

A LANDMARK NORC STUDY  
SINCE 1972

# GSS 50

JOIN THE CONVERSATION

[#NORCatAAPOR](#) [#GSSatAAPOR](#)

# Comparing Measures of Gender Expression among U.S. Adolescents

---

## Findings from a Split-Ballot Experiment in the Nationally-Representative Gender Identity and Sexual Health (GISH) Survey

May 12, 2022: AAPOR Annual Meeting

Christopher Hansen, NORC at the University of Chicago  
Melissa Heim Viox  
Erin Fordyce  
Sabrina Avripas  
Michelle M. Johns  
Stuart Michaels

Sarahjane Dube, University of Vermont  
Masha Ivanova  
Alexandra Potter

# Overview

01 Background and Methods

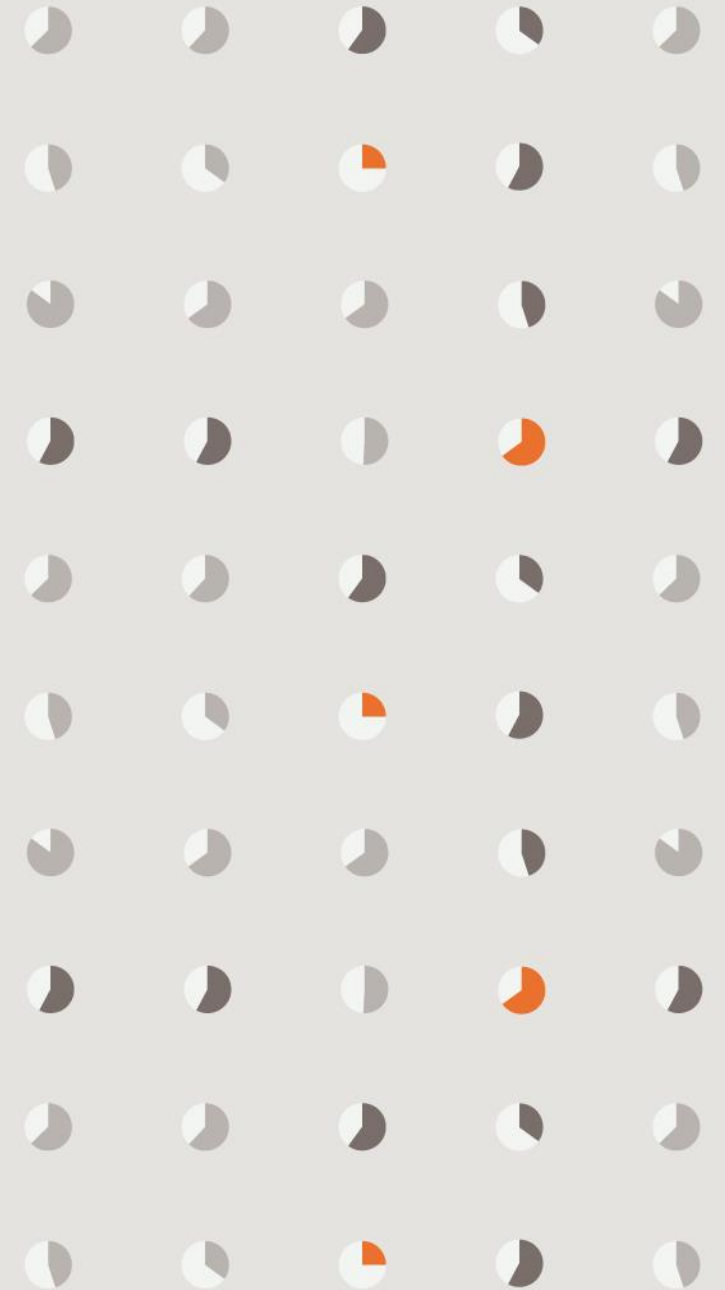
---

02 Results

---

03 Conclusions

---



---

# Background and Methods

## About the Gender Identity and Sexual Health (GISH) Survey

- Conducted by NORC at the University of Chicago in April 2021 on behalf of the University of Vermont
- Adolescent respondents ages 13-17 recruited from AmeriSpeak®, NORC's probability-based survey panel representative of the U.S. household population; invited to complete a self-administered web instrument following parent/caregiver consent
- Included both a parent survey and a teen survey, paired to achieve dyadic interviews (n=279)
- Designed to test new measures assessing gender for the Adolescent Brain Cognitive Development (ABCD) Study, including measures of gender expression

