

Teaching Teenagers Communication Practices that Bypass Cognitive Bias and Other Obstacles

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ABSTRACT

Universities prepare secondary school educators to prepare *students* to ultimately make discoveries that can better our planet. However, people's increased ability to consume misinformation has made the public increasingly resistant to fact. Students' future discoveries can only benefit society if students *also* learn communication practices that bypass reasons audiences commonly reject factual information. In a previously published, peer-reviewed study, one of this paper's authors identified psychological concepts that secondary teachers (i.e., of teenage students) can integrate into existing lessons to prepare students to share findings effectively in a polarized world. In this follow-up case study, that author partnered with a single adolescent female student featured in the media for her psychological insights. This case study employed a qualitative, in-depth interview approach and thematic analysis to explore the student's experience-based examples of phenomena active in knowledge dissemination. These findings can be used by educators to prepare students to share their future findings effectively.

Keywords: bias, cognitive dissonance, identity, persuasion, values

INTRODUCTION

In preparing today's teenagers for a bright future, secondary school educators must equip these students to overcome many obstacles. For example, educating for an environmentally sustainable world involves preparing students to tackle not just environmental challenges, but also cultural, economic, and social challenges (Nolet, 2016). When students ultimately find solutions despite the obstacles, one more challenge awaits them: effectively communicating and advocating for their solutions. This involves understanding audience psychology and the best strategies for varied circumstances. For instance, the medium and message both play critical roles when communicating with the public about health issues (Khan et al., 2020; Zhu, 2023), descriptive norms and relatable narratives can reduce resistance to scientific consensus when sharing findings on politicized scientific issues like climate change (Goldberg et al., 2019; Green et al., 2022), and moral reframing (aligning one's communication with audience values) increases the acceptance of policies and ideas across political divides (Feinberg & Willer, 2019; Tappin et al., 2023).

Problem

Teenagers grow up to be the pioneers of discoveries and advancements that can better our world, but this benefit is dependent on others embracing the new cures, discoveries, policies, procedures, and other identified changes. The information-deficit model (the

premise that people merely need accurate information to be informed) has long been debunked, and advocating for new ideas involves an understanding of an audience's values and biases so that communication can be tailored accordingly (Berger, 2020; Haidt, 2013; Tavris & Aronson, 2020).

Since people favor information that makes them feel right and good, even if that means consuming misinformation or disinformation (Tavris & Aronson, 2020), there has been a recent rise in political and cultural polarization (Fishkin et al., 2021). As Yale professor Dan Kahan (2010) explained, "Even if everybody said, 'I trust scientists and we should go with the word of scientists on these issues,' you'd still have cultural polarization, because people with different values would end up with different understandings of what most scientists believe." Thus, youth must learn resistance-targeting communication strategies if they are to persuade apathetic, doubtful, or outright opposed audiences to embrace their findings.

Purpose

The purpose of this study is to provide teen-generated, teen-friendly definitions and examples of psychological concepts that (a) impact audience response to new information and (b) are ideal for integration with psychological concepts commonly already being taught. These definitions and examples should be more relatable to the population of other teenagers attending public high school than the versions used by academics. Moreover, the researchers will also include teen-worded examples of how resistance-targeting communication strategies can be applied when audiences experience cognitive biases known to impact people's responses to new information. To accomplish these goals, the study aimed to answer the following research questions, leading to teen-appropriate examples and verbiage that educational leaders can use when teaching students to communicate findings in ways that resistant audiences can embrace.

Research Questions

1. From the list of psychological concepts already identified in Rankin (2022), which three psychological concepts has the selected teen author encountered most often when observing peers?
2. What are teen-generated definitions of the three psychological concepts identified in Research Question 1?
3. What is a teen experience exemplifying each of the three psychological concepts identified in Research Question 1?
4. What are teen-generated examples of how a research-based strategy (known to be effective when communicating findings to an audience who is experiencing the psychological concepts identified in Research Question 1) could be leveraged in each of the teen experience scenarios identified in Research Question 3?

