Intellectual Humility Development in Adolescence: The Role of Schools

Tenelle Porter et al

Intellectual Humility Development in Adolescence: The Role of Schools

Tenelle Porter[1], Parissa Ballard[2], Jason Baehr[3], Rick Hoyle[4], Eranda Jayawickreme[5], Anna MacPherson[6], Daniel Newark[7], Mark Smith[8], Jon Valant[9]

[1]Department of Psychology, Rowan University

[2]Department of Family Medicine, Wake Forest University School of Medicine

[3]Department of Philosophy, Loyola Marymount University

[4]Department of Psychology, Duke University

[5]Department of Psychology and Program for Leadership and Character, Wake Forest University

[6]The American Museum of Natural History

[7]Management & Human Resources, HEC Paris

[8]History Education Group, Stanford University

[9]Brown Center on Education Policy, The Brookings Institution

PREPRINT; PLEASE DO NOT DISTRIBUTE OR CITE WITHOUT PERMISSION

Author Note

Tenelle Porter https://orcid.org/0000-0003-4037-0412

Correspondence concerning this manuscript should be addressed to Tenelle Porter, Department of Psychology, Rowan University, 201 Mullica Hill Road, Glassboro, NJ 08028. Email: portert@rowan.edu.

Abstract

Humans are not omniscient. Our knowledge is partial and our beliefs are not known beyond doubt. Appropriately reckoning with our intellectual limitations requires *intellectual humility,* or recognizing the limits of our knowledge. Intellectual humility predicts a range of adaptive outcomes in adults. Here, we describe why cultivating intellectual humility can support adaptive intellectual, social, and civic development in adolescence, and why advances in cognitive sophistication and self-understanding during this stage of life make adolescents capable of developing intellectual humility. Furthermore, rooted in evidence that experiences in school shape the development of intellectual humility, we argue that school is a key context for fostering intellectual humility in adolescence and identify several priorities for future work in this area.

Keywords: intellectual humility, adolescence, school, cognitive development, social development, civic development

Intellectual Humility Development in Adolescence: The Role of Schools

Humans are not omniscient. Our understanding is incomplete, as what any person knows is only part of all there is to know. Our understanding is also imperfect; sometimes we are mistaken. Appropriately reckoning with our epistemic limitations requires *intellectual humility*, recognizing that our knowledge is partial and that our beliefs are not known beyond doubt. Intellectual humility can guard against biases and errors in our own thinking and help up us have more positive, open-minded interactions with other people, including those who have different views than ourselves (Hanel et al., 2023; Knöchelmann & Cohrs, 2024; Koetke et al., 2021; Krumrei-Mancuso et al., 2020).

The developmental stage of adolescence is a time of explosive change that provides a window of opportunity for learning and development (Dahl, 2016; Tezler et al., 2022), including the development of intellectual humility. Nevertheless, headwinds to the development of intellectual humility also exist during this stage of life, including social needs for belonging (Crone & Dahl, 2012; Nelson et al., 2016) that can elevate the desire to appear confident, strident, and to avoid embarrassment. Further, many adolescents today are coming of age in an era where intellectual humility is often hard to find: Increasingly widespread populist and "post-truth" rhetoric advocates for sticking to one's opinions and ignoring disconfirming evidence and expertise (Chinn et al., 2021; Kienhues et al., 2020; Noack & Eckstein, 2023). Polarized social and political contexts discourage us from listening to one another and looking for common ground (Boxwell et al., 2024). Negative emotions and outrage fuel social media engagement more than careful thought (Bellovary et al., 2021; Watson et al., 2024).

With many societal currents pulling the other way, here we ask: How might we encourage the development of intellectual humility in adolescence and why might it be valuable to do so?

We compile evidence for why cultivating intellectual humility in adolescence is important and possible. We then review recent research and propose that schools are a prime arena for shaping intellectual humility in adolescence, before identifying priorities for future work in this area. As a context for the current work, we begin by describing intellectual humility.

Intellectual Humility

Intellectual humility has been defined in many ways by psychologists and philosophers (Porter et al., 2021), but nearly all scholars agree that it is an attribute that involves recognizing the limitations of one's knowledge and beliefs (Ballantyne, 2021; McElroy-Heltzel et al., 2019; Porter et al., 2021; Van Tongeren et al., 2019). Intellectual humility varies across people and within people across situations. Some people tend to be more intellectually humble overall and others less so, but situations and particular issues can make it easier or more difficult to think and act in intellectually humble ways (Brienza et al., 2018; Hoyle et al., 2016; Jayawickreme & Fleeson, 2023; Zachry et al., 2018). High intellectual humility is characterized by acknowledging that our knowledge is partial and that our beliefs are subject to uncertainty. By contrast, low intellectual humility is characterized by an "unfounded insistence that [our] own beliefs are correct" (Leary et al., 2017, p. 794). Greater intellectual humility often manifests in hearing-out other people's perspectives, in part because other people may have knowledge that we do not (though listening to such perspectives does not require that we believe all claims). Intellectual humility can also be expressed to other people, for example, by deferring to those with more knowledge and by admitting when we do not know something or are mistaken.

Conceptually, intellectual humility belongs to a family of attributes that characterize excellent thinkers and learners (Baehr, 2017; Ratchford et al., 2024). Its uniqueness stems from its emphasis on recognition of intellectual limitations. By contrast, open-mindedness emphasizes

the fair consideration of different views and curiosity the desire to learn, both of which may or may not involve acknowledging one's limitations (Baehr, 2011; Clark et al., 2019). Nevertheless, though intellectual humility's hallmark is recognition of limitations, intellectual humility does not necessarily oppose conviction or confidence (Koetke & Schumann, 2024; Kidd, 2016; c.f. Hannon & Kidd, 2024). Rather, with greater intellectual humility, the strength of one's conviction and confidence will closely coincide with the evidentiary basis for a particular belief (Leary et al., 2017).

