

# Teaching: How Psychological Scientists Understand the Origin of Callous-Unemotional Traits

February 27, 2023



Aimed at integrating cutting-edge psychological science into the classroom, Teaching *Current Directions in Psychological Science* offers advice and how-to guidance about teaching a particular area of research or topic in psychological science that has been the focus of an article in the APS journal [Current Directions in Psychological Science](#).

---

[Hyde, L., & Dotterer, H. \(2022\). The nature and nurture of callous-unemotional traits. \*Current Directions in Psychological Science\*, 31\(6\), 546–555.](#)

When cold-blooded violence strikes, people want answers. Such was the case with Bryan Kohberger, the former criminology graduate student who allegedly murdered four University of Idaho students in late 2022. As a youth, Kohberger wrote that he felt “no emotion” and “little remorse” (Baker & Bogel-Burroughs, 2023). Was Kohberger’s lack of empathy, guilt, and remorse as a youth due to his nature? Or did his environment also play a role in affecting his antisocial thoughts and feelings?

In their article, Luke Hyde and Hailey Dotterer (2022) provide a framework for understanding how

nature (genetic factors) and nurture (environmental factors) contribute to the development of callous-unemotional traits—defined as lack of empathy, guilt, or remorse. Twin studies demonstrate that callous-unemotional traits are modestly heritable, with genetic influences explaining between 36% and 67% of the differences in callous-unemotional traits between individuals (Moore et al., 2019). Adoption studies also suggest a genetic component in callous-unemotional traits. In one study, birth parents' history of antisocial behavior predicted children's callous-unemotional traits, even though the children were raised by adoptive parents (Hyde et al., 2016). Nature matters mightily.

Nurture matters, too. Callous-unemotional traits ebb and flow over time, implying a role for environmental influences. For example, three in four youth who score “high” on callous-unemotional traits later report relatively low levels, and only about 5% of all youth consistently score high on callous-unemotional traits (Basking-Sommers et al., 2015; Fontaine et al., 2011).

Twin and adoption studies suggest the power of parenting in increasing or decreasing children's risk for callous-unemotional traits. Specifically, twin studies have shown that those who experience harsh, cold parenting are at greater risk of callous-unemotional traits (Dotterer et al., 2021; Waller et al., 2018). In adoption studies, children whose adoptive parents demonstrated warmth toward them report lower levels of callous-unemotional traits two years later (Hyde et al., 2016). Some studies suggest that parental warmth can even reduce children's genetic risk for callous-unemotional traits, whereas harsh parenting can increase children's genetic risk (Henry et al., 2018; Tomlinson et al., 2022). By using warmth rather than harshness, parents aid their children's empathy—and lower their children's risk for callous-unemotional traits.

## Teaching Activity

Ask students to read the following fictional scenarios about youth with callous-unemotional traits.

1. Roberta is 7 years old and lacks empathy, guilt, and remorse. She has been in trouble for shoplifting, but her antisocial behavior has decreased over the last 12 months. Although Roberta's birth parents have a history of violence, her adoptive parents do not. Roberta's adoptive parents try to give her unconditional emotional support, teaching her how to empathize. Roberta attends psychotherapy regularly to learn different strategies to cope with difficult situations. She reports that she has benefited from therapy and plans to continue attending until she graduates high school.
2. Saul is 9 years old and shows little remorse for his antisocial behavior. He has engaged in multiple acts of aggression toward his friends, family, and teachers. He has also acted aggressively toward animals. Saul's father and mother are not involved in his life. His grandmother takes care of him and believes that physical punishment (spanking, slapping) is the only way to discipline him. Saul did not participate in online schooling during the pandemic because his grandmother had no internet connection. He is now two years behind his classmates.

With a partner, ask students to discuss the following questions:

1. How might *nature* (genetic influence or heritability) influence Roberta and Saul's lack of empathy and guilt?
2. How might *nurture* (environmental factors, such as social support) influence Roberta and Saul's lack of empathy and guilt?
3. Psychological scientists have shown that nature and nurture interact. Hyde and Dotterer (2022) report that warm or harsh parenting (a nurture factor) can reduce or increase the heritability of low empathy and guilt (a nature factor). How might nature and nurture interact to predict Roberta and Saul's tendency to experience empathy and guilt?
4. Design an intervention to increase empathy and the tendency to experience guilt and remorse. Would your intervention prevent low empathy, guilt, and remorse from emerging? Or would your intervention try to assist people who already lacked empathy, guilt, and remorse?

**Feedback on this article? Email [apsobserver@psychologicalscience.org](mailto:apsobserver@psychologicalscience.org) or login to comment.**  
**Interested in writing for us? Read our [contributor guidelines](#).**

---

## References

- Baker, M., & Bogel-Burroughs, N. (2023, January 13). Idaho murders suspect felt 'no emotion' and 'little remorse' as a teen. *New York Times*.  
<https://www.nytimes.com/2023/01/13/us/idaho-murders-bryan-kohberger.html>
- Baskin-Sommers, A., Ruiz, S., Sarcos, B., & Simmons, C. (2022). Cognitive–affective factors underlying disinhibitory disorders and legal implications. *Nature Reviews Psychology*, *1*(3), 145–160.
- Dotterer, H. L., Burt, S. A., Klump, K. L., & Hyde, L. W. (2021). Associations between parental psychopathic traits, parenting, and adolescent callous-unemotional traits. *Research on Child and Adolescent Psychopathology*, *49*(11), 1431–1445.
- Fontaine, N. M., McCrory, E. J. P., Boivin, M., Moffitt, T. E., & Viding, E. (2011). Predictors and outcomes of joint trajectories of callous–unemotional traits and conduct problems in childhood. *Journal of Abnormal Psychology*, *120*(3), 730–742.
- Henry, J., Dionne, G., Viding, E., Vitaro, F., Brendgen, M., Tremblay, R. E., & Boivin, M. (2018). Early warm-rewarding parenting moderates the genetic contributions to callous–unemotional traits in childhood. *Journal of Child Psychology and Psychiatry*, *59*(12), 1282–1288.
- Hyde, L. W., Waller, R., Trentacosta, C. J., Shaw, D. S., Neiderhiser, J. M., Ganiban, J. M., Reiss, D., & Leve, L. D. (2016). Heritable and non-heritable pathways to early callous unemotional behavior. *American Journal of Psychiatry*, *173*, 903–310.

Moore, A. A., Blair, R. J., Hettema, J. M., & Roberson-Nay, R. (2019). The genetic underpinnings of callous-unemotional traits: A systematic research review. *Neuroscience & Biobehavioral Reviews*, *100*, 85–97.

Tomlinson, R. C., Hyde, L. W., Dotterer, H. L., Klump, K. L., & Burt, S. A. (2022). Parenting moderates the etiology of callous-unemotional traits in middle childhood. *Journal of Child Psychology and Psychiatry*, *63*(8), 912–920.

Waller, R., Hyde, L. W., Klump, K. L., & Burt, S. A. (2018). Parenting is an environmental predictor of callous-unemotional traits and aggression: A monozygotic twin differences study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *57*(12), 955–963.