

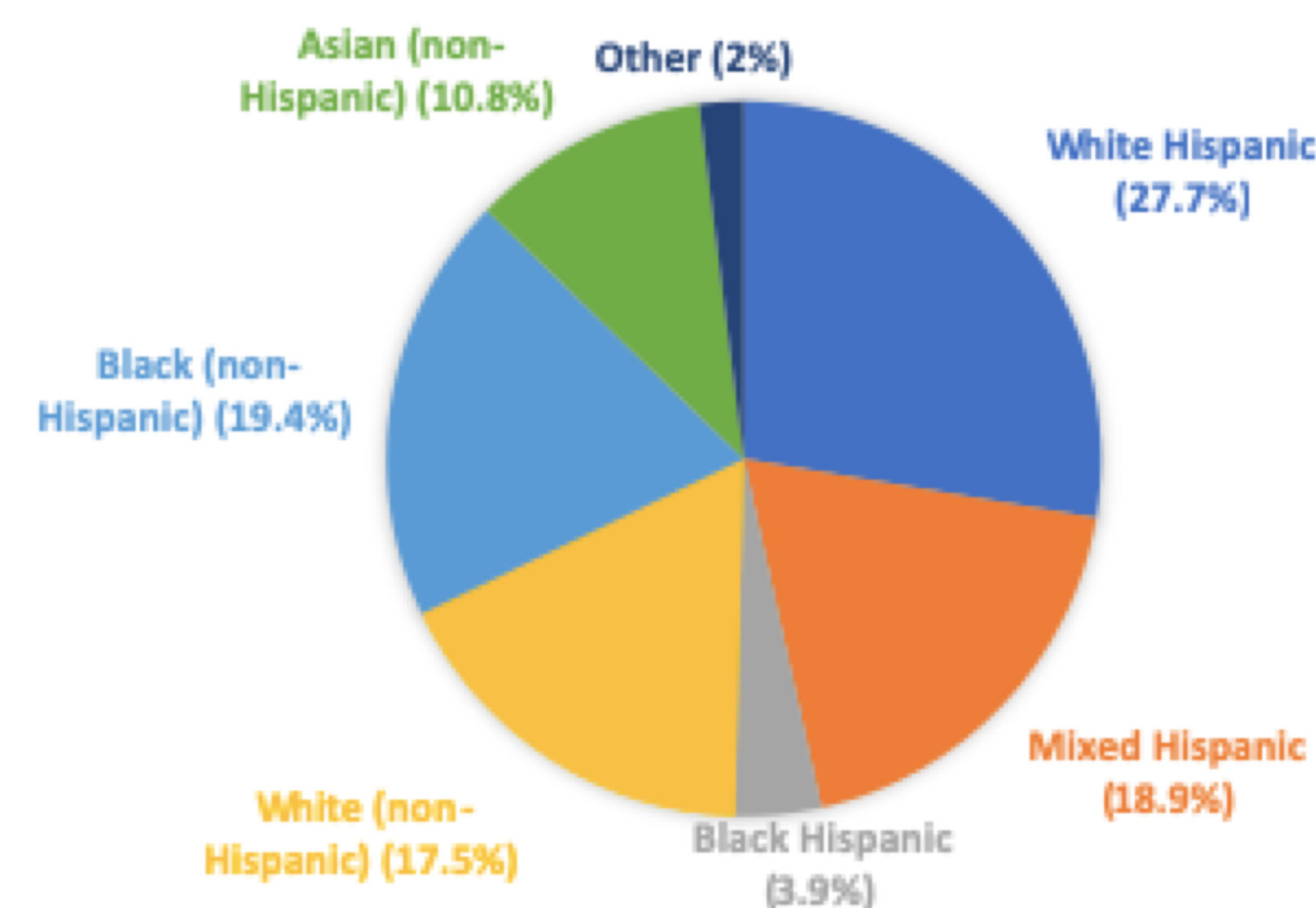
## INTRODUCTION

Among the strongest predictors of adult crime are childhood aggression, delinquency, and hyperactivity, all of which are facets externalizing behavior<sup>4</sup>. In individuals with externalizing behavior, low electrodermal activity (EDA), and subsequently, low sympathetic nervous system (SNS) activation, is typically observed<sup>1,3</sup>. Prenatal maternal stress (PNMS) has also been associated with the development of externalizing behavior<sup>2</sup>.