Intellectual humility has several adaptive correlates. Those higher in intellectual humility tend to be more curious and open to listening to opposing perspectives (Bowes et al., 2021; Leary et al., 2017; Porter & Schumann, 2018; Stanley et al., 2020), more willing to vet dubious misinformation and less likely to endorse conspiracy theories (Bowes et al., 2022; Koetke et al., 2021), and less hostile towards those who do not share their political positions (Bowes et al., 2020; Knöchelmann & Cohrs, 2024; Krumrei-Mancuso & Newman, 2020; Sgambati & Ayduk, 2023; Smith, 2023). From an interpersonal perspective, being intellectually humble can improve how other people view us (Fetterman et al., 2022; Haga & Olson, 2017; Karabegovic & Mercier, 2023) and increase social connection, for example, by reducing relational wear-and-tear when perspectives clash (Van Tongeren et al., 2019). Intellectually humbler people also tend to give greater weight to and subsequently follow evidence-based recommendations, even when such recommendations go against the dominant position of their group (Huynh & Senger, 2021; Jongman-Sereno et al., 2023; Ryu et al., 2023).

Intellectual Humility in Adolescence

Although intellectual humility could be encouraged at many phases of life, we make the case that cultivating intellectual humility is important in adolescence. During this period of

transition from childhood to adulthood that is often considered to span the second decade of life (Crone & Dahl, 2012; Patton et al., 2016; Telzer et al., 2022), cultivating intellectual humility can help youth succeed in several key developmental domains, including in intellectual, social, and civic arenas.

Intellectual Humility is Desirable during Adolescence

Intellectual development. Adolescents are tasked with growing as independent and autonomous thinkers as they become less reliant on parents and caregivers (Koepke & Denissen, 2012). Becoming more independent requires navigating complicated epistemic landscapes full of contradictory claims and emerging with reasonable beliefs. Adolescents' drive for independence and search for identity fuels epistemic exploration (Erikson, 1950/1993; Marcia, 1966), but it can also increase resistance to valid authorities (Bryan et al., 2016) and susceptibility to untrustworthy information (Noack & Ekstein, 2023), including falsehoods and misinformation readily accessible to youth in digital media. Indeed, youth may be even more vulnerable to conspiracy beliefs than younger children and adults (Jolley et al., 2021). Intellectual humility, which reminds us to check our biases and blind spots, is important for discerning the truth and making sound decisions, and especially desirable during this time of heightened epistemic vulnerability.

Intellectual humility can also promote learning in school. For many youth, the adolescent years are marked by declining grades and school failure (Barber & Olsen, 2004; Bowers, 2010; Eccles et al., 1993) – indeed, 20% of U.S. students fail to earn a high school diploma on time (McFarland et al., 2018). Academic failure has lifelong consequences for health and wellbeing (Autor, 2014; Patton et al., 2016). Research suggests that intellectual humility can help students succeed in school. Intellectually humbler high school students and undergraduates have been

found to invest more effort in learning, to persist more, to be more receptive to teacher feedback, and to earn higher grades (Krumrei-Mancuso et al., 2019; Porter et al., 2024; Porter et al., 2020; Wong & Wong, 2021). Cultivating intellectual humility in adolescence can therefore contribute to youths' intellectual gains and achievement in the classroom.

Social development. Adolescents can also benefit from growing in social competence amidst increasingly complex social challenges, including increased conflict with parents, development of romantic relationships, and increased reliance on peers for relational support (Crone & Dahl, 2012). Forming quality friendships can protect youth from various stressors (Berndt, 1992; Cuadros & Berger, 2016), but many youth struggle to establish and maintain close friendships during adolescence, contributing to unfavorable outcomes in adolescence and even adulthood (Allen et al., 2024; Berndt, 1992). Because intimacy requires sharing not only strengths but also limitations and vulnerabilities (Buhrmester, 1990), intellectual humility can help youth form close relationships by increasing the intimacy and depth of their connections with others. Likewise, intellectual humility can help youth navigate interpersonal conflicts, increasing the quality and quantity of youths' relationships at a time when such relationships are important determinants of health and wellbeing (Schwartz-Mette et al., 2020).

Civic development. Developmentally, adolescents also become more interested and capable of understanding how they fit in and can contribute to society (Wray-Lake & Ballard, 2023; Yates & Youniss, 1999). Contemporary pluralist societies bring together people with diverse life experiences, political and religious beliefs, identities, and histories (Kahne & Rogers, 2024). Youth can benefit from developing "civic muscles" that allow them to have constructive interactions with those who are different than them, who they are bound to encounter (Fishkin et al., 2021). Such skills are particularly needed given high levels of political polarization and

hostility seen around the world, even among youth (Boxwell et al., 2024; Laffineur et al., 2024; Oden & Porter, 2023; Tyler & Iyengar, 2023). Cultivating intellectual humility also has the potential to increase civic engagement in youth: Intellectually humbler U.S. undergraduates were more interested in joining a bipartisan political group during the 2008 presidential election than their less intellectually humble counterparts (Kross & Grossmann, 2012), and adults higher in intellectual humility reported greater interest in politics and less dislike of political discussion (Krumrei-Mancuso & Newman. 2020). Cultivating intellectual humility in adolescence has the potential to both equip youth with the skills to engage in civic discourse across difference and to increase their engagement in civic domains.

Adolescents are Capable of Intellectual Humility

Popular stereotypes characterize adolescents as self-centered, cocky, and careless (Telzer et al., 2022), attributes that, if true, would make having intellectual humility difficult, if not impossible. Counter to these stereotypes, research suggests that youth are fully capable of intellectual humility, owing to both increases in cognitive capacities and growth in self-understanding.

Cognitive sophistication. Intellectual humility requires higher-level cognitive processes, including *meta-cognition* (the ability to reflect on one's own thinking) and *social cognition* (the ability to understand and interact constructively with others). Even young children display impressive meta- and social cognitive capacities (Butler et al., 2020; Ghetti et al., 2013; Harris, 2012), but higher-level cognition grows with age and becomes increasingly impressive and sophisticated during adolescence (Crone & Dahl, 2012; Kilford et al., 2016; Kuhn, 1999; Metz et al., 2020; Moses-Payne et al., 2021). Youth can evaluate their own knowledge and that of other people, weigh opposing information, reflect on the strengths and limits of different information,

and discern what is trustworthy (Butler et al., 2020; Harris, 2012; Kuhn, 1999; Moses-Payne, 2021). In the socio-political domain, adolescents' increased cognitive sophistication allows for critical reflection and advanced perspective-taking related to moral, social, and political views (Flanagan, 2013; Metzger & Smetana, 2010; Seider et al., 2020), paving the way for intellectual humility in these arenas.