## Measurement of gender expression

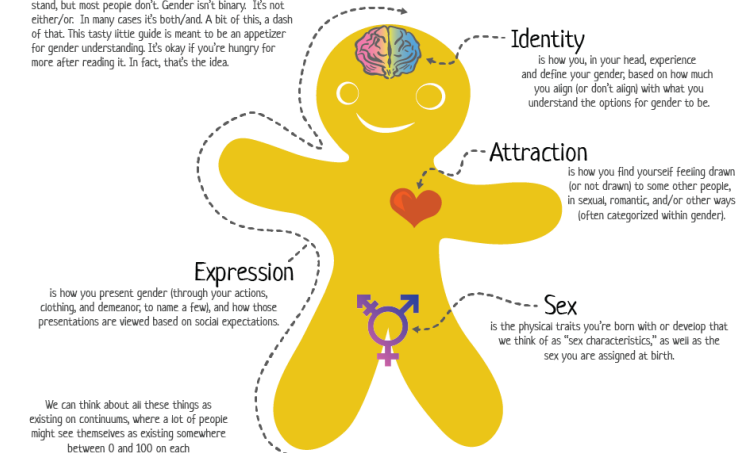
- We are living in a time of rapid evolution in gender, gender roles, identities, and attitudes toward gender expression and diversity. Survey research is catching up.
- Gender is a multidimensional construct, yet survey research tends to rely on measures of identity (“What is your current gender?”).<sup>1</sup> Relatively less attention has been given to measures of gender expression.
- Gender expression describes how a person communicates their gender to the world through their clothing, speech, behavior, etc. (e.g., feminine, masculine, androgynous). Gender expression is fluid and is separate from sex assigned at birth or gender identity.<sup>2</sup>
- Multidimensional measures of gender can help survey researchers uncover causal mechanisms that produce gender inequality.<sup>3</sup> Extant research demonstrates that variations in expression within gender categories shape experiences of marginalization (e.g., masculine-presenting cisgender girls compared to feminine-presenting cisgender girls, etc.).<sup>4</sup>

# Changing understanding of gender expression

## The Genderbread Person

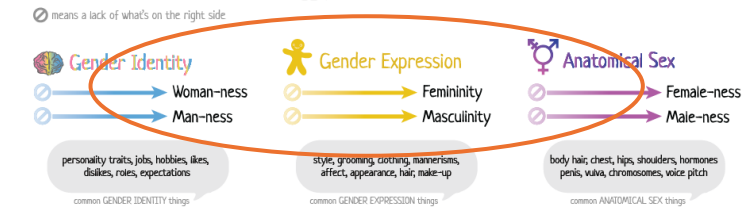
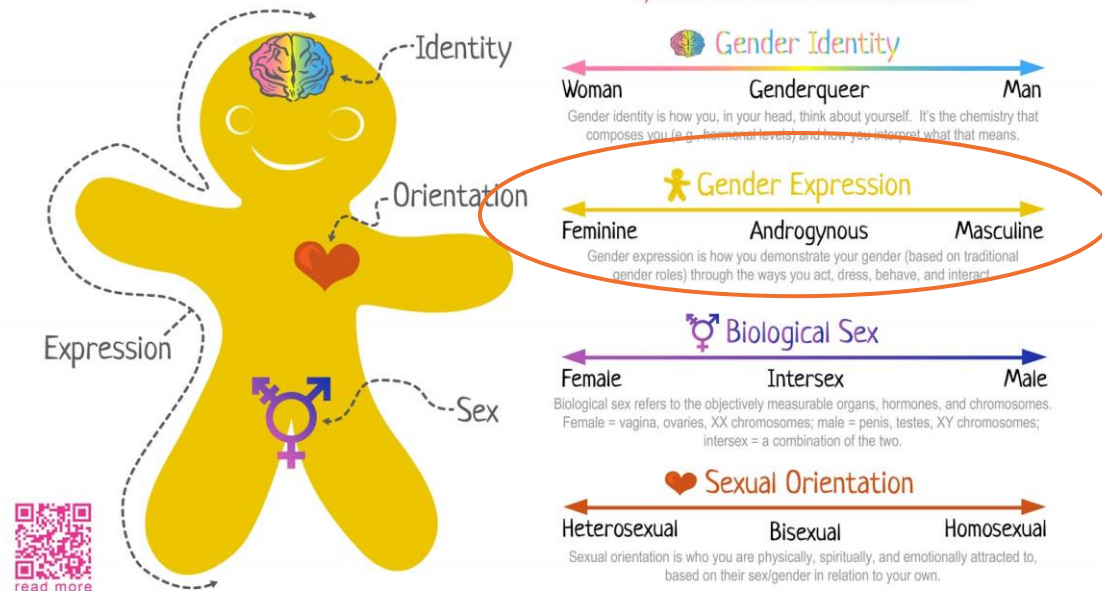
by its pronounced METROsexual.com

