CHILD DEVELOPMENT PERSPECTIVES

Advancing Measurement and Research on Youths' Prosocial Behavior in the Digital Age

Emma Armstrong-Carter,[1] and Eva H. Telzer[2]

[1]Stanford University and [2]University of North Carolina at Chapel Hill

ABSTRACT—***Widespread access to digital and social media has drastically altered the nature of youth's interpersonal connections. In this context, the opportunities children and adolescents have to help people around them are rapidly evolving. In this article, we review emerging literature on how digital media influences youth's prosocial development in new ways. Then we propose the next steps for advancing the field's understanding of youth's prosocial behavior in the digital age. We advocate for extending existing measures to capture experiences that are increasingly relevant for children and adolescents today, with a focus on current events, including the COVID-19 pandemic, and social and political activism. We also provide a research agenda to advance the understanding of prosocial development.***

KEYWORDS—*digital media; prosocial behavior; social development*

Widespread access to digital material and social media has increased youth's knowledge of world events and drastically changed the nature of their interpersonal connections. In the United States, 95% of 13- to 17-year-olds had a Smartphone in 2018, a 22% increase from 3 years prior (Pew Research Center, 2018). Moreover, 45% of adolescents are online almost constantly (Pew Research Center, 2018). In this context, the opportunities youth have to help peers, family, strangers, and the broader society are rapidly evolving. Despite progress, measures of youth's prosocial behavior—that is, their propensity to provide instrumental and emotional support to others—have not fully caught up to this dynamic social transformation (El Mallah, 2019; Padilla-Walker & Carlo, 2014).

In this article, we briefly review emerging literature on how digital media influences—and can facilitate—youth's prosocial development. Then we propose the next steps for advancing the field's understanding of prosocial development to capture experiences that are increasingly relevant for youth in the digital age, including online interactions, social activism, and eco-friendly actions. We discuss these behaviors in the context of youth's opportunities for helping others (Fuligni, 2020) in person and online, and highlight novel methods for new, large-scale data collection and analyses of prosocial behavior. Our aim is to provide a research agenda to enable researchers to characterize more holistically the variability in youth's contributions to the lives of others in today's digital and globalizing world.

PROSOCIAL BEHAVIOR

Children's and adolescents' capacity to engage prosocially with family, friends, and strangers by providing instrumental or emotional support has been of increasing interest in developmental research. Prosocial behavior is associated with positive behavioral, emotional, and academic growth (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Eisenberg, VanSchyndel, & Spinrad, 2016). For example, children and adolescents who display high levels of prosocial behavior—such as sharing and cooperating—perform better in school and experience better emotional well-being than youth with low levels of prosocial behavior (Caprara, Alessandri, & Eisenberg, 2012; Carlo, White, Streit, Knight, & Zeiders, 2018; Collie, Martin, Roberts, & Nassar, 2018; Wentzel, 2014). Moreover, when children help

Emma Armstrong-Carter, Stanford University; Eva Telzer, University of North Carolina at Chapel Hill.

The preparation of this article was supported by a National Institutes of Health grant (R01DA039923) to Eva Telzer, and a doctoral fellowship to Emma Armstrong-Carter funded by the Institute of Education Sciences, U.S. Department of Education, through grant R305B140009 to the Board of Trustees of the Leland Stanford Junior University.

Correspondence concerning this article should be addressed to Emma Armstrong-Carter, Stanford University Graduate School of Education, 520 Galvez Mall, Stanford, CA 94305; e-mail: emmaac@stanford.edu.

DOI: 10.1111/cdep.12396

others, they foster positive relationships and emotions that can buffer them from the negative effects of contextual stressors, including poverty, interpersonal stress, and emotional challenges (Eisenberg, Spinrad, & Knafo-Noam, 2015).

