

# **Social Media Use and Self-Perceived Popularity in Early Adolescents: Bidirectional Effects and Impact on Psychological Adjustment**

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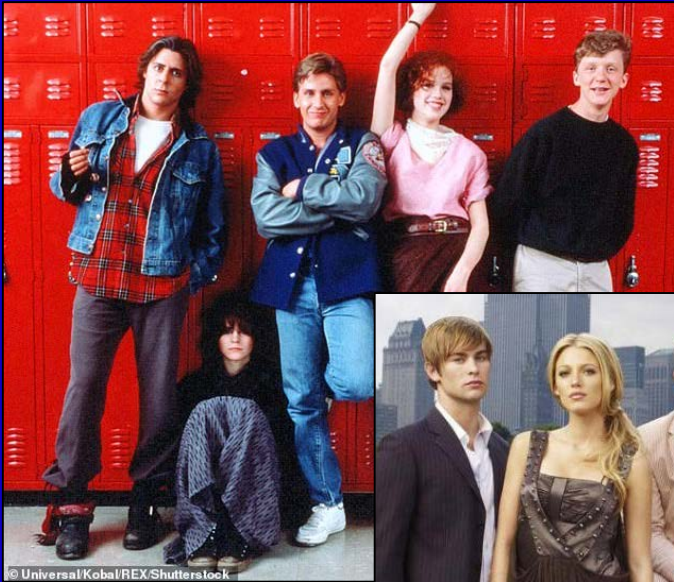


Center for  
Behavioral Health



# Perceived Popularity

Reputation of visibility and dominance within the peer hierarchy



... vs. sociometric popularity or likeability

# Transformation Framework: Social Media Alters Peer Status Processes



Social media use may amplify awareness of  
and desire for perceived popularity



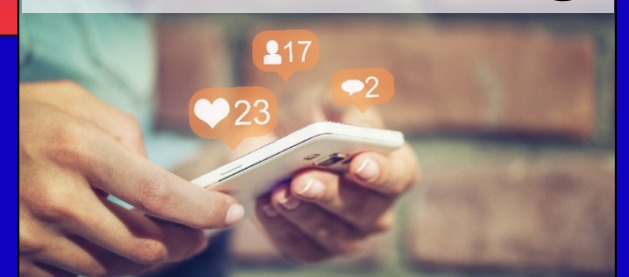
**Asynchrony**



**Publicness**

+5,000

**Status-Seeking**



**Accessibility**





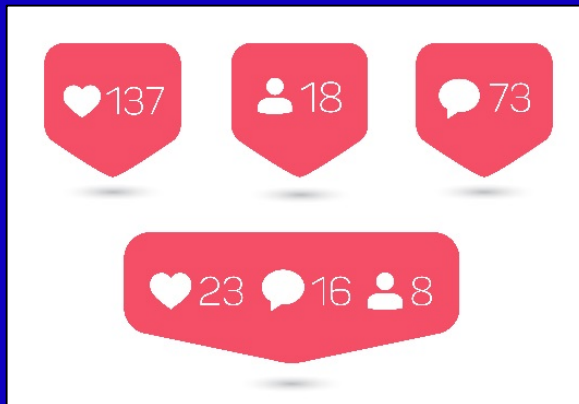
# Transformation Framework: Social Media Alters Peer Status Processes



Social media use may heighten perceived popularity concerns and demands



## *Quantifiable Status Information*



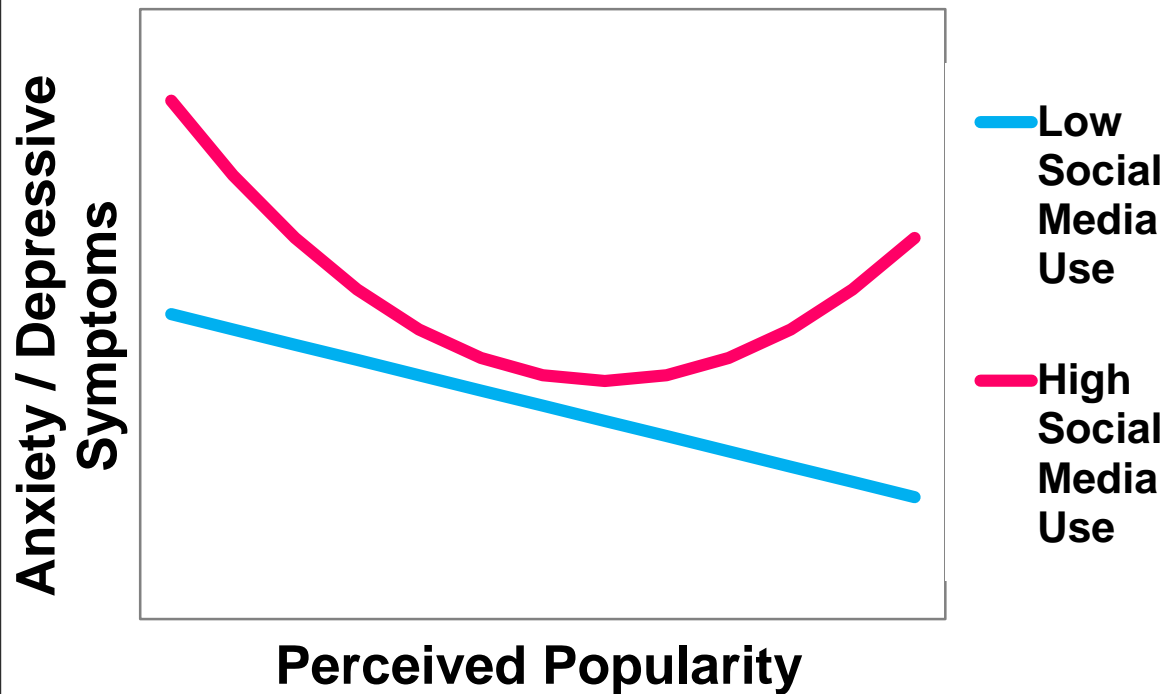
## *Pressure to Maintain or Increase Popularity*