Gender is one of those things everyone thinks they understand, but most people don't. Gender isn't binary. It's not either/or. In many cases it's both/and. A bit of this, a dash of that. This tasty little guide is meant to be an appetizer for gender understanding. It's okay if you're hungry for more after reading it. In fact, that's the idea.



## The Genderbread Person

by www.ItsPronouncedMetrosexual.com



Identity ≠ Expression ≠ Sex  
Gender ≠ Sexual Orientation



Genderbread Person Version 4 created and uncopyrighted 2017 by Sam Killermann For a bigger bite, read more at www.genderbread.org

Gender expression represented as one bipolar construct in first version of TGP

Gender expression represented as two unipolar constructs in most recent version of TGP

# Bipolar versus unipolar measurement of gender expression

## Bipolar

A person's appearance (style, dress, the way they walk or talk) may affect how people describe them.

**How do you think others would describe you?**

1. Very masculine
2. Mostly masculine
3. Somewhat masculine
4. Equally feminine and masculine
5. Somewhat feminine
6. Mostly feminine
7. Very feminine

**How do you describe yourself?**

1. Very masculine
2. Mostly masculine
3. Somewhat masculine
4. Equally feminine and masculine
5. Somewhat feminine
6. Mostly feminine
7. Very feminine



# Bipolar versus unipolar measurement of gender expression

## Bipolar

A person's appearance (style, dress, the way they walk or talk) may affect how people describe them.

**How do you think others would describe you?**

1. Very masculine
2. Mostly masculine
3. Somewhat masculine
4. Equally feminine and masculine
5. Somewhat feminine
6. Mostly feminine
7. Very feminine

**How do you describe yourself?**

1. Very masculine
2. Mostly masculine
3. Somewhat masculine
4. Equally feminine and masculine
5. Somewhat feminine
6. Mostly feminine
7. Very feminine

## Unipolar

A person's appearance (style, dress, the way they walk or talk) may affect how people describe them.

**How do you think others would describe you?** Please answer on both scales below.

	1. Not at all	2.	3.	4.	5.	6.	7. Very
Feminine							
Masculine							

**How do you describe yourself?** Please answer on both scales below.

	1. Not at all	2.	3.	4.	5.	6.	7. Very
Feminine							
Masculine							

## Unipolar measures of gender expression

### Advantages

- Captures the full range of possibilities for femininity and masculinity since individuals may have varying degrees of both
- Places respondents in a two-dimensional space where the levels of femininity and masculinity can vary independently
  - Differentiates “equally feminine and masculine” from “neither feminine nor masculine”, the latter being undetectable in the bipolar scale

### Disadvantages

- Requires two items instead of one
- Increases (marginally) survey length and respondent burden

## Research objectives

- To compare bipolar and unipolar responses to measures of femininity and masculinity among U.S. adolescents
- To assess for differences in explanatory power between bipolar and unipolar measures across key outcomes of interest