Self-understanding. Intellectual humility also requires people to understand that they have limitations. Whereas young children's self-concepts tend to be simpler and universally (often excessively) positive, older children and adolescents' assessments of themselves tend to be more complex, measured, nuanced, and accurate (Damon & Hart, 1982; Fandakova et al., 2017; Harter, 2012; van der Aar et al., 2018; van der Cruijsen et al., 2018). Though youth, like adults, can be narcissistic (e.g., Peets & Hodges, 2023), a recent meta-analysis of longitudinal data found normative declines in narcissism starting at age 8 (Orth et al., 2024). In other words, youth do not tend to become *more* self-aggrandizing during their adolescent years. Rather, they are better able to integrate understanding of their limitations into their self-assessments, laying the groundwork for intellectual humility.

The Role of School

Among the many contexts that could influence youths' developing intellectual humility, schools deserve close attention. Schools share a goal of instilling the core values and skills that allow a society to operate cohesively and progress, making intellectual humility a plausible outcome for schools to try to cultivate (Valant, 2020). Schools also have ample opportunity for such cultivation: For example, U.S. adolescents spend more than 6 hours a day at school (National Center for Education Statistics, 2008), making it a high-opportunity context to consider. School is also an important place where youth think, acquire knowledge, refine their

beliefs, and receive feedback that they are wrong (Chinn et al., 2021) – all important training-grounds for intellectual humility.

Evidence that Intellectual Humility is Shaped by Experiences in School

Adolescents can grow in intellectual humility when it is valued, modeled, and practiced in a classroom (Baehr, 2021; Soncini et al., 2022). For example, across several experiments and a longitudinal study, youth were more willing to express intellectual humility in class when a teacher modeled intellectual humility themselves (Porter et al., 2024). Likewise, middle school students whose teachers created a stronger "learning culture" where the main goal was to deeply understand the material increased in intellectual humility over the course of the school year and into the next (Porter et al., 2022). Directly teaching youth to question can also foster enduring dispositions towards curiosity and, possibly, intellectual humility (Clark et al., 2019).

Unfortunately, schools can also work *against* the development of intellectual humility. Just as "learning cultures" can encourage intellectual humility, "brilliance cultures", in which high intellectual ability is perceived to be needed for success, can discourage it. Students in these contexts can come to believe that showing intellectual humility compromises one's chances for success, or at least *looking* successful (Porter & Cimpian, 2023). Additionally, and ironically, many children learn early on that school rewards knowing answers more than asking questions (Ronfard, 2018). This likely contributes to widespread hesitancy to recognize and disclose ignorance and confusion in school during secondary school (Porter & Cimpian, 2023).

Areas for Future Research on Intellectual Humility in Schools

Nonetheless, we still know relatively little about how schools influence adolescents' intellectual humility. Beyond merely calling for more research, we identify several high-priority topics for future work in this area.

Youth today are attending school at a time of high polarization and when deep divisions exist about the purpose and content of education (James et al., 2010; Zimmerman, 2022). Such polarization is having a "chilling effect" on teachers' willingness to broach controversial topics, raising concerns that youth are missing opportunities to practice respectful discussion and disagreement (Doan et al., 2023; Kahne & Rogers, 2024). As one high school principal put it, "the kids [are] just so stuck in their trenches, they [aren't] even willing to listen to the other side" (Kahne & Rogers, 2024, p. 13). We lack understanding of how these contexts shape youths' intellectual humility. Collective intellectual humility – intellectual humility residing at the group, organizational, or contextual level – likely impacts individuals' intellectual humility (Dunning, 2023; Krumrei-Mancuso et al., 2024), and thus entire schools that embrace or eschew intellectual humility could have a potent influence on the development of intellectual humility in their pupils. Study of student and educator perspectives on intellectual humility is also needed. What drawbacks or benefits to students and teachers perceive about intellectual humility? To what extent have teachers been prepared to use and model intellectual humility in their teaching and how can they be supported in using intellectual humility more? .

Educating for intellectual humility should be a multidisciplinary endeavor – all educators can use techniques like modeling intellectual humility and creating "learning" cultures. Still, research is needed that examines how to cultivate intellectual humility in different subject areas, especially science and social studies. As political commitments have been pitted against

expertise, we have seen a global increase in "post-truth" rhetoric, "alternative facts", and science denial (Chinn et al., 2021; Kienhues et al., 2020; Noack & Eckstein, 2023). Deference to expert and scientific consensus can be an expression of intellectual humility, and refusal to reckon with evidence and expert opinion constitutes a lack of intellectual humility. Educators need techniques for helping students evaluate the credibility of sources they encounter, and for conveying that knowledge is limited without compromising the epistemic credibility of sound scientific, historical, and journalistic claims. Schools are uniquely positioned to teach young people how to evaluate sources, and how historians, journalists and scientists work together to create reliable and credible knowledge systems amid uncertainty and individual intellectual limitations (Chinn et al., 2021; Kienhues et al., 2020; Krumrei-Mancuso et al., 2024).

Adolescents today spend a considerable amount of time on social media platforms (Vogels et al., 2022), using them an average of 4.8 hours per day by some estimates (Rothwell, 2023). In the absence of education, use of use of such platforms can work against the development of intellectual humility. For example, interacting with social media and the internet (e.g., searching and sharing information) can erroneously inflate our sense of how much we know (Fisher et al., 2015; Ward et al., 2023). Digital media platforms can also convince us that our understanding is unequivocally correct through algorithms that create echo chambers and lead us down "rabbit holes" rife with intellectual arrogance and hostility towards those with opposing perspectives (Cinelli et al., 2021). Researchers have identified ways to help teachers and students navigate online information more effectively (Breakstone et al., 2024; McGrew & Breakstone, 2023; Tseng et al., 2021; Wineburg et al., 2022). Yet to be leveraged, however, is how educating for intellectual humility might foster more constructive digital media use in adolescence. For example, generative artificial intelligence (AI) programs can help debunk

conspiracy beliefs (Costello et al., 2024). Could educators use such programs to promote intellectual humility and shore-up internet and digital media skills? Might anchoring media literacy instruction in personal ideals like intellectual humility be more intrinsically motivating and encourage youth to put good habits to use outside of the classroom (Chinn et al., 2021; Lapsley & Chaloner, 2020)? Moreover, the presence of misinformation and "deep fakes" – artificial text, images, and audio that look real, make it even more difficult to detect what is real. Might spending time on such "deep fakes" impact students' intellectual humility and, if so, how could teachers ensure that such education does not lead to excessive skepticism? Overall, provided intellectual humility offers the same protection from misinformation to youth that it does to adults, we need to understand how intellectual humility might be fruitfully incorporated into digital literacy pedagogy.