LITERATURE REVIEW

A previous peer-reviewed study (see Rankin, 2022) provided a roadmap for how psychologically savvy communication instruction can be integrated into existing courses and lessons, as well as existing standards or other frameworks, to help

headmasters/principals and teachers educate students to advocate for future findings and innovations that can help our world. Table 1 contains examples of how this communication instruction content can be integrated into teacher preparation instruction and primary and secondary school instruction. For example, when school staff teach secondary students about growth mindset (which involves embracing “being wrong” as a natural, non-stigmatizing component of the learning process; Dweck, 2008), it is fitting to also teach students about cognitive dissonance (the discomfort we feel upon encountering evidence we are immoral or incorrect), as facing that dissonance increases one’s comfort with “being wrong” so we can better align our narratives with reality (Tavris & Aronson, 2020). The list of psychological concepts that both (a) impact audience response to new information and (b) are ideal for integration with psychological concepts commonly already being taught included: behavioral economics, biases against information (like confirmation bias), cognitive dissonance, cultural cognition and values, groupishness, identity, heuristics, logical fallacies, and motivated reasoning (Rankin, 2022).

Table 1: *Sample of Psychological Concepts (Impacting Audience Response to New Information) that Can Be Integrated into Existing Lessons*

When Teaching Popular Topics Like	Can Also Teach This Psychological Concept
Grit, Growth Mindset, Self-Awareness, Self-Management	Behavioral Economics, Cognitive Dissonance
Bloom’s Taxonomy, Critical Thinking, Depth of Knowledge (DoK)	Biases (Like Confirmation Bias), Heuristics, Logical Fallacies, Motivated Reasoning
Change Theory, Collaboration, Community Partnerships	Cultural Cognition and Values, Groupishness, Identity

Source: Rankin, 2022

In addition to learning about psychology concepts, teens can learn about the research-based communication strategies that have been shown to help circumvent an audience’s cognitive dissonance, confirmation bias, or groupishness when communicating new findings or ideas. Examples of such strategies include:

- **Moral reframing to combat cognitive dissonance:** When people are resistant to a message that causes them to experience cognitive dissonance, aligning communication with their values is an approach they are more likely to accept. For example, in a survey of 10,000 Americans, evangelicals were identified as the most disinterested in environmental causes, but 300 follow-up interviews revealed evangelicals merely care more about people than they do about the environment; thus focusing on the human impact (like neighborhoods devastated by extreme

weather) holds great potential to move evangelicals who were unmoved by pleas to curtail global warming's impact on wildlife (Ecklund & Scheitle, 2017).

- **Asking for an explanation to combat confirmation bias:** When people think they know something but are wrong, they often have what is called an illusion of explanatory depth (McRaney, 2022). Asking them to explain the details of what they think they know can alert them to their gap in knowledge and make them more open to whatever correct information we want to share with them (Fernbach et al., 2013; Harford, 2021).
- **Priming to combat groupishness:** When people are resistant to a message they associate as coming (or having support) from outside their group, priming people before delivering the message can help. For example, as Democrats and Republicans improve in their comprehension of science, they actually become more polarized over whether global warming is a valid concern (Kahan et al., 2012). Yet a Yale study revealed that priming an audience's scientific curiosity is so powerful an approach to increasing their acceptance of climate findings that it even overcomes political predispositions against such findings (Kahan, Landrum, Carpenter, Helft, & Jamieson, 2017).

METHODOLOGY

Lessons teaching youth psychological concepts (like navigating cognitive dissonance) require simple terms (like how we “feel” and “think” when we learn we are wrong) at the primary school level. Teenagers aged 13-18, however, can learn to use appropriate terms, as well. Metacognition (awareness and regulation of one's own cognitive processes – often described as “thinking about one's thinking”), typically begins in early childhood and continues to evolve significantly throughout adolescence and into adulthood. Teen years provide an ideal time to learn about metacognition and employ related strategies (Kuhn, 2000). This fact provided inspiration for the Rankin (2022) peer-reviewed study that provided a roadmap for how psychologically savvy communication instruction can be integrated into existing courses and lessons, as well as existing standards and frameworks, to help headmasters/principals and teachers educate students to advocate for future findings and innovations.

