

Using QuantCrit to
Advance an Anti-Racist
Developmental Science:
Applications to
Mixture Modeling

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Our use of statistical analyses shapes our research either toward or away from an anti-racist research practice

QuantCrit^{1,2} is one framework for orienting statistical analyses toward anti-racism

Brief Overview of QuantCrit Tenets

- Centrality of Racism
- Numbers are Not Neutral
- Categories are Socially Constructed
- Voice and Insight are Vital
- Numbers Should be Used for Social Justice



Mixture Modeling through a QuantCrit Lens

Three “Moments” for Intervention

Why Mixture Modeling?

- Relevance for developmental science¹
- Increasing popularity
- Our own interests => ²

¹Lanza & Cooper, 2006; Johnson, 2021; ²Suzuki et al., 2022

Moment 1

Development of the Research Questions,
Identification of Analysis Variables, Choice
of Study Measures

Moment 1:


Research Questions, Variables, Measures

- How is my viewpoint (e.g., assumptions about youth of color) reflected in how I phrase research questions and choose variables?
- Is there evidence that inferences made with the chosen measures will be appropriate in this research setting/population?

Moment 1: Research Questions, Variables, Measures

APPLIED DEVELOPMENTAL SCIENCE
2021, VOL. 25, NO. 4, 332–350
<https://doi.org/10.1080/10888691.2019.1640607>

 **Routledge**
Taylor & Francis Group

 Check for updates

Exploring racial–ethnic pride and perceived barriers in positive youth development: A latent profile analysis

Dian Yu, Emilie Phillips Smith, and Assaf Oshri

Received: 5 September 2018 | Revised: 26 April 2019 | Accepted: 29 April 2019

DOI: 10.1002/jcop.22202

RESEARCH ARTICLE

 **WILEY**

A latent class analysis of cognitive empowerment and ethnic identity: An examination of heterogeneity between profile groups on dimensions of emotional psychological empowerment and social justice orientation among urban youth of color

David T. Lardier Jr.^{1,4} | Verónica R. Barrios² | Pauline Garcia-Reid³ | Robert J. Reid³

Moment 2

Decision-Making about the Role of Race
in the Planned Analyses

Moment 2:

The Role of Race in Planned Analyses

- Am I using normalized practices that may nonetheless be harmful¹?
 - Ignoring the role of race
 - Looking for the “effect of race”
 - “Controlling for” race
- Do I want to focus on a specific group²?
 - Plan for an appropriate sample size!

¹Holland, 2008; ²Jager et al., 2017

Moment 2: The Role of Race in Planned Analyses



Child Abuse & Neglect
Volume 86, December 2018, Pages 89-99

Patterns of adversity and pathways to health among White, Black, and Latinx youth

Sabrina R. Liu^a  , Maryam Kia-Keating^a , Karen Nylund-Gibson^b 

APA PsycArticles: Journal Article

A latent class analysis of urban American Indian youth identities.

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Kulis, S. S., Robbins, D. E., Baker, T. M., Denetsosie, S., & Deschine Parkhurst, N. A. (2016). A latent class analysis of urban American Indian youth identities. *Cultural Diversity and Ethnic Minority Psychology, 22*(2), 215–228. <https://doi.org/10.1037/cdp0000024>

Journal of School Psychology 82 (2020) 70–84



Contents lists available at ScienceDirect

Journal of School Psychology

journal homepage: www.elsevier.com/locate/jschpsyc

An examination of classes of school climate perceptions among
Latinx middle school students[☆]

Lisa S. Romero^{*}, Meagan D. O'Malley

California State University Sacramento, United States of America

Moment 3

Interpretation of the Results through a
Theoretical Framework

Moment 3:

Interpreting Results with a Theoretical Framework


- Data do not “speak for themselves” – they must be interpreted through the researcher’s lens
- Mixture model results are a representation of the data, not a fixed statement about reality¹

¹Cudeck & Henley, 2003

Moment 3: Interpreting Results with a Theoretical Framework

CHILD DEVELOPMENT



Empirical Article |  Full Access

Racial Identity From Adolescence to Young Adulthood: Does Prior Neighborhood Experience Matter?

Deborah Rivas-Drake, Dawn Witherspoon

> [Am J Orthopsychiatry](#). 2018;88(4):471-482. doi: 10.1037/ort0000298. Epub 2018 Jan 22.

Profiles of minority stressors and identity centrality among sexual minority Latinx youth

Maura Shramko ¹, Russell B Toomey ¹, Karla Anhalt ²

Conclusion

All quantitative analyses can perpetuate racism

Quant Crit is one way to address it

ARTIFICIAL INTELLIGENCE

Facebook's ad-serving algorithm discriminates by gender and race

Even if an advertiser is well-intentioned, the algorithm still prefers certain groups of people over others.

By Karen Hao

April 5, 2019

COMPUTING

Racial Bias Found in a Major Health Care Risk Algorithm

Black patients lose out on critical care when systems equate health needs with costs

By Starre Vartan on October 24, 2019

Machine Bias

There's software used across the country to predict future criminals. And it's biased against blacks.

by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, ProPublica

May 23, 2016

Thank You!