ONLINE PROSOCIAL BEHAVIOR

Since the advent of socioecological theory, developmental psychologists have increasingly recognized that youth's behaviors are influenced by intersecting circles of individual and environmental factors, such as daily experiences and social interactions (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006). In the digital age, youth's daily social experiences are evolving rapidly. Exposure to digital material, including news and social networking, has increased perpetual online connections with peers and strangers. In this context, youth actively construct ways of understanding their social worlds (Turiel, 1983), in large part by contributing to their online social communities. Youth have developmental needs to help and to contribute to the lives of others (Fuligni, 2018), and these needs are increasingly expressed on digital media platforms.

Distinct Characteristics of Online Prosocial Behavior

Digital media is a unique platform for youth's prosocial behavior for several reasons. First, the online environment removes or reduces temporal and social barriers to helping others. Youth can follow-up immediately on the information they receive by forwarding, commenting, or following a link to donate money or sign a petition. Thus, online environments create opportunities for prosocial actions more frequently and asynchronously than in-person environments. Second, prosocial actions are recorded more permanently and publicly in digital media than when they occur in person, making prosocial behavior easier to quantify and compare socially (Nesi, Choukas-Bradley, & Prinstein, 2018). Adolescents may be influenced to engage prosocially by observing their peers' prosocial behaviors online and by receiving online feedback that encourages these behaviors (e.g., likes on posts). Motivation to behave prosocially may increase when prosocial actions are publicly documented, but prosocial motivation may also decrease when youth's identities are anonymous online.

Third, helping others in digital communities can create a sense of belonging, and promote identity development and expression through prosocial acts (Moreno & Uhls, 2019). These needs are crucial across development and increase in salience during adolescence (Moreno & Uhls, 2019). Finally, digital media can shape children's and adolescents' developmental needs in new ways, by offering novel and distinctive social and emotional gratifications that reward prosocial actions (Sundar & Limperos, 2013). Youth can work together and mobilize to stand up for peers, counter negative stereotypes by producing and sharing media, and advocate for themselves via local governance. Youth can also express their civic identities creatively, using videos, creating memes and artwork, and taking agency in ways not afforded by traditional civic engagement. These actions can reach wider audiences on a global scale. In short, online platforms create opportunities for *new forms* of prosocial behavior that are unavailable offline. These new forms of online prosocial behavior occur in the context of youth's developmental needs for social and emotional connection, belonging, identity, and purpose.

Developmental Considerations

As youth transition from childhood to adolescence, they become increasingly capable of contributing in impactful ways (Fuligni, 2020). The frequency and quality of children's online media use change over the course of development, both because children grow and have unique developmental skills, needs, and allowances, and because technology evolves quickly. Developmentally, adolescents are well suited to combine their prosocial motivations with digital media savviness. The salience of peers and online contexts during adolescence situates social media as a place for adolescents to voice their opinions, share perspectives, and help others. Researchers, policymakers, practitioners, and parents need to consider how developmental strengths and vulnerabilities intersect with prosocial behavior in online contexts.

What We Know About Online Contexts and Prosocial Behavior

In the last decade, research has demonstrated that youth's online experiences can shape their in-person prosocial behaviors, and the extent of these associations depends on the amount and content of the media they consume, as well as youth's developmental period and interpretation (see Coyne et al., 2018, for a review). For instance, children's exposure to *prosocial* media (i.e., depictions of positive or helpful behaviors) predicted more prosocial behavior and empathy, whereas their exposure to *violent* media predicted more aggressive behavior (Coyne et al., 2018). Moreover, adolescents whose parents *actively* monitored their media (e.g., discussed the media with their children) helped their friends more in person, whereas youth with parents who *restrictively* monitored their media (e.g., cut off time spent on media) engaged in fewer helping behaviors (Padilla-Walker, Coyne, & Collier, 2016).