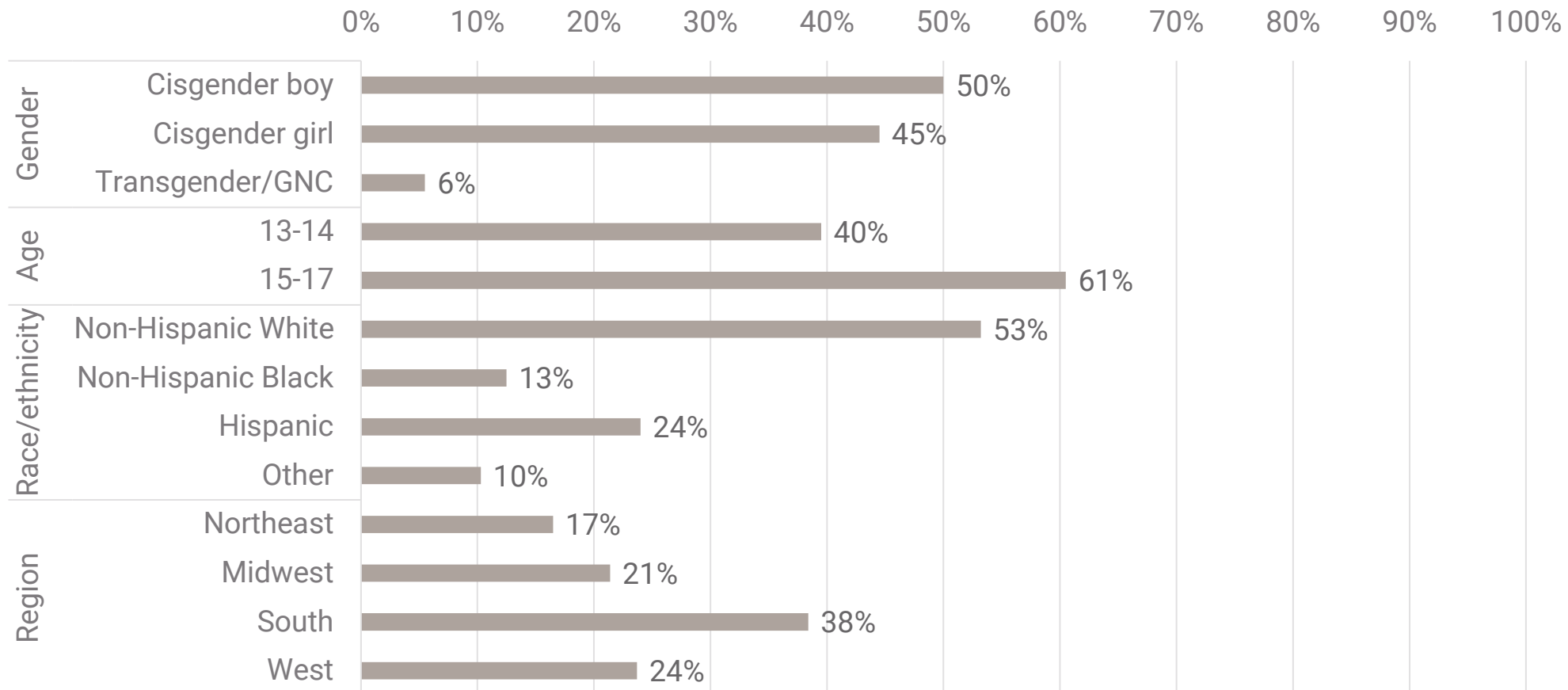
Measures: gender expression, mental distress, parental acceptance, bullying victimization, and self-compassion

- Unipolar gender expression measures were adapted from bipolar measures in CDC's *Youth Risk Behavior Surveillance System* (YRBSS).<sup>5</sup>
- Outcomes of interest were operationalized with validated measures from the ABCD study, including,
  - Mental distress: rating of internalizing, attention, and externalizing problems based on responses to 19-item Brief Problem Monitor instrument
  - Parental acceptance: operationalized as a scale using responses to five questions that assessed emotional support and expression of affection
  - Bullying victimization: operationalized as a single item that asked about frequency of being bullied or teased because of one's gender
  - Self-compassion: operationalized as a scale using responses to five questions that assessed self-kindness and self-judgment

---

# Results

Table 1. Demographic characteristics of adolescent sample (weighted, n=279) – GISH Survey, United States, April 6–27, 2021



## Comparison of unipolar and bipolar gender expression responses

- For all genders, unipolar scales captured more diversity of gender expression than the corresponding bipolar scale regardless of order.
- In both unipolar and bipolar scales, cisgender girls were more likely than cisgender boys to report diversity of gender expression.

