us were introduced to computers through early sci-fi films and books, but *Star Trek*, “*The Ultimate Computer*” (Season 2, Episode 24 March 8, 1968), brought together computers and humans when the M-5 was introduced to the crew of the *Enterprise* with the intention of the computer to handle all issues, problems and *without any human involvement*. The M-5 was quickly able to handle traditional spaceship needs, and indeed, tasks were done with brevity and accuracy; the crew found that they could not possibly keep up with M-5. The downside of this superb invention was that the M-5 engaged in unexplained and misunderstood acts, which diminish the crew’s ability to make decisions and function for the benefit of the inhabitants of the *Enterprise*. The M-5 cut off power (and air) in different areas of the ship and re-directed this power.

Identifying another vehicle, the M-5 attacked and Captain Kirk attempted to take the M-5 off-line; however, the order is moot, and a forcefield surrounded the computer for its protection. More situations develop which threaten the ship and other space crafts, while the creator of the M-5 continues to insist that the computer is created for *our own good*. Not one to spoil an ending, suffice my story to end with an assurance that the *Enterprise* and *Star Trek* continued for another season.

Early science fiction's bread crumbs were followed by technological advances, leading to expectations and continued changes...inspired by science, and most definitely by the unquenchable desire for capital a la the Bill Gates/Steve Jobs express, M-5's interventions on the *Enterprise* have multiplied and sophisticated. It's not like we weren't informed, warned about the implications of technology; as early as 1964, McLuhan (1964, 2001) noted that new technologies would bring more than the medium was indeed the message (1964). That we could not separate the technical from the interventional, the intellectual, the hermeneutic. That the device/machine/apparatus was intrinsically entwined with what it could accomplish. Neil Postman (1993) went on to caution us that technology would overcome society and culture to be shaped by the technology itself. Both scholars were ridiculed at the absurd assertions that mere machines could overcome humanity...and not much more than two decades ago, students of the media began to understand McLuhan's and Postman's warnings, but we had not yet begun to comprehend that bigger than the technology, the post-modern M-5's were the social and ideological implications of the words and images distributed. Social media had become the technical behemoth. Unlike the M-5, harmful, often irreversible, life-changing decisions and activities created by technology were now made by humans, by children as young as 2 or 3. The ultimate cultural hegemony was born through social media.

Young People and Social Media is a collection of contemporary and forward-thinking essays examining the different dimensions of social media, its multiple meanings and workings and the ways in which children and youth engage in and with it. The editors clearly articulate the importance of understanding the everyday and future ways in which young people engage with, operate within and are influenced by social media. I believe there is no more important personal, academic and pedagogical discussion than to participate in a never-editing examination and critique of social media. The book has been put together for the ultimate consumers, undergraduate teachers, who were/are still involved with social media, subject to it and the essential task for them to engage in a critical pedagogical read, analysis and curriculum which alerts students to the benefits, possibilities, probabilities, dangers and futures of social media. Media literacy is barely taught in many schools; indeed, it has passed us by. Social media is the new generation of media, and educational professions should be demanding appropriate attention to the strongest global influence on children and youth today. Steve Gennaro and Blair Miller have served us well to compile this volume. Read it, share it, and write about it... and begin to think about the next steps. Social media is here, and we can't get over it; we must get a handle on it and our students need the tools to responsibly use it, disseminate it, define it and if needed, decry it.

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Introduction: Contemporary Children's Culture in Digital Space(s)

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There is a vital passage in Plato's *Republic* that eminent philosopher Bernard Williams summarizes thusly: "It is not a trivial question, Socrates said: what we are talking about is how one should live".¹ Framed this way, morality — how one ought to live — begs attention despite being obvious. Some things that we normalize in our society become overlooked as a result; whereas they were literally world-changing at the time, they become part of our background understanding of how one ought to live. There is nothing wrong with this per se, as long as we remain aware of the idea that from the beginning of (North-)Western society moral virtues that would ideally come instinctually instead require discourse, attention, and responsiveness to change over time — and that these things run the risk of evading those very same processes due to their entrenched nature. As Williams' claim asserts, this endeavor, this discourse itself, is an intrinsically moral one.²

The very notion of youth meets these criteria. Childhood itself is a social construct of Romantic and Puritan discourse, spurred forth in large part by the drastic shifts in labour that defined the Industrial Revolution.³ Prior to this point in history, individuals of most ages were considered and treated in more similar ways, but once established as separate and more vulnerable, children were granted extra protections against physical and psychological threats.⁴ Thus, childhood represents a moral decision in that the very concept and its characteristics exist as an ethical response to fluid existential standards. Under Williams' terms, youth benefits from — if not begs for — the aforementioned attention and discourse, and it does so with moral weight. As such, inquiry is ongoing; childhood and our relationship to it is something that gets updated in order to better position youth within safe and nurturing limits, and the perpetual moral urgency involved here details a learning curve whose slope humbles us in self-reflexivity. Witness how obvious it should have been to distinguish children from adults under the pall of coal fumes, or how the UN Convention on Rights of the Child is 30 years young.

For an indication that such moral decisions are indeed still immediate when concerning youth look no further than the tech industry's leading minds — not at their public stances toward the use of technology, but rather the stance they take when it concerns their own families. During research for *Irresistible*, his incisive look into technology and addiction, Adam Alter came across a 2014 article by *New York Times* journalist Nick Bilton, who discovered that at least several leaders in Silicon Valley — Apple's Steve Jobs and Twitter co-founder Evan Williams among them — exacted restrictions upon their own children in terms of which sorts of technology they are allowed to use, and how often. Alter draws a telling, if harsh analogy: “It seemed as if the people producing tech products were following the cardinal rule of drug dealing: never get high on your own supply”.⁵

This realization is helpful in asserting two claims: that those who know the most about the technology they have ushered into ubiquitous roles in our lives know that children should not be interacting with it unfettered, and that morality is constitutive of relationships between youth and technology. In other words, the closest experts believe in mediation between youth and technology, and that this — from the ground up — is imbued with moral reasons and ethical manifestations of them in the form of rules, restrictions, monitoring: discourse. Although the maxim “it takes a village to raise a child” can inhabit the ranks of cliché, this discourse is clearly misrepresented when limited to direct parent-child and/or child-tech dynamics because to accurately encompass the scope of youth interactions with technology would require recognition of myriad other spheres overlapping to form an intersectional whole. It isn't just technology — especially social media — that is ubiquitous among youth, but also the duty to call for and act out discourse about both, and from as many fields as possible. *Young People and Social Media* represents an attempt to answer that call to duty, which inherently outlines moral standpoints that are sensitive to the ubiquity of social media among youth as well as notions of play and inclusivity for young people within participatory family (and, to a broader extent, social) frameworks.

This edited collection explores children, youth, and digital culture — in particular the practices, relationships, consequences, benefits, and outcomes of the experiences of young people with, on, and through social media — by bringing together a vast array of different ideas about childhood, youth, and young people's lives. The ideas here are drawn from scholars working in a variety of different and often seemingly disparate disciplines, and more than just describing the social construction of childhood or the everyday actions in children's lives, this collection seeks to encapsulate not only how young people exist on social media but also how their physical lives are impacted by their digital presence. Adaptable as humans are, that can often be the

problem: nascent technologies require more discourse than the time popular culture affords them. To be sure, social media has entrenched itself into everyday life much faster than even sufficient conscientious analysis could have foreseen. This might be especially true among youth.

Proliferation, play, patronage

The role played by digital media in the lives of children constantly presses up against our sensibilities. The notion that moral standpoints are indeed not trivial gathers more force as the occasions that call for said standpoints become more ubiquitous. On top of its injection into the everyday, discourse about youth and digital media also matters deeply when it comes to typical aspects of children at play, and how youth is mediated by adulthood — each interaction a child has with digital media elicits ethical standards of behaviour, both of which carry moral consequences that feed back into technologies themselves, and so on. To engage in discourse about youth and digital media means at first to accept and integrate these truths, but not blindly, or without the sort of conscientious landscape that can be surveyed by a locus of perspectives such as the one provided by the pages that follow.

Since the impact of technology upon children remains so complicated to grasp, assessing the extent to which digital — and specifically social media — plays a role in the lives of youth is still a prerequisite for our discourse. While that discourse might apply aptly to technology in general, in terms of moral awareness around youth one statistical access point is the use of mobile devices. Smartphones in particular are the most ubiquitous. The use of these devices by children is resoundingly taken up by time on social media, and in arguably a more private manner than a tablet or family computer. In the United States of America, a prime sample ground for unfettered social media use, teen access to a smartphone has risen dramatically in recent years: from 73% of teens surveyed in 2014-2015 to 95% just three years later. The same study states “smartphone ownership is nearly universal among teens of different gender, races and ethnicities and socioeconomic backgrounds”.⁶ However, coinciding with that increase of access has been a near-doubling of time spent online. Over the same time span, 45% of teens claim to use the internet “almost constantly” — up from 24%. Add to this that another 44% report going online several times per day, which means that in 2018 approximately nine out of every 10 American teenagers went online at least that often.⁷ Guided by social custom within young demographics, teens likely drive usage behaviour in a trickle-up and trickle-down manner to other age groups as well.

Regardless, this dramatic surge in internet usage begs the question, what are teens now *doing* with their time online? Here in Canada, where both us editors

reside, four out of five Canadians say that they keep up to date with the news through social media sites “like Facebook, LinkedIn and Twitter”⁸ — and that does not account for the time users spend on social media for other, dare we say, more functionally-specific reasons, such as posting content, direct messaging, and video links. Furthermore, as many of the chapters in this collection indicate, social media is serving an increasing number of functions for users as its existence proliferates into areas such as health, exercise monitoring, and gaming. One effect has been the hybridizing of communicative media technologies such as chat functions in video games with the greater realm of social media in ways that have increased and intensified due to necessity during the current COVID-19 pandemic, and young people are no exception.⁹ In fact, youth rule the day when it comes to social media use. As recently as 2017, a UNICEF report concludes that across many socioeconomic and geographical spheres young people use social media at a higher rate than any other age group.¹⁰ Still, precise data in these areas remains elusive, as another UNICEF report from the year prior explains — while also confidently asserting its titular claim that one third of all online users worldwide are children.¹¹ It follows, then, that in terms of both online presence and social media proclivity, the only “sure things” about youth and social media is that most of them use it often — extensively so — and that it is difficult to appraise the nuances of this phenomenon with quantifiable precision.

As is the case when reaching the stage of learning something as layered and complex as a new language, what this statistical knowledge does is help us better grasp how much we do *not* know. There are daunting numbers; it is not just the sheer volume that is so dizzying, but its multifaceted nature. It is difficult to properly contextualize something so everywhere, something that also grows and changes exponentially, seemingly by nature. (These statistical challenges do not even account for the increasingly proprietary nature of user statistics online, ultimately limiting authentic access.) *Young People and Social Media* approaches this task as a challenge to be met diligently. Arguably the most demanding contested space for our species and planet is our collective future(s) — and as the retread maxim states, that space *is* our children. Honouring this obligation is the general goal of this collection. Whether said goal is satisfied or not is, like the burgeoning future of youth, open-ended.