Finally, perhaps nowhere more than in school do children interact with those from different socio-economic, racial, and ethnic, religious, and cultural backgrounds. Schools are important training grounds for navigating such differences and, as we have argued, intellectual humility can help with this. However, schools can also augment social injustices and inequalities (Brummelman & Sedikides, 2023). Pertaining to intellectual humility, philosophers and psychologists have raised concerns that students with less social advantage may be at greater risk of *under*estimating their knowledge, whereas those with more social advantage may be at greater risk of *over*estimating their knowledge (Battaly, 2023; Hazlett, 2017; McElroy-Heltzel et al., 2023; Tanesini, 2021). Such processes play out in societies in which some people's knowledge is unjustly discredited (Callahan, 2023; Fricker, 2007). We must take care to educate for intellectual humility in a way that helps to remedy, rather than exacerbate, inequalities (McElroy-Heltzel et al., 2023). Indeed, virtues like intellectual pride, courage, and autonomy are needed alongside

intellectual humility (Baehr, 2017; Battaly, 2023; Hazlett, 2017; Ratchford et al., 2024). Individualized approaches that prioritize intellectual assets for some students, and limitations for others, offers one strategy in theory (Battaly, 2023; Hazlett, 2017; Tanesini, 2021), though what this would look like in practice has yet to be worked out. Development and testing of such approaches are priorities for future work.

Conclusion

Threats to reason, truth, and the ability to work together are on the rise in many parts of the world. Cultivating intellectual humility can help combat these threats (Bowes et al., 2021; Knöchelmann & Cohrs, 2024; Koetke et al., 2021; Leary et al., 2017). We have argued that adolescents can benefit from intellectual humility and that they can develop it. Drawing on an emerging evidence base, we have also argued that schools are a good place to foster intellectual humility. Nevertheless, much about educating for intellectual humility during the second decade of life remains unknown. Studies at the nexus of intellectual humility, adolescence, and schooling promise to help us advance cohesion and progress, revealing specific strategies for aiding us in this quest.

References

Allen, J. P., Costello, M. A., Hellwig, A. F., & Stern, J. A. (2024). Pathways from adolescent close friendship struggles to adult negative affectivity. *Development and Psychopathology*, 1–10. https://doi.org/10.1017/S0954579423001542

Autor, D. H. (2014). Skills, education, and the rise of earnings inequality among the "other 99 percent." *Science*, *344*(6186), 843–851. https://doi.org/10.1126/science.1251868

Baehr, J. (2011). The Structure of Open-Mindedness. *Canadian Journal of Philosophy*, *41*(2), 191–213.

Baehr, J. (2017). The varieties of character and some implications for character education. *Journal of Youth and Adolescence*, *46*(6), 1153–1161.

Baehr, J. (2021). *Deep in Thought*. Harvard Education Press.

Ballantyne, N. (2021). Recent work on intellectual humility: A philosopher's perspective. *The Journal of Positive Psychology*, *0*(0), 1–21. https://doi.org/10.1080/17439760.2021.1940252

Barber, B. K., & Olsen, J. A. (2004). Assessing the Transitions to Middle and High School. *Journal of Adolescent Research*, *19*(1), 3–30. https://doi.org/10.1177/0743558403258113

Battaly, H. (2023). Educating for intellectual pride and ameliorating servility in contexts of

epistemic injustice. *Educational Philosophy and Theory*, *55*(3), 301–314.

https://doi.org/10.1080/00131857.2022.2033212

Bellovary, A.K., Young, N.A. & Goldenberg, A. (2021). Left- and Right-Leaning News

Organizations Use Negative Emotional Content and Elicit User Engagement

Similarly. *Affective Science,* 2, 391–396. https://doi.org/10.1007/s42761-021-00046-w

Berndt, T. J. (1992). Friendship and Friends' Influence in Adolescence. *Current Directions in

Psychological Science*, *1*(5), 156–159. https://doi.org/10.1111/1467-8721.ep11510326

Bowers, A. J. (2010). Grades and Graduation: A Longitudinal Risk Perspective to Identify

Student Dropouts. *The Journal of Educational Research*, *103*(3), 191–207.

https://doi.org/10.1080/00220670903382970

Bowes, S. M., Blanchard, M. C., Costello, T. H., Abramowitz, A. I., & Lilienfeld, S. O. (2020).

Intellectual humility and between-party animus: Implications for affective polarization in

two community samples. *Journal of Research in Personality*, *88*, 103992.

https://doi.org/10.1016/j.jrp.2020.103992

Bowes, S. M., Costello, T. H., Lee, C., McElroy-Heltzel, S., Davis, D. E., & Lilienfeld, S. O.

(2021). Stepping Outside the Echo Chamber: Is Intellectual Humility Associated with

Less Political Myside Bias? *Personality and Social Psychology Bulletin*,

0146167221997619.

Bowes, S. M., Costello, T. H., Ma, W., & Lilienfeld, S. O. (2021). Looking under the tinfoil hat:

Clarifying the personological and psychopathological correlates of conspiracy beliefs.

Journal of Personality, *89*(3), 422–436. https://doi.org/10.1111/jopy.12588

Boxell, L., Gentzkow, M., & Shapiro, J. M. (2024). Cross-Country Trends in Affective

    Polarization. *Review of Economics and Statistics*, *106*(2), 557–565.

    https://doi.org/10.1162/rest_a_01160

Breakstone, J., McGrew, S., & Smith, M. (2024). Measuring what matters: Investigating what

    new types of assessments reveal about students' online source evaluations. *Harvard*

    Kennedy School Misinformation Review. https://doi.org/10.37016/mr-2020-133

Brienza, J. P., Kung, F. Y. H., Santos, H. C., Bobocel, D. R., & Grossmann, I. (2018). Wisdom,

    bias, and balance: Toward a process-sensitive measurement of wisdom-related cognition.