## Unipolar measures captured more diversity of expression among cisgender boys than bipolar measures

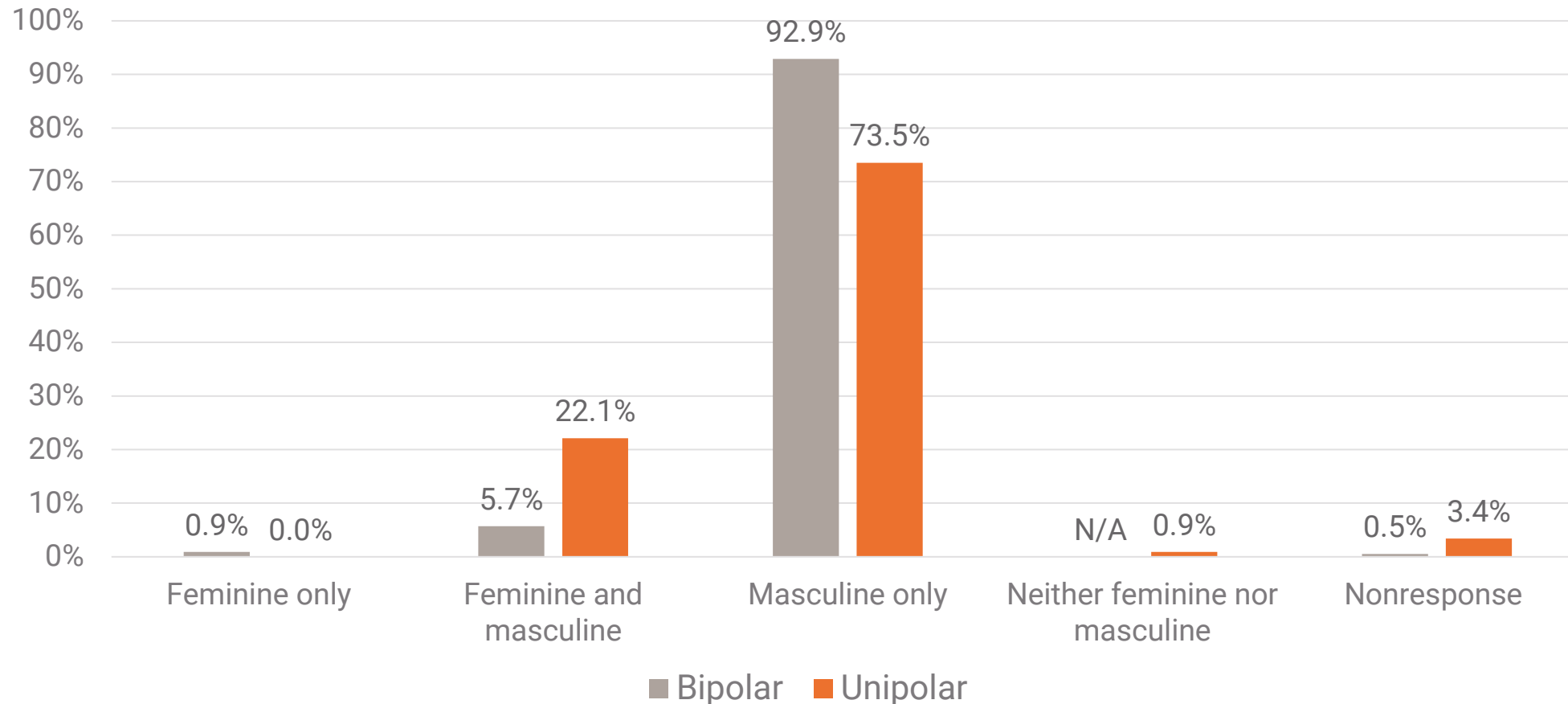


Table 2. First-order gender expression responses among cisgender boys (weighted, n=139) — GISH Survey, United States, April 6–27, 2021