Building on these studies that evaluate how online environments predict in-person helping behaviors, more recent research has begun to measure prosocial behavior that *occurs online*. For instance, researchers developed a self-report scale that assesses how often adolescents let someone know they liked something and cheered someone up on social media, chat rooms, and instant messaging (Erreygers, Vandebosch, Vranjes, Baillien, & De Witte, 2018). In a follow-up study that used this measure, adolescents were more prosocial online when they felt happier earlier in the day, suggesting that mood can affect the likelihood of helping others online (Erreygers, Vandebosch, Vranjes,

Baillien, & De Witte, 2019). Researchers can expand this work by capturing a wider range of prosocial behavior online.

DIRECTIONS IN THE STUDY OF PROSOCIAL BEHAVIOR

The unique characteristics of online prosocial behavior point to at least two categories of opportunities for study. First, researchers can build on self-report surveys of online prosocial behavior to measure greater variability in online prosocial actions, motivations, and activism, and to use more objective, automated, and scalable measures. Second, researchers can also try to understand more fully how in-person prosocial behaviors have changed *because of* online and globalization experiences. Next, we recommend steps for investigating youth's prosocial behavior online, and then we discuss how the field can measure greater variation in prosocial behaviors that occur in person and are highly influenced by online interactions.

Online Prosocial Behavior

Speaking up for Marginalized Peers as a Form of Prosocial Behavior

Going forward, researchers should measure items that address whether youth speak out online when others are marginalized (e.g., Kowalski & Limber, 2013), report incidents of bullying, make friends with children who are being bullied, or publicly support unpopular opinions. Some current self-, parent-, and peer-report measures index how children stand up to bullies *in person* (often termed *defending behaviors*). These should be extended to measure explicitly how children stand up for each other in online contexts. It is crucial to capture how children stand up against bullying, racism, sexism, and homophobia *online*, where cyberbullying and unmonitored negative behaviors may be more common than in person as a result of anonymity and the impersonal nature of many online interactions (Nesi et al., 2018). Measuring these behaviors in the online context may illuminate greater variability in the ways children stand up for justice in their digital communities.

Prosocial Motivation Online

Public recognition in online platforms is more widespread and more permanently recorded than in person, and may therefore be intentionally pursued more often. We need to further investigate how youth's experiences of public praise or shaming affect their prosocial behavior both online and in person. Anonymous helping behaviors differ from helping that receives public recognition (Nesi et al., 2018). In a study of young adults, social media users showed greater intentions of engaging in prosocial behavior (e.g., enhanced likelihood of donating) online when they were told their donation would be documented on social media for an online audience than when no mention was made of a social media posting. This effect was particularly salient among status-seeking individuals (Choi & Seo, 2017). This research should be extended to adolescents and children. Moreover, the line between prosocial behavior and self-oriented behavior can blur on social media. For instance, it is increasingly common for youth to be paid "influencers" on social media, sometimes representing even charity groups (IZEA, 2020). Moving away from measures that capture overall media use and leveraging a larger set of more nuanced measures—which capture greater specificity in the motivations, interpretations, and behaviors involved in social media use—will shed light on why and how prosocial behaviors occur on social media platforms.

Novel Tools for Measuring Prosocial Behavior Online

As others have suggested, research investigating how digital media relates to prosocial development could be extended by incorporating novel measurement tools (El Mallah, 2019; Padilla-Walker & Carlo, 2014). We build on this work to suggest that ethically guided Internet scraping (i.e., automated methods for pulling information off websites) of publicly available social media profiles and chat rooms could be used to gather larger, more representative samples of prosocial posts, behaviors, and actions. Researchers could also use deep-learning models to detect prosocial behaviors, as has been used recently to detect instances of mental illness on social media platforms (Kim, Lee, Park, & Han, 2020). Researchers could also use passive sensing approaches, for example, collecting data on prosocial behaviors via cell phone applications. In addition, youth may be willing to share their data (e.g., profiles, browsing history, posts) with researchers—for example, when they sign up for a new social media platform. Such methods could provide objective, scalable indices of online prosocial behavior, and could be analyzed with quantitative or qualitative approaches.