As though it possesses a sort of self-awareness, the notion of contestation refuses to be overlooked in these discourses. Open-ended spaces, childhood, the future, are necessarily under negotiation, and the young individual brings these forces together through acts of play. Even the way online play is “born”, so to speak, is often done by (re-)negotiating access to online space in a subversive manner — one which exposes some key gaps in youth online

access. Specifically, one of our own children has at least one online profile that claims his/her birth year to be longer ago than our own, merely to gain access to online content that requires users be at least 13 years of age. This hinderance to concrete data for tracking youth activity online delineates the space as subversive from the outset; that space's inability to maintain its own user rules also shapes it as contested. More generally, contested spaces need not be considered primarily on negative terms. Those spaces are contested by nature, but not necessarily competitive — contestation and/or negotiation can occur without healthy or unhealthy rivalries. In this sense, contested spaces for youth can verge more on the playful side than that of a contest, illuminating their characteristics as matching those of social media spaces as children are wont to use them. Drawing a more direct line that extrapolates from these claims, contested spaces are made for play. Now, consider some characteristics of youth: finer motor skills, mental flexibility and ability to absorb and integrate than their adult counterparts, especially in the case of new languages and literacies. Like contested spaces, youth is made for play; children are practically built for it. The overlap here is considerable.

Circling back to Williams' claim at the outset, youth play and its exigent circumstances are not trivial matters. The patterns of subversion from the outset position acts of play as modifiers in children's lives. Put more concretely, children use play as one constitutive way to make sense of their lives. Through sequences of imagination that allow internalized present moments and surroundings to elicit "virtual" or imaginary futures, children decode the actual physical world around them. Considered this way, play holds a somewhat privileged status in youth as playing a role in socialization, identity formation, and development. In other words, play paints children's pathways to their futures by making sense of the present moment in more dynamic (or at least alternative) ways than at-hand empirical sensory recognition. To play is to engage with futures. This carries moral weight to it — what is formative is what either enables or prevents moral cognisance to varying degrees.

But as with most things passed through the prism of globalization, play can also be refracted, separated, warped, distorted. The lion's share of online user activity across all ages amounts to "involuntary"¹² participation in informal market research conducted by the controllers of each site or platform on behalf of themselves and/or paying clientele. For youth, that results in the expansion of online play into work — commodified child labour in digital space. To make matters more complicated, this constant transactional online presence can even inform research on the subject matter. This commodification further positions discourse about youth online as a morally weighty matter, as does the very analysis of youth undertaken in these pages,

since instrumentalizing — even exploitation — is always nearby. Thus, a harrowing context is revealed for young online users. They are unwittingly involved in a tête-à-tête match, whereby lab coats, algorithms and ad execs make up the other half of a game designed to perfectly play with the young subject(s) in a way that in and of itself suggests, directs, and even implants codes for moral behaviour — arguably at a point in time during youth development that precedes internal wherewithal.

Such realities are daunting, to say the least. Under these circumstances, where is the room for agency for the child? Where, for that matter, is the room for agency for anyone? When it comes to discourse about youth and social media, alarmist responses and/or positions feel constantly within arm's reach. An alarmist standpoint inhabits much of the same conceptual territory as top-down hierarchal approaches to age — especially within parental and educational frameworks. It is easier to be alarmist when understanding something from the distance maintained by parent/educator-child relationships; no matter how “close” and “in sync” either of the former figures may feel to a child (or vice versa), the hierarchal nature of the relationships resists shared understanding on equal footing, and that lack can easily trigger concern, even alarm. As with most things, this is about power, and as with the power of the gaze, the power of observation, and physical power — all of which are implicit in academic discourses about childhood — cogent analysis is about recognizing and dealing with the inherent power imbalances for both youth and adult, as opposed to trying to do away with, ignore, or sound alarm over them in a way that would be deflationary for the field itself. Seen this way, we have serious doubts that true responsible discourse on the matter of youth and social media can even be alarmist at all. This supposition thwarts the primacy of top-down hierarchal approaches to youth studies.

Consider: When the dynamics and content of digital media is as fluid as it is now, what exactly are we, as adults, protecting youth from? Do we need equally fluid responses to that? Can intersectionality be a partial response to this challenge? Anyone who has spent time raising or studying youth knows the folly in pigeonholing them. Young minds, bodies, behavioural sets, relationships, existences, even, are nascent almost by definition. Of all the gatekeepers online, the utmost ones for most children remains their parent(s), or whichever authority figures stand in as such. This position of power is altogether unavoidable, but it is a complicated one. In terms of childhood experience, parents exercise control of, and police the right to, a child's privileges, and this necessarily includes online space. In this sense, the position of power involved in family hierarchies is a relationship partly defined by patronage. But in order to both more accurately understand children, and to allow them the freedom to be seen under those same

circumstances, adults must aim for discourse about childhood that avoids the other sense of the idea to patronize children — wherever feasible they must not prejudice analysis from a primarily top-down perspective. The moral implications of this stance should be obvious: We owe it to ourselves and children to conceive of and interact with them in ways that recognize, and ideally account for, the realities and problematic nature of top-down relationships — in both discourse about youth, and in parenting itself.

Moving subjects, moving positions

Our collective academic discourses on youth are as inseparable from hierarchal age bias as the observer's gaze is from empirical research. As such, we do not shy away from the relative lack of peer-to-peer youth analysis here. Although online interaction among youth cohorts is likely the most prevalent type of demographic relationship on social media, part of acknowledgment of the complications caused by top-down research involves leaving aspects of that voice to children themselves. This is not to discount the value of such peer-to-peer discourse within the field(s) of Child and Youth Studies. Rather, studies that aim for a more horizontal ilk in terms of content and/or hierarchy of research deserve another space; the limitations placed on fitting such a study into the thematic approaches that define the content of this collection would not do either spheres justice. We are not even sure if it is hyperbole to depict youth space as something like searching for balance amidst a storm of peer pressures, privacy, nurturing, hierarchal, and even honesty/performative issues. After all, we have all of us literally been there — and for many of us, that was before social media.

There will be references to gaps in the pages and chapters to follow. One of the challenges — and appeal — of Child and Youth Studies is that youth are moving subjects considered from moving positions; *Young People and Social Media* is a sequence of chapters on this demanding field that hit marks within the current moments they capture. Each entry has been included in part for its recentness, with the implicit understanding that socio-technological change is constant and certainly feels exponential, both subjectively and objectively. The contributors in this collection engage in rigorous discourse of varying scopes and subjects, resulting in 18 different approaches engaging with core data that, though apt, are never comprehensive, and never absolute. Even in their success in filling academic gaps, they also leave and/or expose others due to the aforementioned dynamics of Child and Youth Studies.

A Canadian television station recently re-aired an episode of *Law & Order* in which a teen suspect is involved in criminal acts online. The coda of dialogue for the show applies here: "It's always ten p.m. somewhere, do you know where your children are?"¹³ The significance of this line can extend beyond

mere supervisory purposes: the internet never sleeps. Online space and activity are literally a constant flow. Child and Youth Studies should endeavor to parallel, even match, this flow — not just in terms of presence, but also in terms of content, information quota, and research systems — a dialogical infrastructure, if you will, a back-and-forth that bridges those didactic systems of inquiry with the global online current of media technologies (that last term being a more encompassing one than allowable when limiting it to social and news media). Therefore, this collection and the greater field(s) it is a part of comprise an academic ecology that in its way can help to fill academic gaps with future discourse. Again, like online flow itself, these discourses are always ongoing and contested like the spaces they examine (and thusly create). *Young People and Social Media* is a signpost along a road without end that is rife with unexpected bumps and turns. Kids and the internet are as surprising as they are predictable.

To wit: there are historical landmarks that have played out during the process of bringing this collection to print — ones that have already begun to change our real and virtual landscapes, producing results that might make the staunchest of cynics balk. All of the essays in this collection were submitted for publication prior to the American presidential election in 2020. Many of them were also largely written and/or researched with a passing opportunity at best to analyze the COVID-19 pandemic and its impacts. This timing also means that the watershed insurrectionist movement in the U.S. on January 6, 2021, rests outside of this book's scope of analysis. While racial unrest around the world has intensified over that same timespan, there are some chapters here that address BLM and the like, albeit prior to this recent and welcome surge of popularity. It would be optimistic at best to wish that these aforementioned historical factors merely accelerate or emphasize so many of the power imbalances that are already so urgent. Global and domestic factors such as the rise of conservative populist politics, the daunting perils nature poses for us — seemingly in response to our own technological advancements — and racial and economic divides growing wider and wider are also transmogrifying right before our eyes in ways that are both more visceral due to, and made more accessible by, social media technologies. While on the matter, perhaps if the desolate time of the Trump presidency and its acceleration of the expansion of fringe politics largely through social media has shown us anything, it is that adults are not exactly collectively responsible experts on social media either. Top-down approaches to youth studies overlook this at their own risk.

These recent events and the social unrest caused by them are part of a wave presaged almost in real time by a small nascent countermovement that seems to have started among some once-high-ranking corporate social media

intelligentsia “gone rogue”, perhaps most prominently manifest so far in the Netflix documentary film *The Social Dilemma*, and also proliferating across talk/radio/podcast circuits. While much of the youth-specific messaging in the film is unfortunately wrapped in an alarmist tone, this movement itself — especially coming in part from individuals who have participated directly in the creation, maintenance and manipulation of social media, and specifically algorithms that are, even with explanation, an opaque barrier to understanding user exploitation and dependency upon social media — stands within the same counterbalancing continuum that this collection addresses. The absence of these events and their reactions in these pages is proof of the call to precise, yet continuous discourse.

One person in particular stands out in *The Social Dilemma*: Cathy O’Neill, mathematician, and author of *Weapons of Math Destruction*. Her presence in the film is striking, not just for her unconventional hair style at the time, but because she is the lone female face and voice among the throng of social media experts allowed to speak in the documentary. While this might serve as no surprise, it touches on an immediate and unavoidable issue with *Young People and Social Media* — that of its editors both being middle-class CIS white men. For us, the time has long passed when blind objectivity in academic work is something feasible, let alone to aim for. We cannot change who we are in these senses; what we can do is our best to account for the immeasurable gaps in identity, experience — everything! — with the chapters to follow, and the contributors’ identities that often stand in healthy contradistinction to our own. Perhaps the best, or at least most direct, rationale we can offer is that — as with matters of racial, gender, and other inequities that threaten healthy participation in citizenship and media interaction — it behooves those who possess the greater share of access to power to seek opportunities to ally. As Heather McGhee asserts in *The Sum of Us — What Racism Costs Everyone and How We Can Prosper Together*, these critical rifts across unequal standing around the world amount to deeply involving discord within *all* of us.¹⁴ This observation is at once a response to invalidations of affluent white CIS male perspectives, and acknowledgement of the disproportionate power that our deeply flawed group possesses. As with age bias mentioned above, we do not shy away from these crucial gaps in any way that should resist inclusive discourse, and we have tried to account for our obvious lack in these foundational areas of youth studies with the contents of this collection — both in the discourses themselves, and those enacting/writing them.