## Unipolar measures captured more diversity of expression among cisgender girls than bipolar measures

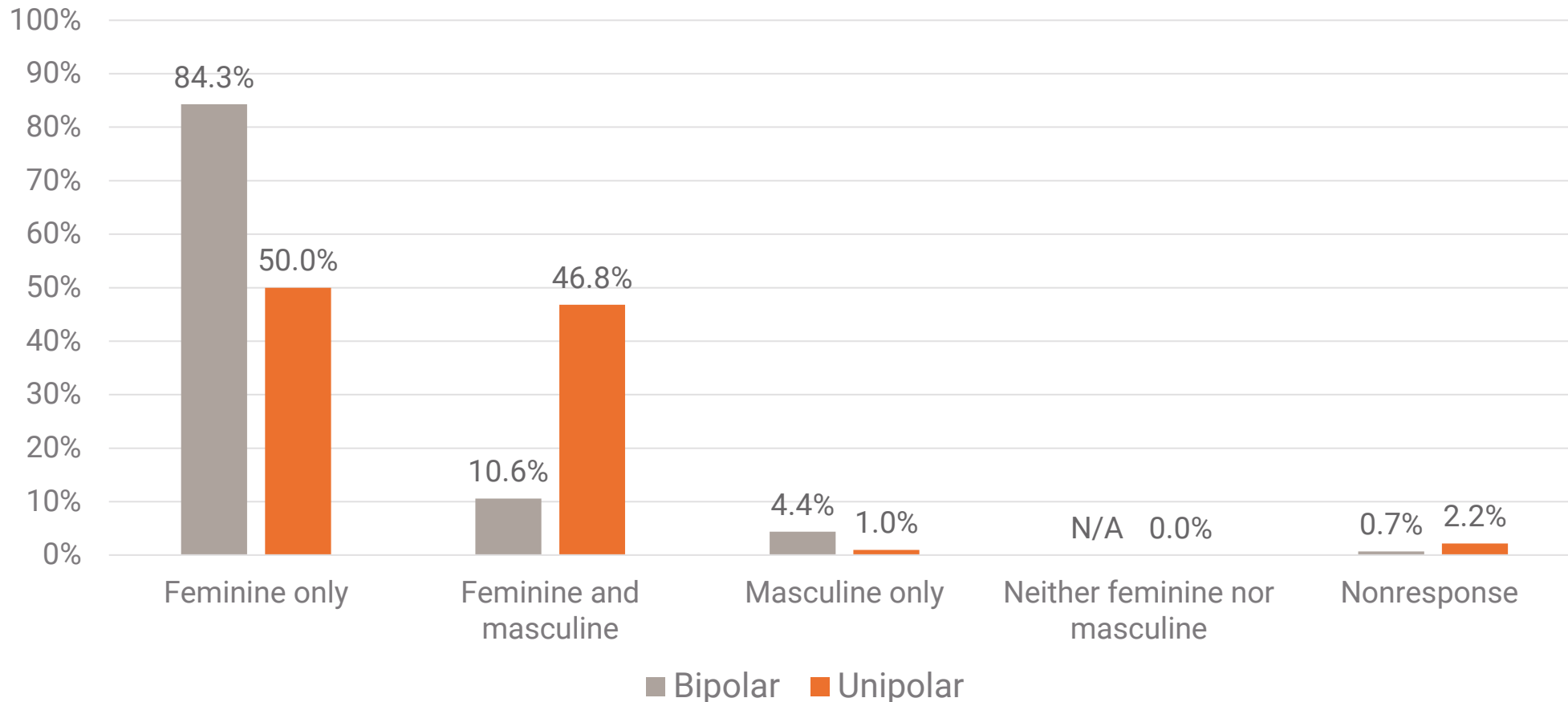
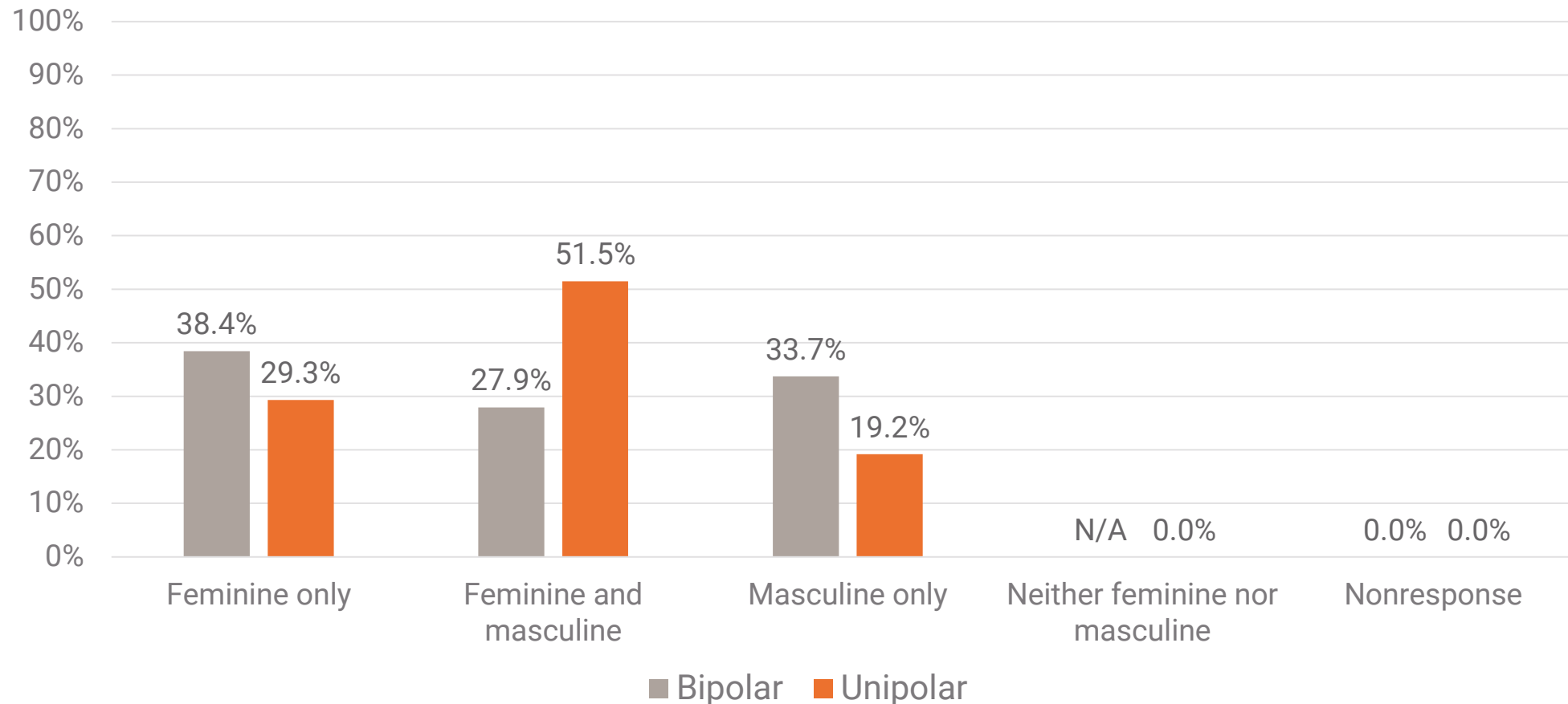