Social Justice Activism As a Form of Prosocial Behavior

Online visibility means prosocial behavior can reach wider audiences, and youth can contribute to powerful social movements in unprecedented ways. Social media facilitates information sharing beyond children's immediate, daily lives, and youth are increasingly aware of world events from younger ages. Young children are leading social activism in extraordinary ways. Youth activism has become apparent in the context of the Black Lives Matter movement, in which children as young as 8 years have organized large-scale protests (Iati, 2020). Similarly, youth from Parkland, Florida, spearheaded advocacy for gun-sense legislation following school shootings by capitalizing on social media (Cottle, 2018; Salamon, 2020). Student organizer Emma González uses Twitter to share messages of solidarity to millions of youth and pressure politicians on gun control (Salamon, 2020). Other examples include adolescent users of the social media platform *Tik-Tok*, who engaged in social activism by mobilizing together and reserving thousands of tickets for a political rally (Evelyn, 2020). Internet use (e.g., information

seeking, social networking, digital media) facilitates these forms of civic engagement and youth empowerment efforts (Middaugh, Clark, & Ballard, 2017). Although some of these efforts have reached public attention, significant variation in children's activism on a smaller scale should be reflected in measures of prosocial behavior.

Online Environments Affect In-Person Prosocial Behavior

Climate Advocacy As a form of Prosocial Behavior

The 21st century is marked by the climate crisis, with calls for addressing climate change coming from younger and younger age groups (Bandura & Cherry, 2020; Reis, 2020). Youth's contributions to the climate cause, like their contributions to social justice movements, vary considerably. In the most famous example, Greta Thunberg, a 17-year-old activist, has led the way in activism for social policies to mitigate the effects of climate change (Watts, 2020). Her public, widespread attention on social media has prompted many youth to lead or participate in smaller-scale, offline, eco-friendly behaviors, such as recycling, composting, and turning off lights and water when not using them. Positive eco-friendly actions and climate activism are forms of prosocial behavior because they contribute positively to the planet and the lives of others. As such, measures of prosocial behavior may benefit from reflecting variation in children's eco-friendly behaviors, and how online communication and exposures influence children's understanding, advocacy, and behavioral changes to help mitigate climate change (Reis, 2020).

Prosocial Behaviors in the Context of Social Restriction

The current COVID-19 pandemic has drastically changed children's opportunities to help others because of social distancing measures and an increase in online platforms. Children with access to the Internet who spend more time on the computer may have more opportunities for online prosocial behavior than those without such access. For instance, qualitative evidence from Europe and Africa reveals that young people are very motivated to help each other navigate the COVID-19 crisis by sharing experiences and information, and providing emotional support, in part via online platforms (Pavarini, Lyreskog, Manku, Musesengwa, & Singh, 2020). However, many children have fewer opportunities to help peers and strangers in person because of school closures, discouragement of face-to-face social interactions, and the prohibition of group gatherings. For example, in longitudinal analyses before and during the pandemic, adolescents reported decreased opportunities for providing emotional support to friends during the first weeks of lockdown (van de Groep, Zanolie, Green, Sweijen, & Crone, 2020). Formal and informal online peer-support programs can help children maintain feelings of social connection, hope, and self-confidence, which support their emotional well-being and their ability to help others (Pavarini et al., 2020). Youth's use of social media and Internet resources to help others during lockdowns (as well as to engage in formal education) depends on broadband access, which is not accessible to all children.

Children's Prosocial Behaviors in the Context of Their Opportunities

Schools and neighborhoods structure children's opportunities for helping others and developing prosocial competencies and habits (Fuligni, 2020). Policymakers, educators, and family caregivers are crucial for nurturing positive behaviors and outcomes in children (Masten & Barnes, 2018). There are significant inequalities in the opportunities children and adolescents have to give and help other people (see Fuligni, 2020). For example, children who live in rural or conservative areas may not have access to recycling facilities or community-oriented programs, and standing up against racism or sexism is safer and more accepted in some communities than in others. In addition, some children have mentors, older peers, siblings, or adults who can model and socialize prosocial behavior, whereas other children may not. Online platforms reduce some of the inequalities in youth's access and opportunities to engage in prosocial behaviors. As social media can break down some barriers, online platforms enable youth to help and participate in broader social movements from home. In short, children have increasing access to opportunities for helping others who are in need and far away. Moreover, youth can engage in more diverse prosocial acts crossing temporal and spatial barriers, and may feel that they make a bigger difference in the world (Fullam, 2017).