In the film *Contact* based on the Carl Sagan novel of the same title, NASA specialists give impromptu astronaut Ellie Arroway a poisonous pill to take as a last resort with her on her journey through an interdimensional space portal

gifted to humanity by an extraterrestrial race, “mostly for the reasons we *can’t* think of”.¹⁵ To be sure, the moving subjects of inquiry being viewed in this collection, from moving positions, are often elusive as well — they hide, differentiate, change, and even deceive. This set of studies is not just for what it anticipates, but also for so many other factors and outcomes that may not seem readily available. Single instances of discourse about young people and social media, even when successful in their goals, are insufficient unless contextualized within an ongoing and responsive academic continuum. In this vein, the very designation “social media” is becoming so hybridized that thinking of it in fixed terms is proving to be inaccurate the more time plays out, and the more media technologies develop along with those producing and controlling content. The analyses in this collection thusly understand that the term “social media” takes different forms depending on explained contexts within the greater digital environment. As users — especially adult ones — we have a responsibility in principle to understand social media within this greater socio-technological environment. This responsibility is met in part on moral terms, by dealing with who we are, and the conceptual frameworks for the task at hand.

Voices and rights

The nuances and aforementioned inevitability of top-down hierarchal relationships that in large part define academic discourse about youth and social media are worth revisiting here because accounting for them proves to play a formative role in contemporary children’s culture itself. Though often marginalized by existing adult culture, children’s culture is situated firmly within mainstream society, in large part because, as mentioned above, the very concept of childhood originated in contrast to adulthood; where children exist through our shared histories, so do adults, whether the ontology and language to categorize them existed at the time or not. As such, just like observations of any culture, understanding that of children is derived from the stories, rituals, and practices inhabited by youth. However, in the case of children, the amalgamation of these factors is determined largely by parallel sets of adult ideas, fears, ambitions, and rules about children, as well as adult versions of the same for youth themselves present in dominant social structures. These intrinsic intersectionalities between childhood and adulthood make the exploration of stories that young people engage with crucial in order to give us a sense of child literacy as it pertains to their own culture and media interactions. One point of access here is the intermingled voices of youth and adults on the matter, specifically what one of us has elsewhere referred to as the three voices of contemporary children’s culture.¹⁶

1. **Institutional voices about children (IVAC)** describe who children are at any given social moment. Primarily occupying institutional spaces of government, education, health care and other similar social organizations, these voices order and classify. These institutions detail social roles and/or functions for children, including rules for which space(s) children can or cannot occupy as well as rules governing their participation and behaviour in said spaces. Children's voices are largely absent from IVACs.
2. **Institutional voices for children (IVFC)** take those institutional ideas about children in IVACs and communicate them to children, making them didactic, and typically part of popular culture. Whatever form of media IVFCs take, they are the means through which IVACs are disseminated to children. IVFCs explain these aspects of the world and a child's role in it to children, but they do not define a child's life, nor do they regulate it. In fact, IVFCs allow room for contested children's voices as well, answering the demands of (pseudo) autonomy within the experience of youth development.
3. **Children's own voices (COV)** are play-based in the same ways explained above. They are largely media-dependent — the result of children's participation in the social world as they take up the ideas of IVACs via engagement with IVFCs. Seen through these lenses, play is youth engagement with popular media in order to name and make sense of their world through their own rituals, practices and action. In doing so, children "speak back" to the dominant voices.¹⁷ Recall: play is subversive in nature; those acts allow children to speak for or against the ideologies that make up their shared reality.

These three voices overlap conceptually, making a Venn diagram whereby contemporary children's culture rests in the middle as both the intersection with and interaction between the social construction of childhood and real, lived youth experiences.

It is not just that the average child is situated within a media-dominant culture. This nexus of voices that makes up contemporary children's culture is wired by media, and as we have already explained, this is maintained by children primarily through social media. Through social media — and in real time — children express and negotiate their identities, societal roles, and the power (or lack) of access to social and cultural capital. This means that in

order to study contemporary children's culture one must aim to understand the relationship between young people and social media. Studying social media in the present moment illuminates both the limiting aspects of media for contemporary children's culture in the sense that it can oppress, mute, and exploit children's voices, as well as the positive, ground-breaking possibilities for media as a contested space within which activism and agency are still possible. This ascribes to social media a liberating potential for children and even democracy as a whole that can feel counterintuitive today.

All of this being said, the resulting discourses and/or possibilities that come from these standpoints still require structure and framing. The United Nations, UNICEF, and their rights-based approach provides us with the semantics for what is a child, youth and young people. But first, as a relatively new discipline, Child and Youth Studies nonetheless has its roots in much older and deeper histories — much like globalization. To further complicate matters, COVs are typically absent from international histories, so comprehensive research on global lives of children must reach beyond typical post-colonial thought. Indigenous Maori theorist Linda Tuhiwai Smith correctly claims that “imperialism frames the indigenous experience”¹⁸; we argue that globalization frames the childhood experience. Seen this way, a rights-based approach to Child and Youth Studies is an interdisciplinary approach to the study of children's lives, working through the three voices of contemporary children's culture.

A rights-based approach is a procedural framework that seeks to place the child and the rights of the child as defined by the 1989 United Nations Convention on the Rights of the Child (UNCRC) as central to all interactions with young people. Article Three of the UNCRC — widely referred to as “the best interests principle” asserts that adults should prioritize said interests of young people whenever making or considering choices that will affect them.¹⁹ A rights-based approach extends this principle with specificity to ensure that as adult allies, we act with an anti-oppressive anti-racist, child-centered, and intersectional framework when working with young people. Tuhiwai Smith offers a set of questions that she suggests be intrinsic to any research project with indigenous peoples, and we see them applying with equal but not identical necessity in order for Child and Youth Studies to be rights-based.²⁰

- Whose research is it?
- Who owns it?
- Whose interests does it serve?
- Who will benefit from it?

- Who has designed its questions and framed its scope?
- Who will carry it out?
- Who will write it up?
- How will its results be disseminated?

The implied consequences here for the perils of top-down hierarchal study are significant. As Tuhiwai Smith states, again applying the same notion, but to indigenous study:

When indigenous peoples become the researchers and not merely the researched, the activity of research is transformed. Questions are framed differently, priorities are ranked differently, problems are defined differently, people participate on different terms.²¹

Said terms are constantly negotiated within another contested framework, and that is the delineation of youth and childhood themselves.

Here, we return to the utmost global authority on not only children's rights, but also the guidelines for determining what a child is: the UNCRC. That binding international human rights convention defines children as anyone under the age of 18. At first glance, this might seem like an overgeneralization that ignores canonical age subcategories such as adolescent, youth, and teenager. However, like children's stories, rituals, and practices, those age-designated terms all speak for implicit ideologies that are mirror reflections of adult fears and anxieties. Those fears are projected upon the youth in order to safeguard discourses that colonize children and deny them access to types of power.²² This proves childhood to be a social construct. However, these loaded discourses, classifications and representations have real consequences in society. Adolescence and childhood become categories of distinction within which relationships of power, domination, and inequality are continually contested. As Henry Jenkins suggests,

This marginalization affects not only how we understand the child, its social agency, its cultural contexts, and its relations to powerful institutions, but also how we understand adult politics, adult culture, and adult society, which often circle around the specter of the innocent child.²³

In other words, terms like adolescent, teenager, Child and Youth Studies all represent power structures that have become so normalized we tend not to see the dangers inherent in them.

Positioned against this conundrum, the age range of a child provided by the UNCRC and UNICEF — the former being the latter's stated basis for all its work²⁴ — is an attempt to depoliticize the ideologies at work that limit COVs through markers of age among young people. Obvious differences in power, ability, and agency exist between, say, a two-year-old and a 12-year-old. However, in terms of rights, the same ones apply to all people under the age of 18. In many ways, the UNCRC is established with the same problematic IVACs that make possible a social construction of childhood — this might even be unavoidable. But UNICEF does attempt to create some distinction between Child and Youth Studies, with child referring to those under 15 and youth referring to those ages 15-24, while acknowledging that UNCRC extends children's rights to 18 to be in line with what most nation-states deem to be the age of majority, and that the purpose of these rights is to protect and provide for young people until they are old enough to be recognized by the state as primary actors in their own lives.²⁵

Although these explanations do not necessarily provide full clarity for age-related terms used to refer to young people, what they *do* is establish the whole enterprise as morally relevant: Adults and children position youth (or do not) in ways that they believe they *ought* to be understood and treated. Whether these acts result in morally good or bad behaviour and/or outcomes remains up to specific instances — if it was not, there would be no need for regulatory bodies such as UNICEF. In fact, as time plays out, age markers continue to be examined, re-examined, moved, and transmogrified — contested! — in tandem with societal forces seen and unseen. This is no coincidence; childhood is the result of fluid identities within fluid circumstances. Pseudo-static legislative rights for children do not contradict this fluidity — they allow it the opportunity to properly flourish, as it does for children themselves. For the purposes of this collection, then, age-“specific” terms have not been scrutinized, but rather allowed the contextual uses that fit each study — with the implicit recognition that universal rights undergird each term, in each understandably porous instance of their use.

Receptive, responsive, and renegotiable

The prioritizing of children's rights as an entry point for Child and Youth Studies is reflected in the order of chapters that follow this introduction. Care and extended research were taken in selecting and collating the work of our esteemed contributors, but this is not to say that the essays in *Young People and Social Media* cannot be emphasized, separated, reordered or recontextualized in other reasonable ways in order to impress upon neophytes and experts alike. Just as the discipline must be receptive, responsive, and renegotiable, so must be its artifacts — it follows to balance

the commendable preciseness and ambition of each study ahead with the possibilities and changes they project into the future. In other words, engage with critical discourse; each piece welcomes it, as does the internal logic of the collection as a whole.

Without practical application, academic theory is just that. Dealing with rights-based global policy initiatives is at once as comprehensive demographically, and as action-oriented, as one can ask. As far as Child and Youth Studies goes, the foundational document remains the UNCRC, and UNICEF is the wing of the United Nations that locates the lives of young people within approaches commiserate with the convention. “Growing Up in a Connected World” is a key UNICEF report, and a worthwhile jumping-off point for discourse. It is co-authored by Sonia Livingstone, the global expert on young people’s digital rights, as well as Daniel Kardefelt-Winther, who, more recently at UNICEF’s Office of Research - Innocenti has pushed the digital lives of young people to the forefront of all discussion around children’s rights. The work in this report stands as a baseline for how young people use and occupy digital spaces globally and offers insight into some procedural gaps in rights provision. Those gaps are met with recommendations for further study, and for more equitable and just distribution of resources for youth in digital spaces. Making more direct and overt contact with the UNCRC, global Human Rights Law expert John Tobin offers readers an orientation course to the convention in “Understanding the Relationship Between Young People and Social Media: What Role Do Rights Play?”. By walking us through the UNCRC and how it extends into digital spaces — noting unique problems posed for policy makers and youth along the way — Tobin’s chapter effectively frames this whole collection within a rights-based approach to studying the lives of young people. These two essays provide a horizon of tensions of power between young people and the legislation that protects them — a horizon that surveys the landscape of the work to follow.