    Journal of Personality and Social Psychology, *115*(6), 1093–1126.

    https://doi.org/10.1037/pspp0000171

Broockman, D. E., & Kalla, J. L. (2024). Consuming cross-cutting media causes learning and

    moderates attitudes: A field experiment with Fox News viewers. *The Journal of Politics*,

    730725. https://doi.org/10.1086/730725

Brummelman, E., & Sedikides, C. (2023). Unequal selves in the classroom: Nature, origins, and

    consequences of socioeconomic disparities in children's self-views. *Developmental*

    Psychology, 59(11), 1962–1987. https://doi.org/10.1037/dev0001599

Bryan, C. J., Yeager, D. S., Hinojosa, C. P., Chabot, A., Bergen, H., Kawamura, M., & Steubing,

    F. (2016). Harnessing adolescent values to motivate healthier eating. *Proceedings of the*

    National Academy of Sciences, *113*(39), 10830–10835.

    https://doi.org/10.1073/pnas.1604586113

Buhrmester, D. (1990). Intimacy of Friendship, Interpersonal Competence, and Adjustment

during Preadolescence and Adolescence. *Child Development*, *61*(4), 1101.

https://doi.org/10.2307/1130878

Butler, L. P., Ronfard, S., & Corriveau, K. H. (Eds.). (2020). *The Questioning Child: Insights

from Psychology and Education* (1st ed.). Cambridge University Press.

https://doi.org/10.1017/9781108553803

Callahan, L. F. (2023). Intellectual humility: A no-distraction account. *Philosophy and

Phenomenological Research*, phpr.12965. https://doi.org/10.1111/phpr.12965

Chinn, C. A., Barzilai, S., & Duncan, R. G. (2021). Education for a "Post-Truth" World: New

Directions for Research and Practice. *Educational Researcher*, *50*(1), 51–60.

https://doi.org/10.3102/0013189X20940683

Cinelli, M., De Francisci Morales, G., Galeazzi, A., Quattrociocchi, W., & Starnini, M. (2021).

The echo chamber effect on social media. *Proceedings of the National Academy of

Sciences*, *118*(9), e2023301118. https://doi.org/10.1073/pnas.2023301118

Clark, S., Harbaugh, A. G., & Seider, S. (2019). Fostering adolescent curiosity through a

question brainstorming intervention. *Journal of Adolescence*, *75*(1), 98–112.

https://doi.org/10.1016/j.adolescence.2019.07.007

Costello, T. H., Pennycook, G., & Rand, D. G. (2024). Durably reducing conspiracy beliefs

through dialogues with AI. *Science*, *385*(6714), eadq1814.

Crone, E. A., & Dahl, R. E. (2012). Understanding adolescence as a period of social–affective

    engagement and goal flexibility. *Nature Reviews Neuroscience*, *13*(9), 636–650.

    https://doi.org/10.1038/nrn3313

Cuadros, O., & Berger, C. (2016). The Protective Role of Friendship Quality on the Wellbeing of

    Adolescents Victimized by Peers. *Journal of Youth and Adolescence*, *45*(9), 1877–1888.

    https://doi.org/10.1007/s10964-016-0504-4

Damon, W., & Hart, D. (1982). The Development of Self-Understanding from Infancy Through

    Adolescence. *Child Development*, *53*(4), 841. https://doi.org/10.2307/1129122

Dahl R. E. (2016). The developmental neuroscience of adolescence: Revisiting, refining, and

    extending seminal models. *Developmental Cognitive Neuroscience*, 17, 101-102.

Doan, S., Steiner, E., Rakesh, P., & Woo, A. (2023). *Teacher Well-Being and Intentions to Leave:

    Findings from the 2023 State of the American Teacher Survey*. RAND Corporation.

    https://doi.org/10.7249/RRA1108-8

Dunning, D. (2023). Where does intellectual humility reside?. *The Journal of Positive

    Psychology*, *18*(2), 264-266.

Eccles, J. S., Wigfield, A., Midgley, C., Reuman, D., Iver, D. M., & Feldlaufer, H. (1993).

    Negative Effects of Traditional Middle Schools on Students' Motivation. *The Elementary

    School Journal*, *93*(5), 553–574. https://doi.org/10.1086/461740

Emlen Metz, S., Baelen, R. N., & Yu, A. (2020). Actively open-minded thinking in American

    adolescents. *Review of Education*, *8*(3), 768–799. https://doi.org/10.1002/rev3.3232

Erikson, E. H. (1993). *Childhood and society*. Norton.

Fandakova, Y., Selmeczy, D., Leckey, S., Grimm, K. J., Wendelken, C., Bunge, S. A., & Ghetti, S. (2017). Changes in ventromedial prefrontal and insular cortex support the development of metamemory from childhood into adolescence. *Proceedings of the National Academy of Sciences*, *114*(29), 7582–7587. https://doi.org/10.1073/pnas.1703079114

Fetterman, A. K., Muscanell, N. L., Wu, D., & Sassenberg, K. (2022). When you are wrong on Facebook, just admit It: Wrongness admission leads to better interpersonal impressions on social media. *Social Psychology*, *53*(1), 34–45. https://doi.org/10.1027/1864-9335/a000473

Fisher, M., Goddu, M. K., & Keil, F. C. (2015). Searching for explanations: How the Internet inflates estimates of internal knowledge. *Journal of Experimental Psychology: General*, *144*(3), 674–687.

Fishkin, J., Siu, A., Diamond, L., & Bradburn, N. (2021). Is Deliberation an Antidote to Extreme Partisan Polarization? Reflections on "America in One Room." *American Political Science Review*, *115*(4), 1464–1481. https://doi.org/10.1017/S0003055421000642

Flanagan, C. A. (2013). *Teenage citizens: The political theories of the young*. Harvard University Press.

Fricker, M. (2007). *Epistemic Injustice*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198237907.001.0001

Ghetti, S., Hembacher, E., & Coughlin, C. A. (2013). Feeling Uncertain and Acting on It During the Preschool Years: A Metacognitive Approach. *Child Development Perspectives*, *7*(3), 160–165. https://doi.org/10.1111/cdep.12035

Hagá, S., & Olson, K. R. (2017). 'If I only had a little humility, I would be perfect': Children's

and adults' perceptions of intellectually arrogant, humble, and diffident people. *The*

Journal of Positive Psychology, *12*(1), 87–98.

https://doi.org/10.1080/17439760.2016.1167943

Hanel, P. H. P., Roy, D., Taylor, S., Franjieh, M., Heffer, C., Tanesini, A., & Maio, G. R. (2023).

Using self-affirmation to increase intellectual humility in debate. *Royal Society Open*

Science, *10*(2), 220958. https://doi.org/10.1098/rsos.220958

Harris, P. L. (2012). *Trusting What You're Told: How Children Learn from Others*. Harvard

University Press. https://doi.org/10.4159/harvard.9780674065192

Harter, S. (2012). Emerging self-processes during childhood and adolescence. In M. Leary & J.