FOSTERING CHILDREN'S PROSOCIAL BEHAVIOR IN THE DIGITAL AGE

Children should not be the only ones taking responsibility for changing their behaviors to become more prosocial (Masten & Barnes, 2018). In-person communities (e.g., schools, neighborhoods) and online communities (e.g., social media platforms, online classrooms) can and should provide and structure opportunities for children to volunteer and help each other via mentorship, collaboration, and social activism.

To support children's abilities to contribute positively and help people around them in the midst of social change, we need more creative ways to promote and encourage prosocial behavior in person and virtual settings. For example, music increases children's and adolescents' prosocial behavior (even as young as age 4), particularly when it is played with other people (Kirschner & Tomasello, 2010) or when it includes prosocial lyrics (Greitemeyer, 2009). Other promising avenues in the digital era and in the context of COVID-19 that may create additional opportunities for youth to contribute to and support others include prosocial video-Zoom groups, games, online helping communities, and efforts that emphasize helping at home or outside with sufficient safety and health protocols. Teachers, older children, and adults should model, teach, and foster the development of young children's helping behaviors in person and online environments.

CONCLUSION

The contemporary world is divided along political, racial, and cultural lines and by inequalities. Youth help bridge these divisions by supporting family, friends, and strangers in myriad ways. Digital access is increasing globally, although access to the Internet is neither equal nor equitable (Pew Research Center, 2018), and still excludes low- and middle-income countries and children of color. At the same time, many children are increasingly connected to world events and peers at younger ages and more frequently. Many parents, educators, and researchers are concerned about the dangers of youth's high levels of engagement online (Moreno & Uhls, 2019). However, online media can also be leveraged for positive youth development and empowerment by providing a unique platform for youth to engage and lead social activism. To encourage youth's prosocial behavior and help them improve the world, we need to revise our measurement tools and understanding of the many ways youth help and give to others—across diverse families, cultures, and communities. Children demonstrate every day that they can make incredible contributions to the lives of others.

REFERENCES

Bandura, A., & Cherry, L. (2020). Enlisting the power of youth for climate change. *American Psychologist*, *75*, 945–951. https://doi.org/10.1037/amp0000512.

Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist*, *34*, 844–850. https://doi.org/10.1037/0003-066X.34.10.844

Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner (Ed.), *Handbook of child psychology: Theoretical models of human development* (Vol. *1*, 6th ed, pp. 793–828). Hoboken, NJ: John Wiley & Sons.

Caprara, G. V., Alessandri, G., & Eisenberg, N. (2012). Prosociality: The contribution of traits, values, and self-efficacy beliefs. *Journal of Personality and Social Psychology*, *102*, 1289–1303. https://doi.org/10.1037/a0025626

Carlo, G., White, R. M. B., Streit, C., Knight, G. P., & Zeiders, K. H. (2018). Longitudinal relations among parenting styles, prosocial behaviors, and academic outcomes in U.S. Mexican adolescents. *Child Development*, *89*, 577–592. https://doi.org/10.1111/cdev.12761

Choi, J., & Seo, S. (2017). Goodwill intended for whom? Examining factors influencing conspicuous prosocial behavior on social media. *International Journal of Hospitality Management*, *60*, 23–32. https://doi.org/10.1016/j.ijhm.2016.09.014

Collie, R. J., Martin, A. J., Roberts, C. L., & Nassar, N. (2018). The roles of anxious and prosocial behavior in early academic performance: A population-based study examining unique and moderated effects. *Learning and Individual Differences*, *62*, 141–152. https://doi.org/10.1016/j.lindif.2018.02.004

Cottle, M. (2018). The Atlantic: How Parkland students changed the gun debate. Retrieved July 21, 2020, from The Atlantic. Available at https://www.theatlantic.com/politics/archive/2018/02/parkland-students-power/554399/.