## METHODS

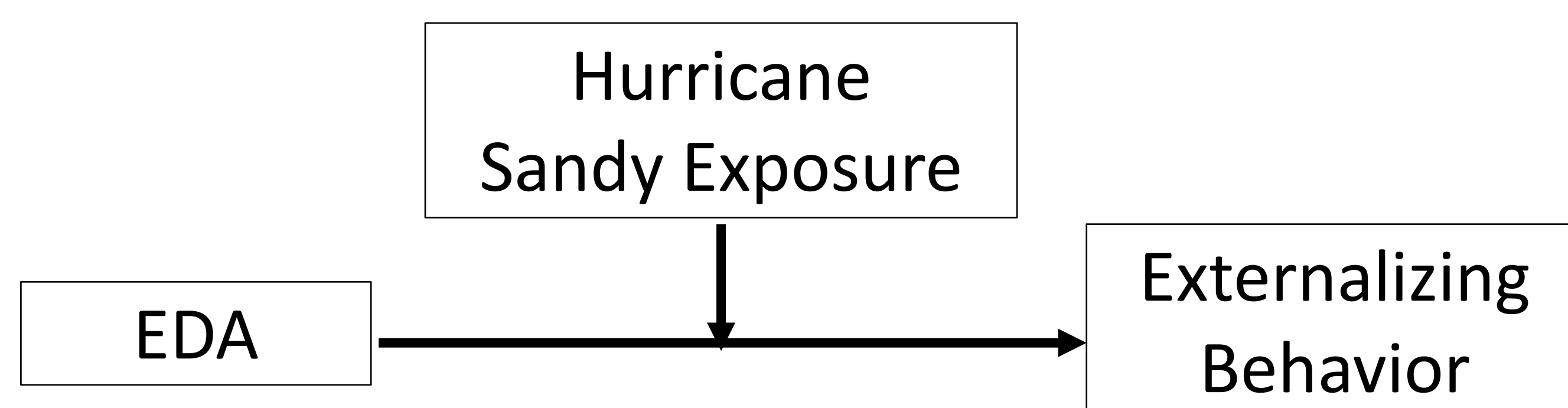
**Sample:** Two hundred six participants ( $M_{age}=3.89$  years, 52% female) were drawn from a NIMH-funded longitudinal study, the Stress in Pregnancy (SIP) Study based at Queens College, CUNY.