However, education research-based recommendations are often out of touch with the rapidly changing landscape of teenage lives. For example, research on comprehensive sex education (CSE) suggested that even though teenagers perceived the content as relevant, the actual implementation often failed to resonate with their lived experiences (Burky, 2023). This indicates that even when educational endeavors are well-received, they may not fully align with the evolving social and emotional contexts of adolescents, thereby limiting their effectiveness.

Thus, to provide age-appropriate examples of psychological concepts educators can share with teens when teaching those concepts, this study was co-written by a student who both (a) understands the psychological concepts in this paper and in the Rankin (2022) chapter that preceded it, as she has been featured in the media (e.g., *Business Insider*, *Girls' Life Magazine*, *Los Angeles Times*, *The Wall Street Journal*, *Yahoo!News*, etc.) for her psychological insights, serves as a Student Leader (“Peer Mentor”) in the Student Support

Collective (SSC) Program, and completed SSC's mental health leadership training, which involved training her to promote students' well-being and help teenagers navigate social-emotional challenges; and (b) is aged 14 and knows what it is like to live as a teenager and learn at a public high school in the US. Most 14-year-olds are unfamiliar with the psychological concepts this study explores and thus only one teenager is involved in this paper as both a case study subject and author. Thus, while the study benefits from an educated adolescent's insights, there would simultaneously be limitations to the generalizability of its findings to the global population of teenagers. However, this paper makes no attempt to propose that the co-author's experiences and thinking are the same as other teens'. On the contrary, the authors are aware of the co-author's distinction from most teens in the area of psychology education and only seek to provide teen-friendly examples for readers that are more likely to be relatable to teens than examples a non-teen researcher could provide.

First, the authors used a qualitative, in-depth interview approach to discuss the list of psychological concepts recommended in Rankin (2022) for instructional integration (listed earlier in Table 1) and explore experiences where the teen author has witnessed those around her exhibiting signs of these concepts. Second, the authors applied a thematic analysis to the experiences to identify themes that play a role in knowledge dissemination.

Thematic analysis provides a framework for qualitative research that is particularly effective in studies where the aim is to understand participants' experiences, perceptions, or definitions of specific phenomena. For instance, in a study involving Black students' racial trauma, thematic analysis was instrumental in articulating composite definitions based on multiple narratives (Hargons et al., 2022). Thematic analysis is also more appropriate for studies where themes are already established, as they were for this study, than other qualitative methods like content analysis or grounded theory (Humble, 2022; Braun & Clarke, 2020). Thematic analysis is not used to produce a theoretical framework; rather, it facilitates a comprehensive understanding of the data at hand (Humble, 2022; Braun & Clarke, 2020). In addition, thematic analysis is especially field-agnostic and is employed in numerous domains, such as healthcare, psychology, and education. This method's adaptability makes it conducive to synthesizing qualitative data across diverse contexts (Jayanetti, 2023). Since this study involves the intersection of various fields (such as psychology, education, and the open-endedness of any domain of knowledge being disseminated), thematic analysis was particularly suitable.

Through this thematic analysis the authors determined which of the psychological concepts the teen author encountered most often when observing peers. The authors identified cognitive dissonance, confirmation bias, and groupishness as being most salient and clear to the teen author. The authors then created Table 2 to feature each of their definitions for each term so that readers can understand the concept in academic language while being provided with teen-friendly language that can be used when teaching the concept to secondary students. The teen author phrased the teen-friendly definitions even simpler than her usual vocabulary so that less literate teens can benefit from the explanations.

Table 2: *Academic and Teen-Friendly Definitions of Psychological Concepts (Impacting Audience Response to New Information) to Aid Instruction*

Concept	Adult Definition	Teen Definition
Cognitive Dissonance	Because we like to maintain a positive self-image (we like to feel moral, smart, and correct), we feel an uncomfortable mental tension known as cognitive dissonance when faced with evidence that doesn't match that image. To fight this discomfort, we tend to dismiss or devalue the evidence.	Because people like to feel moral and smart, they experience cognitive dissonance (a bad feeling) when faced with information that suggests they are otherwise, so they tend to ignore the information.
Confirmation Bias	When we already have a belief or value, we favor information that reinforces this belief or value, and we tend to dismiss or devalue evidence that we are wrong.	Since we like information that supports what we already believe, we ignore the facts that don't support our beliefs or values. That's called confirmation bias.
Groupishness	When we belong to a group (especially if we view the group as part of our identity), we favor group members and their views even when they are wrong, and we seek to signal our conformity to other group members.	When we are in a certain group of people, we look up to our group's opinions and try to fit in even if our group is wrong. That is groupishness.