Table 3. First-order gender expression responses among cisgender girls (weighted, n=124) – GISH Survey, United States, April 6–27, 2021

## Unipolar measures captured more diversity of expression among transgender youth<sup>†</sup> than bipolar measures



<sup>†</sup>Includes respondents who reported a gender identity different than their sex assigned at birth (e.g., assigned male at birth/identified as girl, assigned female at birth/identified as boy), identified as another gender (e.g., nonbinary), or wrote in their own gender.

Table 4. First-order gender expression responses among transgender youth (weighted, n=16) — GISH Survey, United States, April 6–27, 2021

## Unipolar measures had more explanatory power than bipolar measures

Table 5. Summary of main effects – GISH Survey, United States, April 6–27, 2021

	Assigned male at birth (AMAB)					Assigned female a birth (AFAB)				
	Mental Distress	Parental Acceptance	Bullying Victimization	Self-Kindness	Self-Judgement	Mental Distress	Parental Acceptance	Bullying Victimization	Self-Kindness	Self-Judgement
Third-Order Bipolar	-	-	-	-	-	✓	✓	-	-	-
Third-Order Unipolar Masculine	✓	-	-	-	✓	✓	✓	✓	-	-
Third-Order Unipolar Feminine	✓	-	-	-	-	✓	✓	-	-	-

## Explanatory power of gender expression measures (cont.)

- Using unipolar measures, we found that interaction effects between masculinity and femininity were also predictive of certain outcomes.
  - Among AMAB respondents, those who reported both masculine and feminine expression had lower levels of mental distress than those who reported masculine expression only.
  - Among AFAB respondents, those who reported being described by others as having both masculine and feminine expression had lower levels of self-kindness than respondents who reported being described by others as feminine only.
- **Bipolar measures do not allow for the accounting of such interaction effects.**

---

# Conclusions

## Conclusions

- Our analysis shows that unipolar measures capture greater diversity in femininity and masculinity than bipolar measures among U.S. adolescents.
- Regression analyses with outcomes of interest suggest this diversity is meaningful, beyond just methodological variance.
- Although measurement of gender expression is of particular importance in sexual and gender minority (SGM) population research, our analysis demonstrates that gender expression measurement is a sexual and gender majority (non-SGM) research issue as well.
- Future research may consider using unipolar measures to capture greater diversity in femininity and masculinity among adolescents. Such research should continue to theorize and build evidence base to further understandings of pathways between gender expression and adolescent development outcomes (e.g., positive marginality, health disparities, etc.).