### RACE DISTRIBUTION OF PARTICIPANTS

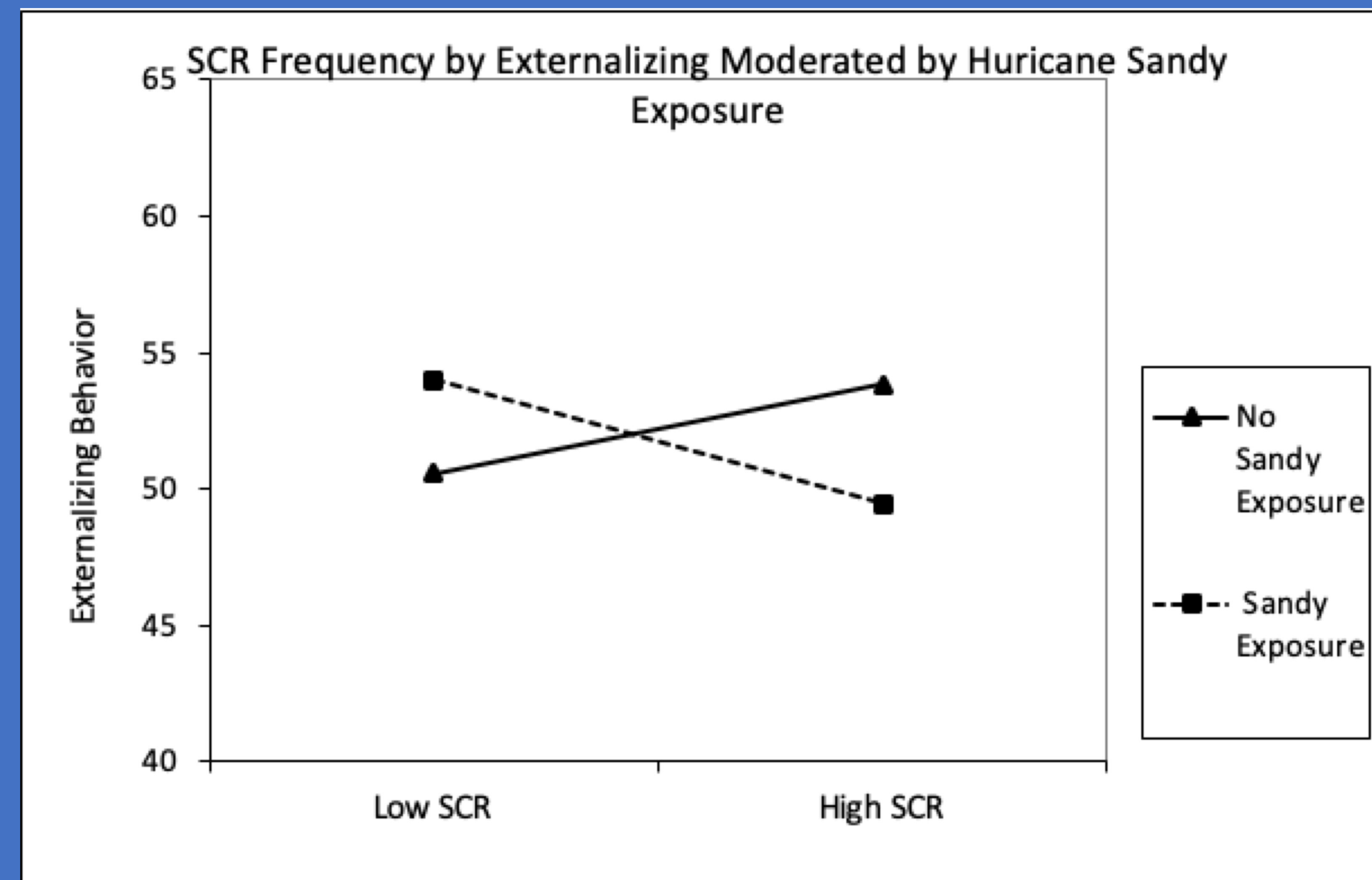
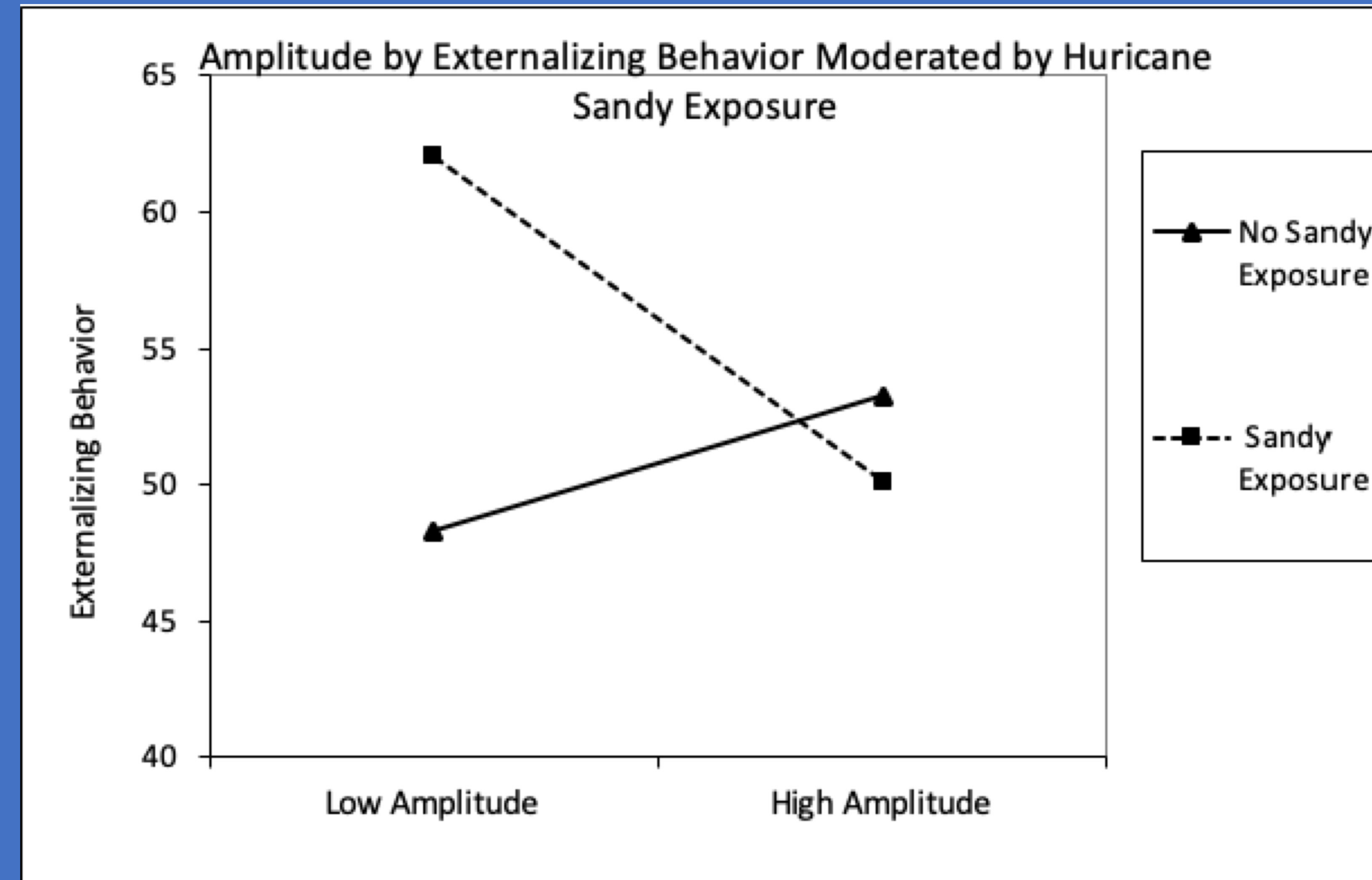