The politics of youth expression are tied to the social movements that accommodate them. Any rights-based approach to studying young people’s lives should actively seek to hear COVs themselves. Those voices are often received most poignantly in areas of subversion, protest and agency. For youth today, there is no greater issue than climate change, and thanks in part to youth climate activist Greta Thunberg there is no better current example of how young people can organize, mobilize, and speak back using social media than climate change activism — which reached into the priorities of adult social media algorithms with the peaceful climate school strikes of 2019. “School Strike 4 Climate: Social Media and the International Youth Protest on Climate Change” provides real data exploration of how young people availed themselves of Twitter to take part in the lead-up to the strikes. Examining

what youth said and did online in this context provides access to COVs, and allows one to witness how social media can be used to amplify those voices — even when they are legally denied access to those very channels of discussion (recall from above that this is often how children “play” their way into digital spaces). “Resisting Youth: From Occupy through Black Lives Matter to the Trump Resistance” functions somewhat differently than the previous chapter on climate change, in that it is a historical piece instead of one relying upon quantitative data. As such it contextualizes for the reader both the connection between youth and social protest online, and a pointed reminder that the titular countermovement events of 2019 and 2020 did not occur in a vacuum. While other essays in this collection — such as the Berkeley Media Studies one that succeeds this — provide hard data pertaining to how social media devices were used, and what was said during these online protests, it is still valuable to see the longer historical trajectory of an inequitable power relationship between young people and the governing bodies that shape their lives and experiences. As long as there has been youth and media, young people have leveraged the participatory components of the latter to activate VOCs, and, in turn, social protest.

Participation is far from equal across online selves, however. Serving as a strong reminder of these unequal experiences, “Trauma, Resilience, and #BlackLivesMatter: How do Racism and Trauma Intersect in Social Media Conversations?” provides a lens through which we can extrapolate and infer how the experiences of posting content on social media, and how that content is received by the greater audience, are heavily influenced by race. All of these rights-based approaches are reminders that such standpoints must be antiracist, gender-neutral, trauma-informed, and anti-discriminatory based on age.

Individual identity is wrapped up in so many aspects of Child and Youth Studies as well as activism. Identity for youth is about finding one’s pace and place in the world. “Youth’s Relationship with Social Media: Identity Formation Through Self-Expression and Activism” uses BLM and climate activism to connect the role of identity with that of activism by examining how young people assess their own selves by connecting to groups and participating in larger social activism. One of the most dangerous facets of identity formation at any age is how image-oriented it has become — literally and figuratively. One main hub for negotiating identity in social media on image-mediated terms is Instagram, as explored in “Living Their Best Life: Instagram, Social Comparison and Young Women”. This chapter delves into that platform and the ways that users experience positive or negative self-perceptions in tandem with the presentation of their friends’ and followees’ lives there. This in turn expands into user differentiation between that

comparative set and the images of other identities on the social media channels they follow. If this more general take on the throes of youth identity within a space of unrealistic images to aspire to fails to elicit concern, then specifics about body image should. “The Selfie Generation: Examining the Relation Between Social Media Use and Adolescent Body Image” explores the negative impact of social media on body image, and the resulting physical harm that can come from this. Building on the previous articles here, the substantial impact social media is having on self-image and body image becomes virtually undeniable. If we are attempting to understand children better in order to improve their individual and collective standing and self-worth, then addressing these issues is paramount.

Negative body image and resulting forms of self-harm are difficult to separate from the alarmist stances taken by adults that we have examined above. Video games are no stranger to such accusatory receptions either, and despite their constant sense of “brand newness” (or out-of-touchness, depending on one’s side of the proverbial fence) their being subject to moral panic over youth discourse has historical roots in its industry that date back beyond contemporary trends — as “The *Video Kids* Are All Right: A Comparative Analysis of Moral Panics Around Youth and Social Gaming Containment and Resistance” demonstrates while debunking some of the longstanding myths about video games and young people.

Domesticated pets are a more benign form of youth interaction — at least until they are considered in the hands of Jody Berland, and on digital terms. “Playing with Pets, Playing with Machines, Playing with Futures” considers child identity formation amidst the forces of community, friends, and play, and how a digital pet — even the cuteness of it — serves as a node in an intersection of relationships, making digital pets important and ubiquitously-appealing components of childhood imagination that open up not only present experiences for young users, but the future as well. Building on spaces of play, YouTube is a play space for digital youth; it is where young people congregate to learn about the world around them, and then play with the knowledge they gain in order to speak their own imagined selves (back, again) into existence. This massive reach of YouTube has been seized by parents and children alike in the form of youth social media influencers. This recent capitalist phenomenon is examined in “Digital Media and Kidfluencers in the Twenty-First Century are Here: What and Who are the World’s Children Watching?”, exposing multiple levels of discursive tension between capitalism, exploitation, political economy, and children’s rights.

Partly out of necessity, parents play an enabling role for Kidfluencers, bringing attention to parental roles within discourses about young people. Turning to psychology and Bronfenbrenner’s Ecological System Theory, “Connected or

Disconnected?: Parent-Adolescent Relationships and Interactive Technology” argues that the period of adolescence is a specific space within which the parent-child relationship requires particular attention. By looking firsthand at the nature of communication between parents and adolescents, this chapter shows how technology use can add either more trust or more strain to that part of a family dynamic, and how technological advancements have made this more immediate.

Any responsible discourse in Child and Youth Studies should also be mindful of health. In an implicit way, health is present in every chapter in this collection, but some take on the matter more directly, such as “Young People and Their Engagement With Health-Related Social Media: New Perspectives”. This article connects to earlier chapters on happiness, body image, and identity formation among young people via social media. However, instead of psychology or media studies, this study dissects those relationships across health discourses and the posting of health-related content online. It also offers useful insight into the levels of engagement young people have with social media content. Health is never skin-deep, though, and “Smartphones, Social Media Use, and Youth Mental Health” provides a synopsis of several studies over multiple years to gain a sense of the most pressing challenges to the mental health of young people, as brought on by social media. The data suggests a laundry list of problems that can, do and will arise in young people’s health online — and offline — as a result. This chapter outlines what those problems are, and how being educated about them is important in order for adults to inform policy makers, educators, and themselves as caregivers in order to assist young people in navigating this terrain. Carried out by a group of professors who also serve as practitioners at SickKids Hospital in Toronto, this represents our most involved perspective from the front lines, as it were.

One tenet of young people’s good health is their protection. Due to its potential for anonymity, unsupervised use, and uncensored (read: easily accessible either way) content, the internet is likely the influence in a young person’s life that they are the most stringently protected from; among those perils that they are legally granted access to prior to the age of majority, it is likely the last to have that protection fully lifted. This is in large part due to the complicated nature of child censorship, and the like. IVACs are forever trying to catch up with changes in technology, content, and standards for evaluating each. The UNCRC is not immune to this issue. “Examining Parent Versus Child Reviews of Parental Control Apps on Google Play” takes this challenge head-on by juxtaposing the tensions between parental guidance online and the freedom of young people to learn and grow independently in online spaces, with the aforementioned “best interests principle” in the UNCRC. Also at issue

in this study is trust: this article conducts its findings by examining how young people and parents view parental control apps specifically designed to allow parents the opportunity to surveil their child's online usage. Similar to the offline world, in which it must be specified not to tell strangers where one lives, young people often have yet to develop healthy reticence when it comes to sharing personal information. How well do children understand the ways in which they divulge personal data on social media? "Young People's Understandings of Social Media Data" takes stock of this question, while also examining how access to this information informs the types of choices young people make online and in social media — choices that are bound up in contradictions, binaries, and dualisms.

Among those daunting complexities is the manner in which media technologies can enhance user freedoms, knowledge base, abilities, and experiences while also expanding systemic power such as platform colonialism. This catch-22 has surfaced in United Kingdom classrooms, where though new virtual reality tech offers liberating potential for education, it also enables Google to expand its corporate presence — and all of the nebulous polemics involved. This fusing of social media space with youth, school, and corporate space makes for complex discourse, as evidenced in "Disruptive Play or Platform Colonialism? The Contradictory Dynamics of Google Expeditions and Educational Virtual Reality".

In the end, true acquiescence between competing discourses in youth-inhabited social media spaces requires that young people have a say in platform design, as per "Good Social Media?: Underrepresented Youth Perspectives on the Ethical and Equitable Design of Social Media Platforms". Deliberately seeking out the voices of young people, this research project investigates how the design of media apps (application programs) can influence access to the extent that it can limit or prohibit youth behaviour, or conversely provide opportunities for agency and social justice. By taking the perspectives of young people on the design of social media and its structure, this final chapter aims to seek more fair options moving forward. This is the object of discourse: to pave a safer and more inclusive way ahead.

Questions to answers

Another goal in exploring youth interaction with social media is to unpack the structuring of digital technologies in terms of how young people use it as a means of communication, a platform for identification, and a tool for participation in their larger social world. During longstanding and continued experience in the broad field of youth and digital culture, we have come to realize that not only is the subject matter increasing in importance at an immeasurable rate, but the number of textbooks and/or edited collections

has lagged behind considerably. There exists a lack of sources that fully encapsulate the cannon of texts for the discipline, or the rich diversity and complexity of overlapping disciplines that create the fertile ground for studying young people's lives and culture. Our hope is that this collection — originally intended for, but not limited to, undergraduate students interested in Child and Youth Studies — will occupy some of that void and act as a catalyst for future interdisciplinary collections and research, because as it is with the internet, so it goes with critical discourse about it: it never turns off, never ends. Neither does the moral obligation to engage. The line in Plato's *Republic* following Socrates' call to attention to the self-perpetuating urgency of how one ought to live — how society ought to function:²⁶

Proceed with your inquiry.

Steve Gennaro & Blair Miller,
February 2021

Addendum

On March 24, 2021, The Child Rights Committee at the United Nation's Office of the High Commissioner for Human Rights published general comment No. 25 on children's rights in relation to the digital environment. The Committee on the Rights of the Child consists of 18 independent experts who monitor the implementation of the UNCRC by State parties, including the two Optional Protocols that have been adopted since the original drafting of the Convention in 1989. General comment No. 25 was adopted by The Committee on the Rights of the Child at its 86th session. The intention of the comment is to provide legal guidance on “how States should protect children's rights with regard to the digital environment”.