---

Questions?



A LANDMARK NORC STUDY  
SINCE 1972



Thank you.

**Christopher Hansen (he/him)**  
Research Methodologist  
[hansen-christopher@norc.org](mailto:hansen-christopher@norc.org)

---

 Research You Can Trust™

---

 **NORC** at the  
University of  
Chicago



## References

1. National Academies of Sciences, Engineering, and Medicine 2022. *Measuring Sex, Gender Identity, and Sexual Orientation*. Washington, DC: The National Academies Press.  
<https://doi.org/10.17226/26424>
2. National LGBT Health Education Center. Glossary of LGBT Terms for Health Care Teams. Updated February 2020. <https://www.lgbtqiahealtheducation.org/wp-content/uploads/2020/02/Glossary-2022.02.22-1.pdf>.
3. Magliozzi, Devon, Aliya Saperstein, and Laurel Westbrook. 2016. "Scaling Up; Representing Gender Diversity in Survey Research." *Socius: Sociological Research for a Dynamic World*; Volume 2, Page 237802311666435; ISSN 2378-0231 2378-0231, January.
4. Watson, Ryan J., Christopher W. Wheldon, and Rebecca M. Puhl. 2020. "Evidence of Diverse Identities in a Large National Sample of Sexual and Gender Minority Adolescents." *Journal of Research on Adolescence* (Wiley-Blackwell) 30 (February): 431–42.
5. U.S. Centers for Disease Control and Prevention, "2019 YRBS National, State, and District Combined Datasets User's Guide," August 2020,  
[https://www.cdc.gov/healthyouth/data/yrbs/pdf/2019/2019\\_YRBS\\_SADC\\_Documentation.pdf](https://www.cdc.gov/healthyouth/data/yrbs/pdf/2019/2019_YRBS_SADC_Documentation.pdf).

Table 6. Linear regression results for Mental Distress, AMAB only (weighted, n=139)  
 – GISH Survey, United States, April 6–27, 2021

	A	B	C1	C2	C3	D1	D2	D3
First-Order Bipolar	0.913**	-	-	-	-	-	-	-
Third-Order Bipolar	-	0.742	-	-	-	-	-	-
First-Order Unipolar Masculine	-	-	-0.764**	-	-1.652**	-	-	-
First-Order Unipolar Feminine	-	-	-	0.769**	-1.525	-	-	-
First-Order Unipolar Interaction Term	-	-	-	-	0.493***	-	-	-
Third-Order Unipolar Masculine	-	-	-	-	-	-1.117***	-	-1.387
Third-Order Unipolar Feminine	-	-	-	-	-	-	1.143***	-0.980
Third-Order Unipolar Interaction Term	-	-	-	-	-	-	-	0.346
R-squared	0.034***	0.022	0.030**	0.033**	0.092***	0.047**	0.060***	0.081
Adjusted R-squared	0.027***	0.015	0.023**	0.026**	0.072***	0.040**	0.053***	0.061

\*\* , \*\*\* indicates significance at the 95%, and 99% level, respectively.

Table 7. Linear regression results for Self-Kindness, AFAB only (weighted, n=127) – GISH Survey, United States, April 6–27, 2021

	A	B	C1	C2	C3	D1	D2	D3
First-Order Bipolar	0.089	-	-	-	-	-	-	-
Third-Order Bipolar	-	0.102	-	-	-	-	-	-
First-Order Unipolar Masculine	-	-	-0.057	-	0.118	-	-	-
First-Order Unipolar Feminine	-	-	-	0.065	0.131	-	-	-
First-Order Unipolar Interaction Term	-	-	-	-	-0.027	-	-	-
Third-Order Unipolar Masculine	-	-	-	-	-	-0.051	-	0.415**
Third-Order Unipolar Feminine	-	-	-	-	-	-	0.092	0.340***
Third-Order Unipolar Interaction Term	-	-	-	-	-	-	-	-0.075***
R-squared	0.023	0.027	0.014	0.015	0.022	0.014	0.029	0.085***
Adjusted R-squared	0.015	0.019	0.006	0.007	-0.001	0.007	0.022	0.063***

\*\* , \*\*\* indicates significance at the 95%, and 99% level, respectively.