Coyne, S. M., Padilla-Walker, L. M., Holmgren, H. G., Davis, E. J., Collier, K. M., Memmott-Elison, M. K., & Hawkins, A. J. (2018). A meta-analysis of prosocial media on prosocial behavior, aggression, and empathic concern: A multidimensional approach. *Developmental Psychology*, *54*, 331–347. https://doi.org/10.1037/dev0000412

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*, 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Eisenberg, N., Spinrad, T. L., & Knafo-Noam, A. (2015). Prosocial development. In M. E. Lamb (Ed.), *Handbook of child psychology and developmental science: Socioemotional processes* (Vol. *3*, 7th Ed., pp. 610–656). Hoboken, NJ: Wiley.

Eisenberg, N., VanSchyndel, S. K., & Spinrad, T. L. (2016). Prosocial motivation: Inferences from an opaque body of work. *Child Development*, *87*, 1668–1678. https://doi.org/10.1111/cdev.12638

El Mallah, S. (2019). Conceptualization and measurement of adolescent prosocial behavior: Looking back and moving forward. *Journal of Research on Adolescence*, *30*, 15–38. https://doi.org/10.1111/jora.12476

Erreygers, S., Vandebosch, H., Vranjes, I., Baillien, E., & De Witte, H. (2018). Development of a measure of adolescents' online prosocial behavior. *Journal of Children and Media*, *12*, 448–464. https://doi.org/10.1080/17482798.2018.1431558

Erreygers, S., Vandebosch, H., Vranjes, I., Baillien, E., & De Witte, H. (2019). Feel good, do good online? Spillover and crossover effects of happiness on adolescents' online prosocial behavior. *Journal of Happiness Studies*, *20*, 1241–1258. https://doi.org/10.1007/s10902-018-0003-2

Evelyn, K. (2020). Trump "played" by K-pop fans and TikTok users who disrupted Tulsa rally. The Guardian. Retrieved July 21, 2020, from https://www.theguardian.com/us-news/2020/jun/21/trump-tulsa-rally-scheme-k-pop-fans-tiktok-users.

Fuligni, A. J. (2018). The need to contribute during adolescence. *Perspectives on Psychological Science*, *14*, 331–343. https://doi.org/10.1177/1745691618805437

Fuligni, A. J. (2020). Is there inequality in what adolescents can give as well as receive? *Current Directions in Psychological Science.*, *29*, 405–411. https://doi.org/10.1177/0963721420917738

Fullam, J. (2017). Becoming a youth activist in the internet age: A case study on social media activism and identity development. *International Journal of Qualitative Studies in Education*, *30*, 406–422. https://doi.org/10.1080/09518398.2016.1250176

Greitemeyer, T. (2009). Effects of songs with prosocial lyrics on prosocial thoughts, affect, and behavior. *Journal of Experimental Social Psychology*, *45*, 186–190. https://doi.org/10.1016/j.jesp.2008.08.003

Iati, M. (2020). An 8-year-old organized his own Black Lives Matter protest. Hundreds marched alongside him. Washington Post. Retrieved July 21, 2020, from https://www.washingtonpost.com/nation/2020/07/02/childrens-black-lives-matter-protest/.

IZEA. (2020). Charity influencers to follow on Instagram 2020. Retrieved July 20, 2020, from IZEA website: https://izea.com/2020/05/22/charity-influencers-2020/.