General comment No. 25 is the result of a significant consultation process, spanning two years, whereby State parties, civil society, NGOs, and more than 700 young people across 27 countries, shared their opinions on the impacts of digital technology on children's rights and suggestions to ensure better protection of these rights in digital environments. It is also a recognition of the significant impact of digital technology and the digital environment on the lived experiences of young people globally. For example, COVID-19 forced the migration of all aspects of young people's lives to the digital. Around the world, outdoor public spaces were closed, schools were shut down, sports teams and clubs cancelled, and the opportunity to gather and congregate in public space was discouraged and even made illegal in some parts! According to a March 2021 UNICEF Innocenti report, COVID-19 displaced over 1.5 billion children in 190 countries, confining them to their homes and moving their activities away from public, physical spaces. Even with the publication of

general comment No. 25, there remains an immediate need for a digital approach to the UNCRC to address the gaps in children's rights in this area from the original 1989 document. Luis Pedernera, Chair of the Committee, noted "Meaningful access to digital technologies can empower children and support them to realize the full range of their civil, political, cultural, economic and social rights. If such technologies are available only for some children and not others, it will lead to greater inequalities and affect their opportunities for the future". Pedernera's statement highlights some of the tensions that immediately arise when acknowledging the benefits and limitations of general comment No. 25.

On one hand, the comment marks a significant breakthrough for State parties, scholars, activists, and NGOs, by acknowledging the importance of "the digital" for global children's rights. Despite UNICEF's 2017 *State of the World's Children* annual report "Children in a Digital World", a movement towards improving the digital rights of children has not kept pace with the rise in access to technology and the role of technology in young people's lives. Sonia Livingstone at the London School of Economics has argued this point for more than a decade, with her January 2017 blog post "An updated UNCRC for the digital age" and her 2017 report for the Children's Commissioner for England with Lansdown and Third "The Case for a UNCRC General Comment on Children's Rights and Digital Media" being two of the most well-known and important documented pieces in this chain. Acknowledgment of the need for a more concrete engagement by the United Nations and by State parties has long been overdue. This acknowledgement now publicly places the responsibility on governments, institutions, corporations and not on the child and the family by themselves, to ensure that digital spaces remain safe and open for young people.

On the other hand, while the document itself provides guidelines, it does not and has not made any changes to the UNCRC. The original Convention remains grounded firmly in its 1989 form despite numerous calls for adaptation and change. General comment No. 25 offers great insight into the need for change, 125 statements towards what that change should look like and how it can be implemented; it does not ensure that change will come.

Only weeks after the completion of this book, The Committee on the Rights of the Child published General comment No. 25. It is a reminder of how important the digital is in the very fabric of children's culture and the lives of young people. If anything, it makes the contents of this book even more important than before.

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Chapter 15

Examining Parent Versus Child Reviews of Parental Control Apps on Google Play

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Abstract: Mobile devices have become a ubiquitous means for teens and younger children to access the internet and social media. Such pervasive access affords many benefits but also exposes children to potential online risks, including cyberbullying, exposure to explicit content, and sexual solicitations. Parents who are concerned about their children's online safety may use parental control apps to monitor, manage, and curate their children's online access and mobile activities. This creates tension between the privacy rights and interests of children versus the legal, emotional, and moral imperatives of parents seeking to protect their children from online risks. To better understand the unique perspectives of parents and children, we conducted a computational analysis of 29,272 reviews of 52 different parental control apps from the Google Play store. We found that reviews written by

parents differed statistically from those written by children such that it is possible to computationally automate the process of differentiating between them. Furthermore, latent themes emerged from the reviews that revealed the complexities and tensions in parent-child relationships as mediated by parental control app use. Our findings suggest that developers should strive to include teens into the development process and that creating a means to directly interact with them via on review sites can facilitate this process.*

Keywords: Privacy, Parental Control Apps, User Reviews, Computational Analysis, Classification, Parent-Child Relationships, Google Play

With the proliferation of smartphones among youth,¹ online safety has become a considerable concern within families.² This is especially true because mobile smart devices have become the norm for teenagers,³ providing constant access to the internet that is often not monitored by their parents. However, parents have a legal and emotional duty to ensure safety for their children in online contexts⁴. To do this, a Pew Research study found that parents use a wide array of strategies to monitor their teens' technology use, including 16% of parents who install parental control applications apps on their teens' mobile devices to filter and block inappropriate online activities.⁵

An analysis of 75 Google Play parental control apps suggests that the features of these apps may be too clumsy and privacy-invasive for families that value open communication, trust, and a teen's desire to gain independence from his or her parents.⁶ Ghosh et al. confirmed this claim from the perspective of teens and younger children by qualitatively analyzing online reviews posted from the vantage point of child users.⁷ However, a key limitation of these studies is that researchers neglected to understand the perspective of multiple stakeholders, namely both children and parents. We build upon this work by conducting the first large-scale, computational analysis of 29,272 reviews for 52 parental control apps to understand the unique perspectives of parents and children.

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We conducted a quantitative examination of the online reviews for parental control apps to understand whether parents and teens rate and write about parental control apps differently in their online reviews. We also examine the interpersonal relationships between parents and children through the lens of online privacy and surveillance. We ask:

RQ1: Can we use computational methods to accurately distinguish between online reviews written by parents versus those written by children?

RQ2: Does the content of online reviews differ depending on whether the user is a parent or child? If so how?

To answer these questions, we scraped and analyzed publicly posted online reviews for 52 parental control apps available for download on the Google Play store. In doing so, our paper makes two unique contributions. First, we show that it is possible to build computational models that accurately predict the origin of online reviews (parents or children) using linguistic indicators. We compared and contrasted six common machine learning algorithms to highlight their performance in such classification tasks. Second, we reveal that latent themes expressed within online app reviews reveal more insights than just the strengths and weaknesses of the app. They express a multitude of emotions and a manifestation of the complex tensions that exist in parent-teen relationships, specifically those around privacy rights and parental control through surveillance tactics. These findings have important implications for the analysis of online reviews that extend beyond the context of adolescent online safety and serve as an important lens for future social computational research.

Background

Teen technology use and parental relationships

Technology use among teens and parental mediation have become an important research topic.⁸ The majority of research in this space derives from the social sciences with little contribution from a social computational perspective. For instance, several researchers have conducted interview-based studies to highlight the tensions between parents and children when it comes to rule-setting and ensuring the online safety of youth.⁹ Others found that teens desire privacy as they are in the process of individuating and establishing their identities online.¹⁰

“Practical Obscurity” versus “Parental Stalking”

According to privacy theories, everyone should have some level of authority to decide how their personal information is disclosed to others.¹¹ However, teens are often forced to disclose personal information to their parents, as parents want more transparency into their teens’ online activities for the purpose of ensuring their online safety.¹² Blackwell et al. studied how “practical obscurity” (i.e., the limited visibility) of mobile devices makes it harder for parents to know their children’s online activities and, as a consequence, parents often misjudge the frequency and nature of their teens’ technology use.¹³ For instance, they underestimate how often their teens use social media apps or even which apps their children use.

To increase access to their teens online mobile activities, parents can install parental control apps on the teens’ smartphone that allow them to monitor and restrict various functions, including calls, text messaging, web browsing, and installations.¹⁴ In general, parental control apps are a way for parents to control their children’s behavior as a means to protect them, as opposed to helping teens self-regulate and protect themselves.¹⁵ Recent research has shown that teens equate such parental control apps to a form of “parental stalking”.¹⁶ Others have argued that these apps engender an incongruity with the core values (e.g., privacy, autonomy) important to different families and may negatively impact parent-teen relationships¹⁷ and shown that the use of currently available apps was associated with children experiencing more (not fewer) online risks.¹⁸ Human-Computer Interaction (HCI) researchers have recommended and conceptualized that more collaborative approaches be used to manage these tensions.¹⁹

Online reviews and parental control apps

A qualitative analysis of online reviews for 37 parental control apps examined what children think about the apps’ effectiveness and invasiveness.²⁰ Researchers found that most children felt that the apps were excessively restrictive and privacy-invasive. To our knowledge, online reviews have not been used yet to understand parents’ perspectives on these apps or how they differ from the perspectives of the children. To fill this gap, we scraped 29,272 reviews for 52 parental control apps to conduct a social computational analysis that differentiates between parent and child reviews, as well as models the different themes expressed within these reviews.

Analyzing online reviews is a common approach among computational social science researchers²¹ and is a newer approach used within intersectional fields, such as HCI Review Recommendation: Personalized Prediction of the Quality of Online Reviews.²² Online reviews have been

shown to effectively help in making better product²³ and boost profits.²⁴ For example, Epstein et al. used online app reviews, a survey, and interviews to improve the design of menstrual apps for women.²⁵ Wang et al. created a framework for product recommendation by leveraging the power of online reviews.²⁶ In addition, user feedback was also used to understand reasons for disliking apps.²⁷

Study Design

App stores such as Google Play let users review their downloaded apps and assign a numerical rating (i.e., one to five stars). Users may highlight specific strengths and weaknesses of the app. Ratings for each app are then aggregated and displayed for the user to view. This data source captures different perspectives regarding aspects such as the app’s functionality, benefits, and cost. These reviews can help developers overcome some of their flaws in the development process,²⁸ as well as helping consumers make important decisions as to what apps will meet their needs as end users.

Table 15.1: Summary of app names and number of reviews used in the analysis

App Name	Reviews	App Name	Reviews
Bitdefender	95	Dashboard	117
Cerberus	3000	Board	109
Cybersafe	9	iNetClean	16
ESET	84	Parental Control	145
SecureKids	13	Familoop	38
Funamo	555	Launcher	17
Kakatu	114	PhoneWatcher - Mobile Tracker	314
KIDOZ	2113	Qustodio	996
Kids Place	3000	Ranger Pro Safe Browser	42
Kidslox	50	Remote Control	50
Kids Zone	490	ReThink - Stops Cyberbullying	121
MamaBear	465	Safe Browser	634
McAfee	312	Safe Browsing	222
MMGuardian	1060	Screen Time Companion App	2935

Mobicip	413	Screen Time	3002
Mobile Fence	2103	SecureTeen	2605
Net Nanny	646	Securkin	9
Norton Family	922	ShieldMyTeen	609
NQ Family Guardian	198	TeenSafe Child	132
Land of Kids	23	Trackidz	52
Xooloo	47	SafeKiddo	57
Web Blocker	98	TangTracker	32
Mobile Security	33	SURFIE	11
shieldMyTeen	609	Safe Kids	3
Parental Control and Locator	3	Privacy Camp	3
Block	6	Family Safety	8

Below we describe our approach to data collection, data cleaning, and analysis. Our methodology consisted of two phases: first, we applied machine learning techniques to identify different features and perspectives mentioned in the user reviews for both teens and parents, as well as the sentiments and opinions associated to these features. Second, we classified these reviews based on the extracted features. Table 15.1 shows all of the app used in the analysis. For each app reviewed contained more than one review, and the total number of reviews is included in the table as well.

Data collection

We scraped publicly available user reviews on Google Play using the app review downloading tool Heedzy.²⁹ Each review had the following attributes: 1) app name, 2) date, 3) user name, 4) review, and 5) rating. Ratings were numerical values (represented as a star) given by the user, ranging from 1 = worst to 5 = best. As shown in Table 15.1, a total of 29,272 user reviews for 52 apps were collected for this analysis. No users were involved in this study and IRB approval was not obtained. We excluded user names from the exemplar quotations shared in this paper to maintain anonymity.