Source: Created by Jenny Grant Rankin and Piper Virginia Rankin

Next, using this thematically sorted list of teen experiences, the authors identified the strongest example for each of the three psychological concepts that had been selected. This resulted in a teen-friendly example of what cognitive dissonance, confirmation bias, and groupishness look like. These teen experience examples, shared below, can be used by educators as they teach the psychological concepts in Table 2.

Lastly, the authors returned to the qualitative, in-depth interview approach to discuss the research-based strategies (covered in this paper's introduction) known to be effective when communicating findings to an audience who is experiencing the psychological concepts listed in Table 2. The teen author then articulated how one of these strategies

could be leveraged in each of the teen experience scenarios previously discussed. These teen strategy explanations, shared below, can be used by educators as they teach communication practices known to help circumvent an audience’s cognitive dissonance, confirmation bias, or groupishness.

FINDINGS

Table 3 features the teen-generated examples of cognitive dissonance, confirmation bias, and groupishness playing roles in an audience’s resistance to new information. It also features the teen-synthesized examples of how research-based strategies can be applied when communicating in each of these scenarios to help circumvent an audience’s cognitive dissonance, confirmation bias, or groupishness. The teen author phrased the teen-friendly examples and strategies even simpler than her usual vocabulary so that less literate teens can benefit from the descriptions.

Table 3: *Teen-Friendly Examples of Psychological Concepts (Impacting Audience Response to New Information) to Aid Instruction*

Concept	Teen Example	Teen Communication Strategy
Cognitive Dissonance	After a student cheats on a test, the student says that everyone cheats, or it isn’t a big deal, or it’s the only way to pass the class. The student fools himself/herself/themselves in this way so that he/she/they won’t feel bad.	Moral Reframing: “I know you value your friends’ opinions of you, as they believe you’re an honest person, but you make them distrust you as you cheat on that test.”
Confirmation Bias	When faced with certain lessons or problems while doing homework or projects with peers, a student disagrees with (and won’t even listen to) other students’ ideas. As soon as the student believes he/she/they already has the right answer, he/she/they don’t want to hear or think about anything suggesting he/she/they are wrong.	Ask Them to Explain: “Tell me more about why you believe your answer is correct.”
Groupishness	Students express views that side with their parents’ and friends’ political party because they want to fit in or not be judged for siding with the opposite party. They also want to show their loved ones they belong in their same party.	Priming: “Before you side with a certain party, you should dive more into what values you have in common with each political party.”

Source: Created by Piper Virginia Rankin

DISCUSSION AND CONCLUSION

Factors like cognitive dissonance, confirmation bias, and groupishness play roles in an audience's resistance to new information. Fortunately, researchers have identified strategies that information communicators can use to combat these cognitive forces and the fact-resistance that they shape. While this paper is too short to explain the *details* of how each cognitive blocker works or how each strategy is achieved, educational leaders can use the paper's teen-appropriate examples and verbiage when teaching students to communicate findings in ways that resistant audiences can embrace.

More research is recommended to identify more teen-generated, teen-friendly language to teach teenagers about cognitive obstacles that can interfere with an audience's acceptance of new cures, discoveries, policies, procedures, and other identified changes. More research is also recommended to identify more teen-generated, teen-friendly language to teach teenagers communication strategies that research has shown to increase an audience's acceptance of new ideas when cognitive obstacles are at play. While additional teen-generated, teen-friendly language and examples can be found for the psychological concepts covered in this paper (cognitive dissonance, confirmation bias, or groupishness), the same research approach can also be used to explore other psychological concepts covered in the previous Rankin (2022) study: behavioral economics, cultural cognition and values, identity, heuristics, logical fallacies, and motivated reasoning.

Providing this teen-friendly language to secondary school educators can help them teach psychological concepts to teenage students. It can also help them teach students to effectively share their future findings in the face of audience resistance so that cutting-edge discoveries and advancements are more likely (and more quickly) able to improve our world.

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