Kim, J., Lee, J., Park, E., & Han, J. (2020). A deep learning model for detecting mental illness from user content on social media. *Scientific Reports*, *10*, 1–6. https://doi.org/10.1038/s41598-020-68764-y

Kirschner, S., & Tomasello, M. (2010). Joint music making promotes prosocial behavior in 4-year-old children. *Evolution and Human*

Behavior, *31*, 354–364. https://doi.org/10.1016/j.evolhumbehav.2010.04.004

Kowalski, R. M., & Limber, S. P. (2013). Psychological, physical, and academic correlates of cyberbullying and traditional bullying. *Journal of Adolescent Health*, *53*, S13–S20. https://doi.org/10.1016/j.jadohealth.2012.09.018

Masten, A., & Barnes, A. (2018). Resilience in children: Developmental perspectives. *Children*, *5*, 98. https://doi.org/10.3390/children5070098

Middaugh, E., Clark, L. S., & Ballard, P. J. (2017). Digital media, participatory politics, and positive youth development. *Pediatrics*, *140*, S127–S131. https://doi.org/10.1542/peds.2016-1758Q

Moreno, M. A., & Uhls, Y. T. (2019). Applying an affordances approach and a developmental lens to approach adolescent social media use. *Digital Health*, *5*, 1–6. https://doi.org/10.1177/2055207619826678

Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2018). Transformation of adolescent peer relations in the social media context: Part 1—A theoretical framework and application to dyadic peer relationships. *Clinical Child and Family Psychology Review*, *21*, 267–294. https://doi.org/10.1007/s10567-018-0261-x

Padilla-Walker, L. M., & Carlo, G. (2014). *Prosocial development: A multidimensional approach*. Oxford, England: Oxford University Press.

Padilla-Walker, L. M., Coyne, S. M., & Collier, K. M. (2016). Longitudinal relations between parental media monitoring and adolescent aggression, prosocial behavior, and externalizing problems. *Journal of Adolescence*, *46*, 86–97. https://doi.org/10.1016/j.adolescence.2015.11.002

Pavarini, G., Lyreskog, D., Manku, K., Musesengwa, R., & Singh, I. (2020). Debate: Promoting capabilities for young people's agency in the COVID-19 outbreak. *Child and Adolescent Mental Health*, *25*, 187–188. https://doi.org/10.1111/camh.12409

Pew Research Center. (2018). Teens, social media & technology 2018. Washington, DC: Author. Retrieved September 11, 2020, from: https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/.

Reis, P. (2020). Environmental citizenship and youth activism. In A. Hadjichambis, D. Reis, J. Paraskeva-Hadjichambi, J. Boeve-de Činčera, N. Gericke Pauw, & M.-C. Knippels (Eds.), *Conceptualizing environmental citizenship for 21st century education* (pp. 139–148). Cham, Switzerland: Springer International Publishing. 10.1007/978-3-030-20249-1_9.

Salamon, E. (2020). March for our lives awakens the spirit of student and media activism of the 1960s. The Conversation website. Retrieved July 21, 2020, from http://theconversation.com/march-for-our-lives-awakens-the-spirit-of-student-and-media-activism-of-the-1960s-93713.

Sundar, S. S., & Limperos, A. M. (2013). Uses and grats 2.0: New gratifications for new media. *Journal of Broadcasting & Electronic Media*, *57*, 504–525. https://doi.org/10.1080/08838151.2013.845827

Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge, England: Cambridge University Press.

van de Groep, S., Zanolie, K., Green, K., Sweijen, S., & Crone, E. (2020). A daily diary study on adolescents' mood, concern for others, and giving behavior during the COVID-19 pandemic. PsyArXiv: Advance online publication. https://doi.org/10.31234/osf.io/xny2g

Watts, J. (2020). Earth day: Greta Thunberg calls for "new path" after pandemic. The Guardian. Retrieved July 21, 2020, from: https://www.theguardian.com/environment/2020/apr/22/earth-day-greta-thunberg-calls-for-new-path-after-pandemic.

Wentzel, K. R. (2014). Prosocial behavior and peer relations in adolescence. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development* (pp. 178–200). Oxford, England: Oxford University Press. 10.1093/acprof:oso/9780199964772.003.0009.