Tangney (Eds.), *Handbook of Self and Identity* (pp. 680–715).

Hazlett, A. (2017). *Intellectual Pride*. In J.A. Carter and E.C. Gordon (Eds.), *The Moral*

Psychology of Pride (NY: Rowman & Littlefield), 79-97.

Hook, J. N., Farrell, J. E., Johnson, K. A., Van Tongeren, D. R., Davis, D. E., & Aten, J. D.

(2017). Intellectual humility and religious tolerance. *The Journal of Positive Psychology*,

12(1), 29–35. https://doi.org/10.1080/17439760.2016.1167937

Hoyle, R. H., Davisson, E. K., Diebels, K. J., & Leary, M. R. (2016). Holding specific views

with humility: Conceptualization and measurement of specific intellectual humility.

Personality and Individual Differences, *97*, 165–172.

https://doi.org/10.1016/j.paid.2016.03.043

Huynh, H. P., & Senger, A. R. (2021). A little shot of humility: Intellectual humility predicts

vaccination attitudes and intention to vaccinate against COVID-19. *Journal of Applied

Social Psychology*, *51*(4), 449–460. https://doi.org/10.1111/jasp.12747

James, D., Plaice, E., Toren, C., & James, D. (2010). *Culture wars: Context, models and

anthropologists' accounts*. Berghahn Books, Inc.

Jayawickreme, E., & Fleeson, W. (2023). Understanding intellectual humility and intellectual

character within a dynamic personality framework. *Journal of Positive Psychology,

18*(2), 237-239.

Jolley, D., Douglas, K. M., Skipper, Y., Thomas, E., & Cookson, D. (2021). Measuring

adolescents' beliefs in conspiracy theories: Development and validation of the Adolescent

Conspiracy Beliefs Questionnaire (ACBQ). *British Journal of Developmental

Psychology*, *39*(3), 499–520. https://doi.org/10.1111/bjdp.12368

Jongman-Sereno, K. P., Hoyle, R. H., Davisson, E. K., & Park, J. (2023). Intellectual humility

and responsiveness to public health recommendations. *Personality and Individual

Differences*, *211*, 112243. https://doi.org/10.1016/j.paid.2023.112243

Kahne, J., & Rogers, J. (2024). Facing partisan conflict: How social studies educators can lead

towards a diverse democracy. *Social Education*, *88*(1), 13–19.

Karabegovic, M., & Mercier, H. (2023). The reputational benefits of intellectual humility.

Review of Philosophy and Psychology. https://doi.org/10.1007/s13164-023-00679-9

Kienhues, D., Jucks, R., & Bromme, R. (2020). Sealing the gateways for post-truthism:

     Reestablishing the epistemic authority of science. *Educational Psychologist*, *55*(3), 144–

     154. https://doi.org/10.1080/00461520.2020.1784012

Kilford, E. J., Garrett, E., & Blakemore, S.-J. (2016). The development of social cognition in

     adolescence: An integrated perspective. *Neuroscience & Biobehavioral Reviews*, *70*,

     106–120. https://doi.org/10.1016/j.neubiorev.2016.08.016

Knöchelmann, L., & Cohrs, J. C. (2024). Effects of intellectual humility in the context of

     affective polarization: Approaching and avoiding others in controversial political

     discussions. *Journal of Personality and Social Psychology*.

     https://doi.org/10.1037/pspi0000462

Koepke, S., & Denissen, J. J. A. (2012). Dynamics of identity development and separation–

     individuation in parent–child relationships during adolescence and emerging adulthood –

     A conceptual integration. *Developmental Review*, *32*(1), 67–88.

     https://doi.org/10.1016/j.dr.2012.01.001

Koetke, J., & Schumann, K. (2024). Is intellectual humility polarized too? A systematic

     examination of intellectual humility, political orientation, and strength of political belief.

     The Journal of Positive Psychology, 1–11.

     https://doi.org/10.1080/17439760.2024.2352739

Koetke, J., Schumann, K., & Porter, T. (2021). Intellectual Humility Predicts Scrutiny of

     COVID-19 Misinformation. *Social Psychological and Personality Science*,

     1948550620988242. https://doi.org/10.1177/1948550620988242

Kross, E., & Grossmann, I. (2012). Boosting wisdom: Distance from the self enhances wise

reasoning, attitudes, and behavior. *Journal of Experimental Psychology: General*, *141*(1),

43.

Krumrei-Mancuso, E. J., Haggard, M. C., LaBouff, J. P., & Rowatt, W. C. (2020). Links between

intellectual humility and acquiring knowledge. *The Journal of Positive Psychology*,

15(2), 155–170. https://doi.org/10.1080/17439760.2019.1579359

Krumrei-Mancuso, E. J., & Newman, B. (2020). Intellectual humility in the sociopolitical

domain. *Self and Identity*, *19*(8), 989–1016.

https://doi.org/10.1080/15298868.2020.1714711

Krumrei-Mancuso, E. J., Pärnamets, P., Bland, S., Astola, M., Cichocka, A., De Ridder, J.,

Mercier, H., Meyer, M., O'Connor, C., Porter, T., Tanesini, A., Alfano, M., & Van Bavel,

J. J. (2024). Toward an understanding of collective intellectual humility. *Trends in

Cognitive Sciences*, S1364661324002286. https://doi.org/10.1016/j.tics.2024.09.006

Kuhn, D. (1999). A Developmental Model of Critical Thinking. *Educational Researcher*, *28*(2),

16. https://doi.org/10.2307/1177186

Laffineur, C., Kasper, J., Brinke, L. T., Schumacher, G., & Bakker, B. N. (2024). *Political

Activism, Interest, and Affective Polarization: Dutch Adolescents and Adults are not that

Different*. https://doi.org/10.31234/osf.io/aux5h

Leary, M. R., Diebels, K. J., Davisson, E. K., Jongman-Sereno, K. P., Isherwood, J. C., Raimi, K.