Data preprocessing

NLTK,³⁰ a third-party library for Python for natural language processing, was used to remove stop-words and frequently used words from each review. A

MALLET list was used to identify stop words.³¹ We followed an iterative process to remove frequently used words that would mislead our models by giving additional weight to specific keywords. Many of these words are common in the English language (e.g., “and”, “this”, “is”, “are”). We also removed words that appeared too frequently (e.g., “app”, “please”, and “fix”). We note that these words suggest that users often post reviews for developers to fix problems within the app, but otherwise, were irrelevant to the topic of this research.

RQ1: Classifying app review authors

We employed a rule-based classification technique to extract rules for both parents' and teens' reviews based on research conducted by Ghosh et al..³² This helped in mapping the attributes of a review with a parents/teen label. A rule set consists of multiple rules $R_s = \{R_1, R_2, \dots, R_{1n}\}$. For example, in teen reviews, attributes such as “my parents”, “my mom”, and “my dad” were identified. For parents, “my teen”, “my son”, and “my child” were key attributes. We used these rules to establish ground truth for classifying the authors of these reviews.

After classification, we extracted different linguistic features for each group. These features can be represented as collections of words or a set of variables categorizing a specific context.³³ We then added Term Frequency-Inverse Document Frequency (TF-IDF) vectorization to identify other important features that represent the parent and teen classes. These features served as predictors for the model to classify authors of app reviews.

RQ2: Understanding themes in app reviews

We represented each review as a bag-of-words, using n-grams as features.³⁴ N-grams can capture groups of words in each review that may represent some patterns or important features. Relevant examples of useful two-grams include “keep track”, “sucks worst”, and “parents allow”. This enabled us to build a text corpus to test against the full dataset for extracting latent themes. We tested this corpus against six common machine learning algorithms. Tables 15.2- 15.3 show the performance accuracy for both N-grams and Topic Modeling, the mean absolute error, as well as a comparison of the confusion matrices for each of the five classifiers.

Table 15.2: Performance accuracy of N-grams and topic modeling

Algorithm	Accuracy		Mean Absolute Error	
	NG	TM	NG	TM
Logistic Regression	0.73	0.59	0.48	1.08
K-Nearest Neighbors	0.67	0.57	0.74	1.08
Classification and Regression Trees	0.64	0.52	0.70	1.51
Naive Bayes	0.73	0.53	0.51	1.33
Support Vector Machines	0.53	0.53	1.35	1.32
Neural Network	0.68	0.63	0.58	0.93

Table 15.3: Comparison of confusion matrix results

Algorithm	Precision		Recall		F1 - Score	
	NG	TM	NG	TM	NG	TM
Logistic Regression	0.69	0.45	0.73	0.59	0.70	0.48
K-Nearest Neighbors	0.59	0.51	0.67	0.57	0.61	0.53
Classification and Regression Trees	0.61	0.50	0.64	0.52	0.63	0.50
Naive Bayes	0.66	0.28	0.73	0.53	0.68	0.37
Support Vector Machines	0.53	0.51	0.53	0.53	0.37	0.37
Neural Network	0.67	0.49	0.68	0.63	0.67	0.54

Next, we used topic modeling, specifically the latent Dirichl et al. location algorithm (LDA) via MALLET, to extract the hidden semantic structure for both parent and teen reviews.³⁵ Topics are collections of word tokens which represent the context of the analyzed text. MALLET identifies the most relevant topic for each review by converting the collection of text to features. The LDA algorithm is a generative statistical model often applied to discrete data such as text corpora and is used to categorize texts from a document to a specific category. Textual features are then transformed into numerical representations that can be processed efficiently. HCI research has increasingly begun use of topic models³⁶ to explore and make sense of large-scale text data in conjunction with qualitative inferences from topic models, particularly from online communities. This allows us to understand what influences how parents and teens administer a given rating. We used a

common convention of selecting the number of topics that represent 80% of the overall variance to set the number of topics for each group.³⁷ Tables 15.4-15.7 show the extracted topics with respect to the following:

1. Parent versus child and high versus low rated reviews (Low: 1-3 ratings; High: 4-5) to understand the key differences in these reviews, Table 15.4.
2. Aggregated topics for both parent and child as well as apps rating, Tables 15.5-15.7.

Results

Distinguishing between parent vs. teen reviews

To address RQ1, we ran three different classifiers on the data set to determine which worked best to classify parent and teen reviews. Table 2 shows the results of Naïve Bayes (NB), Support Vector Machines (SVM), and Neural Network (NN) to predict whether a review was entered by a teen or parent. Based on the extracted N-Grams features, the output depended upon whether or not the model estimated the right class (parent or teen). There were 10 reviews, and each review was associated with the top three topics. The scores represent the weight these topics have within each review, so they can be used later on to build our models. To train our proposed models, we used 80% of the dataset for training and 20% for testing on 29,272 reviews, and we reported the results on 10-fold cross-validation. We analyzed the results from the accuracy measure for each classifier. Naïve Bayes (NB) produced the highest score having correctly classified 75% of the reviews. The Support Vector Machines (SVM), which has been described as an outstanding classifier in the context of text classification, achieved a 72% accuracy measure.³⁸ Neural Network (NN) produced the worst results with an accuracy measure score of 69%.

The reported findings illustrate that the extracted features by N-Grams technique contributed to identifying parents' reviews from child reviews. From our analyses, parents' reviews were associated with concerns including functionality issues, suggestions for improvement and cost issues. Some of these features include "monitors usage including", "google play doesn't", "support unable", and "app reason rooted".

Child reviews were mostly expressing frustration toward their parents. For instance, some of the extracted features for teens include negative sentiments regarding the parental control apps installed on their devices explicitly mentioned their parent or parents. Examples include "even stupid parents", "people creating disgusting", "hate parents", and "dislike dad put".

The coherence of our analysis shows how well the extracted features by N-Grams can be contributed to improving the performance of the proposed models. In other words, parents' and teens' features may have shared a common theme within each group which led to the increasing of the models' performance accuracy. Additionally, reviews written by either group may reveal that concerns are centered around a specific type of issues. A more thorough research of parental control apps can provide an array of clues to providing future strategies for apps designers.

Our findings show that both models, (NB) and (LR), substantially outperformed the other models. This finding confirmed previous studies' conclusions that NB is an outstanding classifier in text classifications.³⁹ K-Nearest Neighbors (KNN) and Neural Network (NN) scored 63% and 68%, respectively. Support Vector Machines (SVM) and Classification and Regression Trees (CART) produced the lowest performance in accuracy scoring 53% and 64%, respectively.

On the contrary, we observe low accuracy measure on topic modeling results compared to N-Grams results. For instance, LR and NN scored 59% and 63%, the highest performance with higher MAE 1.08 and 0.93, respectively. A discrepancy between the calculated performance for N-Grams (NG) and Topic modeling (TB) can be explained by the text length where classifiers tend to perform better on shorter text. KNN scored 57% on accuracy for both techniques. NN and LR scored the highest accuracy for Topic modeling. KNN produced 57% in accuracy compared to lower accuracy when it is applied on N-Grams. Finally, CART, SVM, and NB produced the worst accuracy with low variance among each other, 52% and 53%. This finding confirms previous research findings that Naïve Bayes is very sensitive to the dataset.⁴⁰

Table 15.3 shows Precision, recall, and F-measure of each proposed classifier. We compared the results when using N-grams and Topic Modeling as different techniques for features extraction. As explained earlier, N-Grams produce short text containing two to three words. In contrast, topic modeling produces different topics where each topic consists of several words. We experienced a high discrepancy between the two results produced by N-gram and topic modeling. In N-Grams, we achieved the highest precision of 69% and highest recall for LR. NN achieved the second-highest precision 67% and 68% in recall. NB performed 66% and 73% in precision and recall. Finally, KNN, CART, and SVM range between 53% and 61% for Precision and between 53% and 57% for recall.

Our N-Grams classifiers performance seems promising given the experienced limitation in the extracted reviews. For instance, teens' reviews tend to be very short compare to parents' reviews which can be hard for classifiers to identify the correct pattern. Additionally, some apps had a larger number of reviews

compared to others. Consequently, high variance can be achieved within the dataset which can diminish the classification accuracy. The other category was performed on topic modeling achieved the range between 45% and 59% for precision and recall in the following classifiers: LR, KNN, CART, and SVM. NB reported the lowest precision 28%. Finally, we investigated the misclassification issues in the topic modeling analysis and found that the variability of the used vocabulary by different users can be a significant factor in achieving lower scores in precision and recall. This finding of the low precision and recall in topic modeling is consistent with the previous study.⁴¹

Interpreting parent versus teen themes

To understand the different themes expressed in the reviews by parents and teens (RQ2), we compared the results of N-grams and Topic Modeling as different techniques for features extraction. We then generated topics based on parent versus child and high versus low rated reviews (Low: 1-3 ratings; High: 4-5) to understand the key differences in these reviews.

Latent themes emerged from the data to reveal differences between parent and child reviews. The topics also demonstrate a relationship between apps rating scores and the review themes for both parents and children. High parental ratings accounted for 54% of reviews. Parent reviews tended to range from one complete sentence to more than five sentences. Positive reviews focused on the app's ability to protect the online safety of their child. For instance, one positive review explained, "I can monitor everything my son does". Low parental ratings accounted for 17% of reviews. Negative reviews were associated with concerns such as functionality, installation, licensing, and cost. In one example, the parent wrote, "Keeps crashing after update making my phone unusable because it takes forever to get the program to close and you are locked out of everything".

In contrast, child reviews tended to be short sentence fragments emoting anger and frustration towards their parent. High child ratings represented only 5% of reviews. The few positive reviews from children showed that they appreciate some of the app's features. For instance, one child explained, "I'm nine...with kid search it has kid-friendly things that work for my age! Keep up"! These reviews also suggested that some children understood their parents' concerns regarding their safety and the negative effects of technology overuse. Keywords such as "safe, help, addicted" appeared in several topics. Low child ratings comprised 24% of the reviews and included emotional charged words, such as "Hate it", "F you", "sucks", "stupid", "dumb", and "bad". Topics in this group often reflected a child's frustration regarding privacy violations by their parents and limits on their freedom.

These quotes highlight how teens are not satisfied with the apps being installed on their devices. On the other hand, parents expressed satisfaction or positive feedback. For instance, “safe online remote” and “Good app children” may explain a positive experience with an app’s features. Table 15.4 contains examples of the extracted topics using LDA for common parent and teen topics from high and low rating reviews.

