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# Relations Between Sexual and Gender Minority Stress, Personal Hardiness, and Psychological Stress in Emerging Adulthood: Examining Indirect Effects via Human-Animal Interaction

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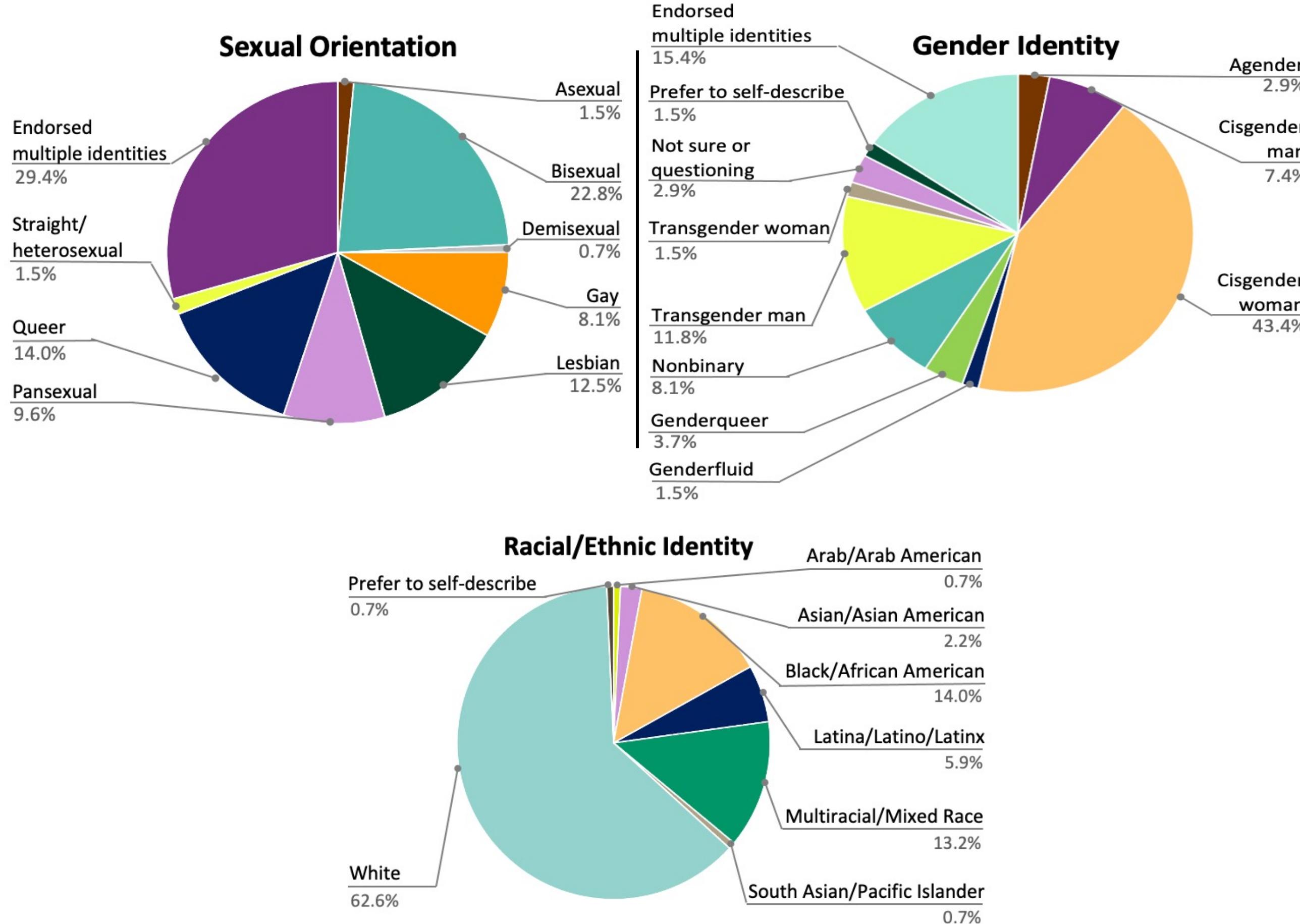
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## INTRODUCTION & BACKGROUND

- LGBTQ+ emerging adults** are at increased risk for experiencing adversity (e.g., bullying, harassment, rejection) due to oppressive, cis-heteronormative societal structures and attitudes.<sup>1-2</sup>
- Minority stress** → increased risk for psychological stress and mental health disorders.<sup>3-5</sup>
- Social support and affirming social relationships** mediate relations between sexual and gender minority stress and resilience (self-efficacy, self-esteem) and mental health.<sup>6-20</sup>
- Companion animals** (e.g., dogs, cats) may provide a unique form of social support.<sup>21, 22</sup>
- Current Study:** tested whether there is an indirect effect of LGBTQ+ minority stress on personal hardiness and psychological stress via HAI, adjusting for human social support and other covariates.