T., Deffler, S. A., & Hoyle, R. H. (2017). Cognitive and Interpersonal Features of

Intellectual Humility. *Personality and Social Psychology Bulletin*, *43*(6), 793–813.

https://doi.org/10.1177/0146167217697695

Levendusky, M. S. (2013). Why Do Partisan Media Polarize Viewers? *American Journal of Political Science*, *57*(3), 611–623. https://doi.org/10.1111/ajps.12008

Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, *3*(5), 551–558. https://doi.org/10.1037/h0023281

McElroy-Heltzel, S. E., Davis, D. E., DeBlaere, C., Worthington, E. L., & Hook, J. N. (2019). Embarrassment of riches in the measurement of humility: A critical review of 22 measures. *The Journal of Positive Psychology*, *14*(3), 393–404. https://doi.org/10.1080/17439760.2018.1460686

McElroy-Heltzel, S. E., Davis, D. E., Hook, J. N., & Battaly, H. D. (2023). Too much of a good thing: Differentiating intellectual humility from servility in higher education. *Journal of Moral Education*, *52*(1), 21–33. https://doi.org/10.1080/03057240.2022.2126829

McFarland, J., Cui, J., & Stark, P. (2018). *Trends in high school dropout and completion rates in the United States: 2014* (Publication No. 2018117). National Center for Education Statistics.

McGrew, S., & Breakstone, J. (2023). Civic Online Reasoning Across the Curriculum: Developing and Testing the Efficacy of Digital Literacy Lessons. *AERA Open*, *9*, 23328584231176451. https://doi.org/10.1177/23328584231176451

Medina, J. (2013). *The epistemology of resistance: Gender and racial oppression, epistemic injustice, and resistant imaginations*. Oxford university press.

Metzger, A., & Smetana, J. G. (2010). Social Cognitive Development and Adolescent Civic Engagement. In L. R. Sherrod, J. Torney-Purta, & C. A. Flanagan (Eds.), *Handbook of*

Research on Civic Engagement in Youth (1st ed., pp. 221–248). Wiley.

> https://doi.org/10.1002/9780470767603.ch9

Mills, C. M., Danovitch, J. H., Mugambi, V. N., Sands, K. R., & Monroe, A. J. (2022). Cognitive

> reflection and authoritarianism relate to how parents respond to children's science

> questions. *Developmental Psychology*, *58*(3), 417–424.

> https://doi.org/10.1037/dev0001309

Moses-Payne, M. E., Habicht, J., Bowler, A., Steinbeis, N., & Hauser, T. U. (2021). I know

> better! Emerging metacognition allows adolescents to ignore false advice. *Developmental*

> *Science*, *24*(5), e13101. https://doi.org/10.1111/desc.13101

National Center for Education Statistics. (2008). Average number of hours in the school day and

> average number of days in the school year for public schools, by state: 2007-2008.

> Retrieved from https://nces.ed.gov/surveys/sass/tables/sass0708_035_s1s.asp

Nelson E. E., Jarcho J. M., Guyer A. E. (2016). Social re-orientation and brain development: An

> expanded and updated view. *Developmental Cognitive Neuroscience*, 17, 118-127.

Noack, P., & Eckstein, K. (2023). Populism in youth: Do experiences in school matter? *Child*

> *Development Perspectives*, *17*(2), 90–96. https://doi.org/10.1111/cdep.12481

Oden, A., & Porter, L. (2023). The Kids Are Online: Teen Social Media Use, Civic Engagement,

> and Affective Polarization. *Social Media + Society*, *9*(3), 20563051231186364.

> https://doi.org/10.1177/20563051231186364

Orth, U., Krauss, S., & Back, M. D. (2024). Development of narcissism across the life span: A

    meta-analytic review of longitudinal studies. *Psychological Bulletin, 150*(6), 643–665.

    https://doi.org/10.1037/bul0000436

Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., Arora, M.,

    Azzopardi, P., Baldwin, W., Bonell, C., Kakuma, R., Kennedy, E., Mahon, J., McGovern,

    T., Mokdad, A. H., Patel, V., Petroni, S., Reavley, N., Taiwo, K., … Viner, R. M. (2016).

    Our future: A Lancet commission on adolescent health and wellbeing. *The Lancet*,

    387(10036), 2423–2478. https://doi.org/10.1016/S0140-6736(16)00579-1

Peets, K., & Hodges, E. V. E. (2023). Longitudinal associations between adolescents' narcissism

    and friendship features depend on gender and friends' narcissism. *Developmental*

    Psychology, 59(1), 43–56. https://doi.org/10.1037/dev0001452

Porter, T., Baldwin, C. R., Warren, M. T., Murray, E. D., Cotton Bronk, K., Forgeard, M. J.,

    Snow, N. E., & Jayawickreme, E. (2021). Clarifying the content of intellectual humility:

    A systematic review and integrative framework. *Journal of Personality Assessment*, 1–

    13.

Porter, T., Catalán Molina, D., Lucas, M., Oberle, C., & Trzesniewski, K. (2022). Classroom

    environment predicts changes in expressed intellectual humility. *Contemporary*

    Educational Psychology, *70*, 102081. https://doi.org/10.1016/j.cedpsych.2022.102081

Porter, T., & Cimpian, A. (2023). A context's emphasis on intellectual ability discourages the

    expression of intellectual humility. *Motivation Science*, *9*(2), 120–130.

    https://doi.org/10.1037/mot0000289

Porter, T., Leary, M., & Cimpian, A. (2024). Teachers' intellectual humility benefits adolescents'

interest and learning. *Developmental Psychology*, *Manuscript accepted for publication.*

Porter, T., & Schumann, K. (2018). Intellectual humility and openness to the opposing view. *Self*

and Identity, *17*(2), 139–162. https://doi.org/10.1080/15298868.2017.1361861

Porter, T., Schumann, K., Selmeczy, D., & Trzesniewski, K. (2020). Intellectual humility predicts

mastery behaviors when learning. *Learning and Individual Differences*, *80*, 101888.

https://doi.org/10.1016/j.lindif.2020.101888

Ronfard, S., Zambrana, I. M., Hermansen, T. K., & Kelemen, D. (2018). Question-asking in

childhood: A review of the literature and a framework for understanding its development.

Developmental Review, *49*, 101–120. https://doi.org/10.1016/j.dr.2018.05.002

Rothwell, J. (2023, October 13). *Teens spend an average of 4.8 hours on social media per day.*

Gallup. https://news.gallup.com/poll/512576/teens-spend-average-hours-social-media-

per-day.aspx

Ryu, Y., Olcaysoy Okten, I., Gollwitzer, A., & Oettingen, G. (2023). Intellectual humility

predicts COVID-19 preventive practices through greater adoption of data-driven

information and feelings of responsibility. *Social and Personality Psychology Compass*,

17(8), e12766. https://doi.org/10.1111/spc3.12766

Schwartz-Mette, R. A., Shankman, J., Dueweke, A. R., Borowski, S., & Rose, A. J. (2020).