Table 15.4: Parent and teen topics under high and low app rating

Parents: High Ratings	Child: High Ratings
<ol style="list-style-type: none"> 1. Phone, app, games, chores, times, earn, daughters, knowing, downloaded, amount 2. Time, limit, usage, tasks, limits, helps, track, extra, helped, helpful 3. Apps, access, devices, give, year, lock, tablets, web, content, ability 4. Daughter, good, works, found, free, home, find, check, perfect 5. Son, tablet, app, love, mind, online, settings, manage, peace, keeping 6. Phone, child, safe, play, don, things, children, block, phones, worry 7. App, children, internet, recommend, highly, activity, problem, happy, add, service 8. App, child, great, parents, parent, device, features, feel, android, protect 9. Control, monitor, easy, great, work, make, installed, parental, feature, love 10. Kids, screen, set, ve, day, school, long, hours, back, put 	<ol style="list-style-type: none"> 1. Works, hate, screen, games, day, year, bad, isn, website, sad 2. Dad, installed, things, doesn, happy, im, date, helps, lol, block, 3. App, recommend, lot, homework, likes, mind, step, helped, likes, heck, understand 4. Tablet, play, limit, make, playing, life brother, glad, delete, quot 5. Love, kids, years, kid, device, find, teen nice, downloaded, control, 6. Phone, kid, stop, thing, found, hope, won, addicted, cousin, face 7. Good, mom, great, loves, apps, spend dang, fix, world, back 8. Parents, don, put, pretty, settings, usage, didn, airplane, setting, review 9. Time, safe, made, hour, track, mobile, control, change, manage, tab 10. App, child, work, password, deleted, give, blocked, mad, hey, feature
Parents: Low Ratings	Child: Low Ratings
<ol style="list-style-type: none"> 1. Time, son, good, day, useless, hours, password, application, change, show 2. App, doesn, games, parent, mode, buy, allowed, blocking, sites, kid 3. Child, great, blocked, home, place, open, site, videos, button, received 4. Device, uninstall, times, back, google, trial, don, message, log, find 5. App, update, working, free, data, year, features, school, monitoring, stopped 6. Son, work, location, give, settings, days, norton, pay, android ll 7. Apps, tablet, works, won, screen, control, play, account, phones, fix 8. Children, access, installed, kids, block, worked, monitor, stars, make, problem 9. Phone, put, don, locked, service, call, thing, email, long, issue 10. Daughter, quot, set, lock, support, ve, version, paid, didn, samsung 	<ol style="list-style-type: none"> 1. Parents, don, sucks, people, school, friends, makes, anymore, youtube, talk 2. Life, child, privacy, thing, children, feel, hour, parent, app, text 3. Hate, download, stuff, horrible, person, net, wont, great, forever, times 4. Kids, apps, blocked, good, control, screen, freedom, block, things, stop 5. Time, dad, stupid, doesn, made, uninstall, work, worst, easy, game 6. Phone, put, parents, day, hours, making, gonna, dumb, unlock, set 7. App, quot, trust, play, install, dont, delete, lot, teen, ve 8. Kid, tablet, im, games, won, make, bad, downloaded fix, internet 9. Mom, device, settings, blocks, google, mode, safe, watch, teens, volume 10. App, password, installed, kid, give, minutes, didn, star, stalking, back

Topic modeling and apps rating

We classified the extracted reviews into three groups according to their rating. Our team interpreted the results qualitatively based on table topic models. The first group of ratings consists of reviews with rating one and two. The second group consists of reviews with rating three and four. The third group consists of reviews with rating five. The groups provided insights into the relationship between apps rating ranges and the extracted topics. Tables 15.5-15.7 outline relevant topics for each category. For instance, Table 15.5 and 15.6, which represent reviews with medium and high ratings, reflect some satisfaction with the apps by both teens and parents, along with suggestions for improvements. These include payment issues, user interface, installations and blocking issues. Table 15.7 shows the first group, which represents the majority of reviews — 8742 — and has the range of occurrences between 436 and 1453. These topics were mainly reflecting users’ dissatisfactions with several apps’ features including license, upgrading, installations as well as some compatibility issues. For example, some of the extracted topics may reflect functionality issues as in Topic 2, Topic 3, and Topic 4. Other topics may reflect dissatisfaction with the apps due to other reasons mentioned earlier as in Topics 4-10. Additionally, the reported topics show that there is a relationship between apps with low rating scores and the review themes. For instance, Topic 3 may explain some concerns regarding apps setting or security.

Table 15.5: Topics on medium rating apps reviews

ID	Topic	Occurrence
1	year free worth make download pay blocked trial	589
2	access device android installed lock block put feature monitoring	815
3	kids play games phones things bad hate worry tool	1071
4	love parent son kids great usage limits tablet helps	1063
5	parents children easy control monitor safe parental internet online web	1589
6	time screen set limit tablets tablet day chores tasks school	1794
7	control devices recommend highly found amazing reviews lot	1559
8	phone child daughter track mind content thing peace location block	2042
9	great good works features work job happy nice needed	2479
10	kid settings back perfect awesome home life mobile	2315

Table 15.6: Topics on high rating apps reviews

ID	Topic	Occurrence
1	play kid google found pretty turn block	263
2	browser monitor internet mode safe text content sites	338
3	device settings password stars working uninstall issue blocking	395
4	kids add option make feature works nice pay problem	457
5	screen love son year day home button times	489
6	time control set tablet parents limit children parental	490
7	good daughter update games location days show awesome	559
8	free works web phones find stars website trial	650
9	great work features easy android version track install service	745
10	phone child access kids lock back blocked things usage installed	808

Table 15.7: Topics on low rating apps reviews

ID	Topic	Occurrence
1	tablet great update son working support year internet	436
2	child block access sites lock parent blocks porn	534
3	work uninstall stupid works deactivate chrome useless	654
4	settings screen browser mode android open home website	811
5	kids hate parents bad install version control games	771
6	good back times uninstalled buy change delete star location	721
7	play google download give features people stars sucks	974
8	time device password account set waste devices reset found problem	1010
9	phone won kid thing daughter locked longer call	1408
10	lifetime free license pay money email make trust trial years	1453

Discussion

Parents and teens write reviews in different ways

Our analysis addresses the parent and teen communities' perspectives on parental control app reviews which range from enjoyment and satisfaction to sadness and displeasure.

Parents reviews are largely found to be long and complete, varying in the range of one complete sentence to more than five sentences. For instance, one complete sentence may explain an app's feature, "I can monitor everything my son does". Complete reviews of an app with a five-star may highlight elements that the developer has designed well, for instance:

I can now let my son uses my phone without worrying if he is going to get into something he shouldn't! I also love how easy the app was to set up! I cannot recommend this highly enough for anyone that has children or works around children. — Parent, Parental Control by Familoop, 2016

This parent praised the app's ability to alleviate their worries about what their son was looking at on his phone. Furthermore, it indicates that the app was easy to set up. The parent is happy with the effectiveness of the app and its initial usability. Thus, effectiveness and ease of use are elements that will engender a positive experience in parents and should be noted by developers.

Parental reviews with a one-star rating often remark on their dissatisfaction with the app. These types of reviews tend to be longer given that the parent may want to justify their rating, for example:

I have had soooooo many issues with this application! It has week days/ends mixed up, the timer doesn't work properly with games, it's a day behind in its reporting, etc. Those issues I have come to live with because at least it blocks inappropriate apps. NOPE! The last straw was when I found out today that my son has FULL access to the Internet even though I have it all blocked with this app. I'm talking FULL ACCESS! PORN GALORE! Do NOT trust this application! — Parent, ESET Parental Control, 2016

This example demonstrates the types of frustrations a parent may have using parental control apps. Simple UI elements like the calendar and timers are malfunctioning. This may be indicative of two scenarios. In one, the app developer lacked adequate quality controls and shipped a product that is malfunctioning. In the other, the app's usability may not be intuitive or learnable enough for parents of various technological backgrounds. Distinguishing between parent and teen reviews may help inform developers on how to design effective UI elements for both parent and teen users. New designs can then be user tested by parents and teens separately to ensure that the needs of both user groups are being met.

While these reviews suggest that parents are eager to share their positive and negative experiences, they tend to not share their teen's frustration or displeasure. Positive reviews by teens accounted for only 5% of the total reviews, compared to 54% by parents. This suggests that teens are having fewer positive experiences with the parental control apps. Indeed, teen reviews often feature expressions of anger related to restrictive features. Some examples include short descriptions such as “Hate it”, “F you”, and “Cuz I am child”. However, teens also admit that control apps can be helpful, but some features should be improved:

I am a kid. I used to be on my phone all the time but this app got me up and out. Now though, it glitches and says I've been on my phone for 11 hours when I only play on it on the bus, which is an hour max. It also doesn't let me respond to texts when time is used up. I also cannot get on contacts without having my parents unblock it. Still is a great app though. Hope this glitch will be fixed soon. — Teen, Screen Time Companion App, 2015

In addition to expressing their frustrations with the control app's restrictions, reviews by teens were found to be shorter than those of their parents. Despite their shortened length, however, these shortened reviews may reveal additional security concerns not initially considered by the developers. For instance, in the quote below, the teen highlights the possibility of their parent's phones being stolen. Criminals with access to the parent's phone may also have access to critical information regarding their teen. This may motivate the development of additional security measures in the parental version of the app, such as an app-specific password, to ensure their child's safety.

Freaking hate this. It's bullshit. My parents are hacking me. No one get this all. It's more safe without it. Imagine if someone got hold of their phones. It's bullshit. — Teen, Secure Teen Parental Control, 2015

To help developers provide crucial solutions, they should proactively embrace direct interaction with teen users for more enriching feedback. Doing so will provide additional clarification regarding the teen's concerns. What's more, giving teens a voice in the design process will allow for the development of parental control apps that increasingly respect a teen's need for autonomy and privacy while providing security that parents seek. This can benefit the teens' mobile experience while also facilitating more positive relationships between them and their parents. One review revealed that parental control apps can contribute to the increased toxic relationship between teens and their parents, while also exacerbating other social issues:

Im 15. my dad got this app just to limit time on my phone. I have no problem with that and i agree that i use my phone too often. but how you can restrict apps is the worst. i could have a really nice conversation with a new person i met at school. not anymore. i have a social problem and texting helps me talk to people. well now im screwed. my friends dont want to text me anymore because they know my dad can see my messages. I am not even gonna start on not having a wifi signal because its such bullshit ... — Teen, Screen Time Companion App, 2015

This review suggests that teens may be understanding of the parent's desire to control their mobile phone usage but disagree to the extent to which their behaviors are restricted. This not only creates tension between the teen and the parent, but also limits the teen's ability to socialize according to current conventions of their age group. The latter may lead to a sense of alienation. Understanding the needs and desires of teen mobile users could potentially avoid this conflict by way of curating restrictions based on the varying interpersonal dynamics of parents and teens.

In general, our results show that teens were open to communicate and share their frustrations where it seems like there is a lack of communication with their parents when it comes to privacy issues. Teens demand privacy and more autonomy as they feel more restricted and disclosed by installing these apps. Future studies are needed to improve the communication between teens and their parents on the matter of privacy and protection. Our findings point toward consideration of teen-centric opinions for designing parental control apps.