## METHODS

- Sample:** 136 emerging adults
  - 18-21 year olds; Mean age = 19.34 years,  $SD = 1.12$  years



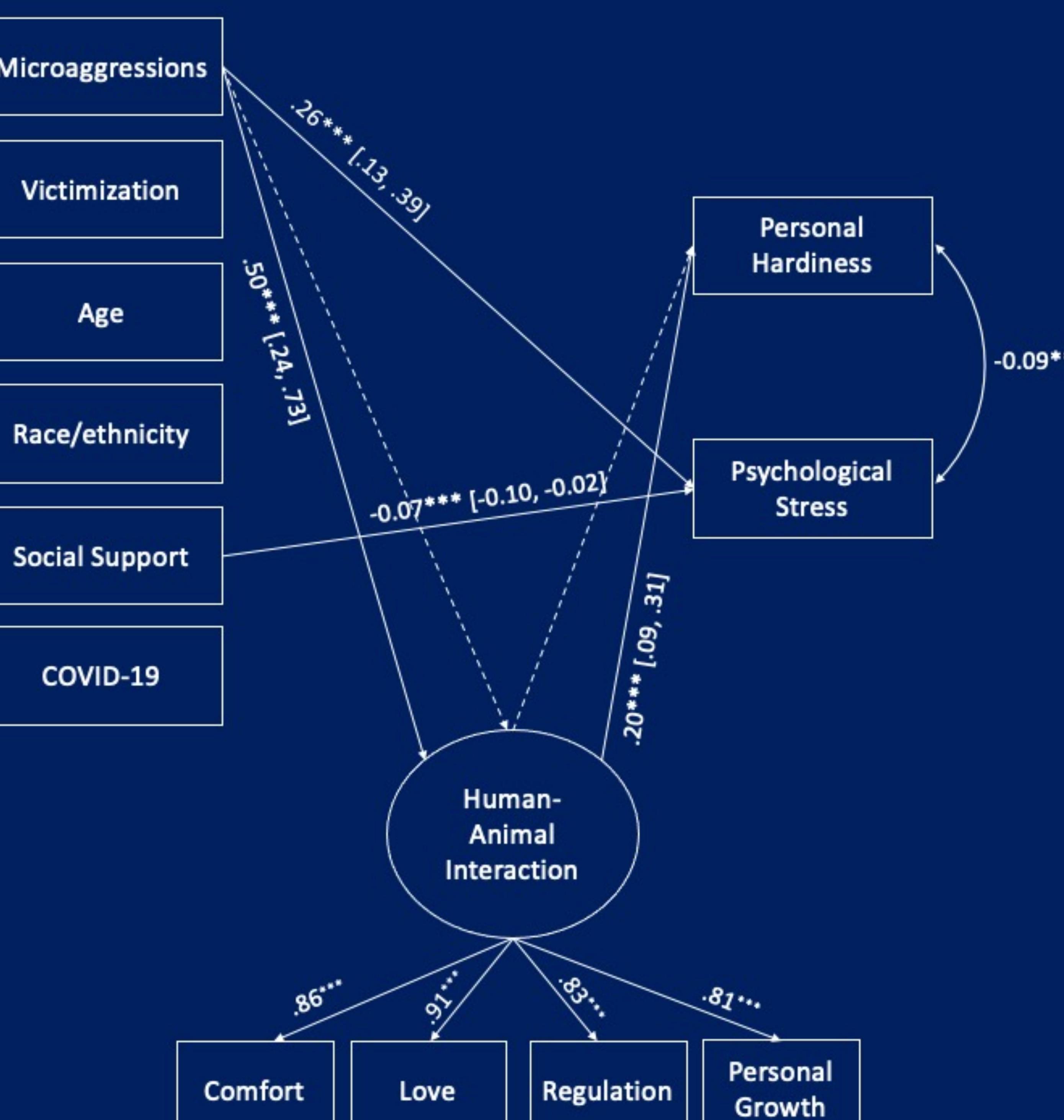
### Measures:

- LGBQ Microaggressions on Campus Scale<sup>23</sup>** – includes interpersonal and environmental microaggressions ( $\alpha = .90$ )
- Gender Minority Stress and Resilience Scale<sup>24</sup>** – victimization subscale ( $\alpha = .86$ )
- Courage to Challenge Scale<sup>25</sup>** – measure of personal hardiness, a component of resilience ( $\alpha = .84$ )
- Brief Symptom Inventory<sup>26</sup>** – measure of overall psychological stress ( $\alpha = .96$ )
- HAI (latent) – **Comfort from Companion Animals Scale<sup>27</sup>** + 3 subscales (love, regulation, personal growth) from the **Pet Attachment and Life Impact Scale<sup>28</sup>**

### Analyses:

- CFA to confirm appropriateness of latent HAI construct
- Path analysis** with latent mediator/SEM & bootstrapping technique<sup>29-32</sup>
- Examination of model with **non-contributory paths removed**

Exposure to microaggressions may lead LGBTQ+ young adults to seek out relationships with pets, which in turn, may promote personal hardiness, a factor associated with resilience.



*Note.* The figure shows the significant **direct** (solid lines) associations between microaggressions, victimization, personal hardiness, and psychological stress and significant **indirect** (dashed lines) associations via human-animal interaction, adjusting for covariates. The coefficients and confidence interval estimates presented for the main effects are unstandardized; however, the factor loadings are standardized. All exogenous variables were allowed to correlate. For clarity, covariances, residuals, and residual covariances estimates and non-significant paths are not reported in the figure.

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## RESULTS

Variable	M	SD	1	2	3	4	5	6
1. Microaggressions	2.53	1.02	-					
2. Interpersonal victimization	3.85	3.76	.27**	-				
3. Personal hardiness	5.47	.70	.01	-.11	-			
4. Psychological stress	1.25	.72	.48***	.18*	-.20**	-		
5. Social support	15.88	2.92	-.027*	-.11	.16	-.037***	-	
6. Human-animal interaction			.38***	.01	.29***	.21**	.05	-

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**HAI Measurement Model:** CFA = excellent fit ✓

**Mediation Model:** demonstrated adequate fit ( $\chi^2/df = 1.71$ , CFI = .96, TLI = .93, RMSEA = .07, SRMR = .04).

- Model explained:
  - 20% of the variance in HAI ( $p = .007$ )
  - 30% of the variance in psychological stress ( $p < .001$ )
  - 12% of the variance in personal hardiness ( $p = .015$ )

## DISCUSSION

- Significant **direct effects** were found:
  - As microaggressions ↑, psychological stress ↑. This is consistent with research with LGBTQ+ populations.<sup>33</sup>
  - As microaggressions ↑, HAI ↑.
  - As HAI ↑, personal hardiness also ↑.
- The significant **indirect effect** ( $\beta = .14^{***} [.07, .24]$ ) of microaggressions on hardness via HAI is consistent with prior HAI studies. There is evidence that pet ownership and HAI are associated with ↑ self-efficacy, which is related to hardness.<sup>34,35</sup>
- The **non-significant effects are surprising** in the context of our study but match with some of the broader HAI literature.
  - Prior studies examining relations between HAI and mental health have been mixed: HAI may provide protective benefits, may exacerbate psychological stress, and/or may not be significantly associated with mental health.<sup>36,37</sup>

## LIMITATIONS & FUTURE DIRECTIONS

- Convenience methods, sample size/power
  - Collapsed variables (e.g., race/ethnicity; sexual orientation, gender identity)

### Future Directions:

- Longitudinal designs
- Qualitative methods
- Incorporate additional measures of stress, adjustment, HAI

## IMPLICATIONS

- Community supports can promote individual-level resilience and the ability to cope with stress.<sup>38</sup> Our results suggest integrating community-level human and animal resources may support resilience in LGBTQ+ communities who benefit from relationships with companion animals.

## REFERENCES

To see the full reference list and acknowledgements, click the link below or scan the QR code.

[Link to references](#)