Relations of friendship experiences with depressive symptoms and loneliness in

childhood and adolescence: A meta-analytic review. *Psychological Bulletin*, *146*(8), 664–

700. https://doi.org/10.1037/bul0000239

Seider, S., Clark, S., & Graves, D. (2020). The Development of Critical Consciousness and its

    Relation to Academic Achievement in Adolescents of Color. *Child Development*, *91*(2).

    https://doi.org/10.1111/cdev.13262

Sgambati, T. J., & Ayduk, O. N. (2023). Intellectual Humility and Political Polarization: An

    Exploration of Social Networks, Attitudes, and Affect. *Political Psychology*, *44*(4), 807–

    828. https://doi.org/10.1111/pops.12890

Smith, G. (2023). You Know You're Right: How Intellectual Humility Decreases Political

    Hostility. *Political Psychology*, *44*(6), 1319–1335. https://doi.org/10.1111/pops.12903

Soncini, A., Visintin, E. P., Matteucci, M. C., Tomasetto, C., & Butera, F. (2022). Positive error

    climate promotes learning outcomes through students' adaptive reactions towards errors.

    Learning and Instruction, *80*, 101627. https://doi.org/10.1016/j.learninstruc.2022.101627

Stanley, M. L., Sinclair, A. H., & Seli, P. (2020). Intellectual humility and perceptions of political

    opponents. *Journal of Personality*, *88*(6), 1196–1216.

Tanesini, A. (2021). *The mismeasure of the self: A study in vice epistemology*. Oxford university

    press.

Telzer, E. H., Dai, J., Capella, J. J., Sobrino, M., & Garrett, S. L. (2022). Challenging stereotypes

    of teens: Reframing adolescence as window of opportunity. *American Psychologist,*

    77(9), 1067–1081. https://doi.org/10.1037/amp0001109

Ratchford, J.L., Fleeson, W., King, N.L., Blackie, E.R., Zhang, Q., Porter, T., Jayawichreme, E.

    (2024). Clarifying the virtue profile of the "good" thinker: An interdisciplinary approach.

    Topoi, *43*, 1-10.

Tseng, A. S., Bonilla, S., & MacPherson, A. (2021). Fighting "bad science" in the information

    age: The effects of an intervention to stimulate evaluation and critique of false scientific

    claims. *Journal of Research in Science Teaching*, *58*(8), 1152-1178.

Tyler, M., & Iyengar, S. (2023). Learning to Dislike Your Opponents: Political Socialization in

    the Era of Polarization. *American Political Science Review*, *117*(1), 347–354.

    https://doi.org/10.1017/S000305542200048X

Valant, J. (2020). Good schools for a troubled democracy. *Phi Delta Kappan*, *102*(3), 28–31.

Van Der Aar, L. P. E., Peters, S., & Crone, E. A. (2018). The development of self-views across

    adolescence: Investigating self-descriptions with and without social comparison using a

    novel experimental paradigm. *Cognitive Development*, *48*, 256–270.

    https://doi.org/10.1016/j.cogdev.2018.10.001

Van Der Cruijsen, R., Peters, S., Van Der Aar, L. P. E., & Crone, E. A. (2018). The neural

    signature of self-concept development in adolescence: The role of domain and valence

    distinctions. *Developmental Cognitive Neuroscience*, *30*, 1–12.

    https://doi.org/10.1016/j.dcn.2017.11.005

Van Tongeren, D. (2022). *Humble: Free yourself from the traps of a narcissistic world*. The

    Experiment.

Van Tongeren, D. R., Davis, D. E., Hook, J. N., & Witvliet, C. vanOyen. (2019). Humility.

    Current Directions in Psychological Science, *28*(5), 463–468.

    https://doi.org/10.1177/0963721419850153

Vogels, E. A., Gelles-Watnick, R., & Massarat, N. (2022, August 10). *Teens, social media, and technology 2022*. Pew Research Center. https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/

Ward, A. F., Zheng, J., & Broniarczyk, S. M. (2023). I share, therefore I know? Sharing online content-even without reading it-inflates subjective knowledge. *Journal of Consumer Psychology*, *33*(3), 469-488.

Watson, J., van der Linden, S., Watson, M., & Stillwell, D. (2024). Negative online news articles are shared more to social media. *Scientific Reports*, *14*(1), 21592.

Wineburg, S., Breakstone, J., McGrew, S., Smith, M. D., & Ortega, T. (2022). Lateral reading on the open Internet: A district-wide field study in high school government classes. *Journal of Educational Psychology*, *114*(5), 893–909. https://doi.org/10.1037/edu0000740

Wong, I. H. M., & Wong, T. T. Y. (2021). Exploring the relationship between intellectual humility and academic performance among post-secondary students: The mediating roles of learning motivation and receptivity to feedback. *Learning and Individual Differences*, *88*, 102012. https://doi.org/10.1016/j.lindif.2021.102012

Wray-Lake, L., & Ballard, P. J. (2023). Civic engagement across adolescence and early adulthood. In L. J. Crockett, G. Carlo, & J. E. Schulenberg (Eds.), *APA handbook of adolescent and young adult development.* (pp. 573–593). American Psychological Association. https://doi.org/10.1037/0000298-035

Wright, J. C., Warren, M. T., & Snow, N. E. (2020). Strategies for Measuring Virtue: A Literature Review and Critique. In J. C. Wright, M. T. Warren, & N. E. Snow, *Understanding Virtue*

(1st ed., pp. 61–120). Oxford University PressNew York.

https://doi.org/10.1093/oso/9780190655136.003.0003

Yates, M., & Youniss, J. (Eds.). (1998). *Roots of Civic Identity: International Perspectives on Community Service and Activism in Youth* (1st ed.). Cambridge University Press. https://doi.org/10.1017/CBO9780511751820

Zachry, C. E., Phan, L. V., Blackie, L. E., & Jayawickreme, E. (2018). Situation-based contingencies underlying wisdom-content manifestations: Examining intellectual humility in daily life. *The Journals of Gerontology: Series B*, *73*(8), 1404–1415.

Zimmerman, J. (2022). *Whose America? Culture wars in the public schools* (Second edition). University of Chicago Press.