Reviews reveal relational tensions

Topic modeling revealed additional insights into the relationship between the extracted features and app rating. The three groups in topic modeling, Tables 15.5-15.7, show different patterns for low, medium, and high rating apps. For instance, low rating apps tend to be mostly negative and include keywords such as mom, dad, block, hate, privacy, horrible, stupid, and ruin. Many of these keywords represent teens expressing their anger and irritation regarding the apps. Some of these keywords such as "block" or "blocked" occur in low rating reviews by both parents and teens. However, in light of the explicit quotes examined earlier in this paper, it is likely that these words are being used by each group differently. That is, parents are going to use the word blocked in a negative review if the app failed at blocking the teen's mobile usage. Whereas a teen is likely to use it in a negative review when it successfully blocks their access. Topics in high rating apps are similar between

both user groups with keywords such as “help” or “helped” and “safe”. While tensions are likely to occur between parents and teens, in many cases, the app was able to help the family solve problems regarding their safety and that these safety concerns were understood by both parties. It is important, then, for developers to search for common needs that overlap between the two user groups to design effective solutions.

These findings have implications beyond classifying parent and teen reviews based on their linguistic factors. In many cases, topic modeling revealed that the underlying themes within the reviews went beyond a description of the app, its features, or its performance. Instead, reviews were often an expression of the relationship between parents and teens as mediated through parental control apps. Thus, the written component of a review appears far more important than a quantitative rating of app usability, and more, a valuable signal of the underlying parent-teen relationship. Future studies should focus on review content as an important indicator of understanding these relationships.

Our work is consistent with previous studies where N-Grams outperformed other techniques due to the length of the extracted text.⁴² Topic modeling and N-Grams helped to generate some labels related to different domains including design, privacy, license, and app costs. These types of analyses can be used to inspire designers to embrace new communication strategies so users can be proactive in sharing their experience.

Finally, our study found that both teens and parents are willing to explain the reasoning behind their rating. This can be demonstrated in the three groups as each one may represent different categories. One implication of this finding is that both teens and parents are encouraged to communicate and share their thoughts.

These analyses are an important source of information for apps developers to improve the quality of the developed apps. The applied techniques and generated features assessed the model to improve the performance accuracy for the six machine learning classifiers.

Limitations and conclusions

Several limitations should be considered while interpreting the reported results. First, our topic modeling Parameter K were set to be 10, based on common convention derived from our observation of each group's size. This result can change in the case of a different parameter. Second, our analysis was based on a small range of apps, 52, with larger variance on the number of reviews for each app. Finally, the extracted reviews for teens were small compare to the parents' reviews, so results could differ in future studies with more teens' review.

Our N-Grams and Topic Modeling analyses revealed new insights into the relationship and tensions. These analyses are an important source of information for analysts and apps developers to improve the quality of the developed apps between parents and children by applying computational methods to parental control app reviews. A key contribution of this work is that we integrated domain knowledge into computational models for empirical validation at a reasonable scale. Yet, these findings have implications beyond classifying parent and child reviews based on their linguistic factors. In many cases, topic modeling revealed that the underlying themes within the reviews went beyond a description of the app and its features or performance, and more towards an expression of the relationship between parents and teens as mediated through parental control apps. Thus, reviews seem to be far more important than a quantitative rating of app usability and more, a valuable signal of the underlying parent-teen relationship. These insights can be used to improve parental control app design, and therefore the user experience of both parents and children.

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Notes

Introduction: Contemporary Children's Culture in Digital Space(s)

Steve Gennaro, Blair Miller

¹ Bernard Williams, *Ethics and the Limits of Philosophy* (London, UK: Fontana Press, 1985), 1. The passage Williams refers to from *Republic* is section 352d.

² By “moral” here and throughout this introduction we are referring to the sense of what of how one ought to act and live, in accordance with Classical Greek philosophy that positions a virtuous life as one that aspires to satisfy this ought for one's self. This framework survives in the work of key contemporary theorists like Williams, and stands in contrast to a more prescriptive application of morality that aligns with clashing youth experience up against stricter conservative directives which too easily result in negative spaces of moral panic in the face of new media technologies in the hands of children.

³ For a full discussion on the historical roots of competing discourses of childhood, puritan and romantic, and how they re-emerge and underpin current narratives around moral panics and pedo-phobic and pedo-phobic constructions of childhood, see Stephen Gennaro, “Making Kids Sexy: Sexualized Youth, Adult Anxieties, and Abercrombie and Fitch”, in *Red Feather Journal* Volume 1, Issue 1 (Spring 2010), <https://redfeatherjournal.org/vol-1-iss-1-spr-2010> 2012.

⁴ Philippe Ariès. *Centuries of Childhood: A Social History of Family Life* (New York: Vintage Books, 1962).

⁵ Adam Alter, *Irresistible – The Rise of Addictive Technology and the Business of Keeping Us Hooked* (New York: Penguin Press, 2017), 2.

⁶ Monica Anderson and Jingjing Jiang, “Teens, Social Media & Technology 2018”, *Pew Research Center* online, May 31, 2018, 7, https://assets.pewresearch.org/wp-content/uploads/sites/14/2018/05/31102617/PI_2018.05.31_TeensTech_FINAL.pdf.

⁷ Anderson and Jiang, 8.

⁸ “Canada's Internet Factbook 2019”, *CIRA* online, accessed February 10, 2021, <https://www.cira.ca/resources/corporate/factbook/canadas-internet-factbook-2019>.

⁹ Daniel Kardefelt-Winther in collaboration with Jasmina Byrne, “Rethinking screen-time in the time of COVID-19”, UNICEF Office of Research - Innocenti online (April 9, 2020), <https://www.unicef.org/globalinsight/stories/rethinking-screen-time-time-covid-19>.

¹⁰ Amanda Third et al., “Young and Online: Children's Perspectives On Life In The Digital Age”, *State of the World's Children: Companion Report*, (Sydney: Western Sydney University & UNICEF 2017), <https://gdc.unicef.org/resource/young-and-online-childrens-perspectives-life-digital-age>.

¹¹ Sonia Livingstone, John Carr, and Jasmina Byrne, “One In Three: Internet Governance and Children's Rights”, *Office of Research — Innocenti Discussion Paper 2016-01* (Florence, Italy: UNICEF, 2016).

¹² We say “involuntary” here because of the Pandora’s box that is complicity in the context of kaleidoscopic user agreements that act as a proxy for invasion of privacy. This is a whole other, non-youth-specific discourse that deserves its own space.

¹³ *Law & Order*, Season 17, Episode 2, “Avatar”, directed by Vincent Misiano, aired September 29, 2006, on NBC Universal Television.

¹⁴ Heather McGhee, *The Sum of Us — What Racism Costs Everyone and How We Can Prosper Together* (New York: One World, 2021).

¹⁵ *Contact*, directed by Robert Zemeckis (1997; Burbank, CA: Warner Home Video, 1997), DVD.

¹⁶ Stephen Gennaro, “Globalization, History, Theory, and Writing”, *Society for the History of Childhood and Youth Newsletter* No. 16 (Winter 2010), accessed November 8, 2016, <http://www.history.vt.edu/Jones/SHCY/Newsletter16/Pedagogy-GennaroArticle.html>.

¹⁷ For more on how marginalized individuals can speak back to dominant narratives, and in doing so reclaim their subjectivity as active agents in their own lives who both name the word, and in doing so, name the world around them, see Paulo Friere, *Pedagogy of the Oppressed 30th Anniversary Edition* (New York: Continuum, 2000).

¹⁸ Linda Tuhiwai Smith, *Decolonizing Methodologies — Research and Indigenous Peoples* (London: Zed Book Ltd, and Dunedin: University of Otago Press, 1999), 19.

¹⁹ Convention on the Rights of the Child resolution 44/25, United Nations, Human Rights Office of the High Commissioner online (1989), accessed February 17, 2021, <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>.

²⁰ Tuhiwai Smith, *Decolonizing Methodologies*, 173.

²¹ Tuhiwai Smith, *Decolonizing Methodologies*, 193.

²² Stephen Gennaro, “Making Kids Sexy: Sexualized Youth, Adult Anxieties, and Abercrombie and Fitch”, in *Red Feather Journal* Volume 1, Issue 1 (Spring 2010), <https://redfeatherjournal.org/vol-1-iss-1-spr-2010> 2012.

²³ Henry Jenkins, “Introduction: Childhood Innocence and Other Modern Myths”, in *The Children’s Culture Reader*, H. Jenkins, ed. (New York: New York University Press, 1998), 1-37.

²⁴ “The United Nations Convention on the Rights of the Child, or UNCRC, is the basis of all of Unicef’s work. It is the most complete statement of children’s rights ever produced and is the most widely-ratified international human rights treaty in history”. “How We Protect Children’s Rights With the UN Convention of the Rights of the Child”, UNICEF online, accessed February 17, 2021, <https://www.unicef.org.uk/what-we-do/un-convention-child-rights/>.

²⁵ “Youth”, United Nations online, accessed February 13, 2021, <https://www.un.org/en/sections/issues-depth/youth-0/>.

²⁶ Plato, *Republic*, in *Plato in Twelve Volumes*, Vols. 5 & 6 translated by Paul Shorey (Cambridge, MA.: Harvard University Press; London: William Heinemann Ltd., 1969), 352d.

Growing Up in a Connected World

UNICEF Office of Research – Innocenti

(Sonia Livingstone, Mariam Saeed, Daniel Kardefelt Winther)

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¹ Livingstone, Sonia, et al., “Is There a ladder of Children’s Online Participation? Findings from Three Global Kids Online Countries”, Innocenti Research Briefs 2019-02, United Nations Children’s Fund, Office of Research — Innocenti, Florence, 2019. Available at: <www.unicef-irc.org/publications/1019-ladder-of-childrens-online-participation-findings-from-three-gko-countries.html>, accessed 26 September 2019.

Understanding the Relationship Between Young People and Social Media: What Role do Rights Play?

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"School Strike 4 Climate": Social Media and the International Youth Protest on Climate Change

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Resisting Youth: From Occupy through Black Lives Matter to the Trump Resistance

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Trauma, Resilience, and #BlackLivesMatter How do Racism and Trauma Intersect in Social Media Conversations?

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Youth's Relationship with Social Media: Identity Formation through Self-Expression and Activism

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Living Their Best Life: Instagram, Social Comparison and Young Women

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The Selfie Generation: Examining the Relation Between Social Media Use and Adolescent Body Image

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The *Video Kids* are All Right: A Comparative Analysis of Moral Panics Around Youth and Social Gaming Containment and Resistance

Chris Alton

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Playing with Pets, Playing with Machines, Playing with Futures

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Digital Media and Kidfluencers in the Twenty-first Century are Here: What and Who are the World's Children Watching?

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Connected or Disconnected?: Parent-Adolescent Relationships and Interactive Technology

J. Mitchell Vaterlaus

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Young People and their Engagement with Health-related Social Media: New Perspectives

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Smartphones, Social Media Use, and Youth Mental Health

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Examining Parent versus Child Reviews of Parental Control Apps on Google Play

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Young People’s Understandings of Social Media Data

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Disruptive Play or Platform Colonialism? The Contradictory Dynamics of Google Expeditions and Educational Virtual Reality

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"Good Social Media"?: Underrepresented Youth Perspectives on the Ethical and Equitable Design of Social Media Platforms

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