**Measures:** *Externalizing behavior* determined by BASC-2. *Acute stress* determined by in-utero PNMS due to Hurricane Sandy exposure. *EDA skin conductance response (SCR) amplitude* and *SCR frequency* (the proportion of stimuli that elicit an SCR) measured by BIOPAC technology during a startle probe paradigm and analyzed by Acqknowledge software.

**Data Analysis:** PROCESS SPSS 25 plug-in Model 1.



## Exposure to Hurricane Sandy resulted in low SNS activity predicting more severe externalizing behavior.



## RESULTS

Hurricane Sandy exposure moderated the relationship between SCR amplitude and externalizing behavior ( $b=3.0344$ ,  $t(199)=2.0319$ ,  $p=.0435$ ). Hurricane Sandy exposure alone predicted externalizing behavior with moderate significance ( $b=-3.15$ ,  $t(199)=2.0319$ ,  $p=.0595$ ). The overall model was significant as well, with a modest correlation ( $F(6,199)=5.9304$ ,  $p<.0001$ ). Hurricane Sandy exposure moderated the relationship between externalizing behavior and SCR frequency with moderate significance ( $b=1.5629$ ,  $t(1.9266)$ ,  $p=.0555$ ). Hurricane Sandy alone significantly predicted externalizing behavior ( $b=-5.9654$ ,  $t(199)=1.9266$ ,  $p=.0430$ ). The overall model of was also significant ( $F(6,199)=5.8886$ ,  $p<.0001$ )

## DISCUSSION

Hurricane Sandy exposure moderates the relationship between externalizing behavior and SCR amplitude and frequency such that lower sympathetic nervous system reactivity predicts higher externalizing behavior. These results are in line with past research suggesting that low NS activation is linked with high externalizing behavior.

## CONCLUSION

Contextualizing aggressive and hyperactive behavior in children with knowledge of biological risk factors and environmental interactions can foster a better understanding of maladaptive behaviors. By extension, treatments informed by psychophysiology and environmental vulnerabilities can be developed to better the lives of individuals with externalizing problems.

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