- Novel content
- Social connections
- Staying “in the loop”
- Drama
- Cyberaggression

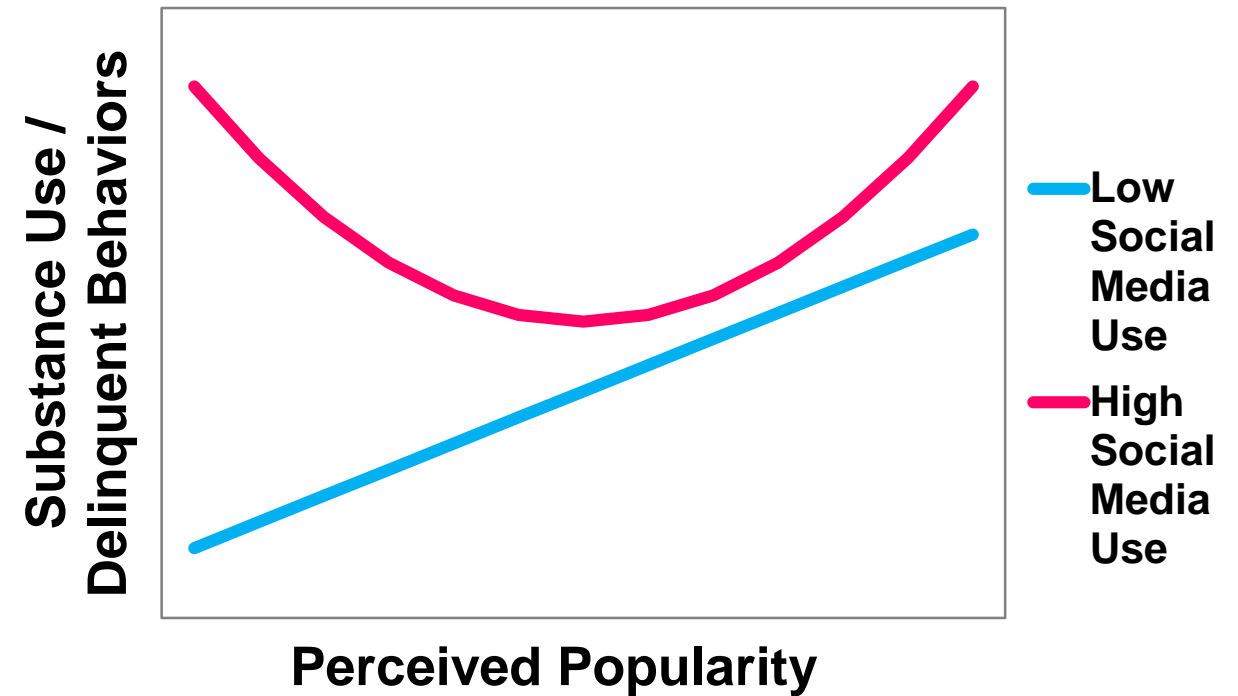


# Transformation Framework: Social Media, Perceived Popularity, and Psychological Adjustment

## *Internalizing Problems*



## *Externalizing Problems*



# Research on Social Media Use and Popularity in Adolescents

- More frequent social media use is associated with a greater desire for popularity
- 37-43% feel pressure to post content that will
  - Make themselves look good
  - Receive many likes and comments
- Higher peer-perceived popularity is linked to more frequent
  - Social media use
  - Number of likes and photos with peers
  - Technology-mediated social comparison and feedback seeking
  - Digital status seeking

# Research on Social Media Use, Popularity, and Psychological Adjustment in Adolescents

- More frequent technology-mediated social comparison and feedback seeking predicted greater depressive symptoms
  - Stronger among those low in popularity
- Greater digital status seeking predicted higher levels of substance use and sexual risk behaviors



# Role of Gender

**Girls**

**Boys**

## *Perceived Popularity*

Appearance

Social abilities

Athletic ability

Toughness

Stress (low/high)  
Anxiety (low/high)

Relational aggression

Depressive symptoms (low)  
Alcohol consumption (high)  
Delinquent behaviors (high)

Physical aggression  
(low/high)  
Binge drinking (high)

## *Social Media Use*

Instagram/Snapchat

Posting photos

Social comparison

Feedback seeking

Cyberaggression

Pressure to post popular content

Digital status seeking

Links to risk behavior

Videogames

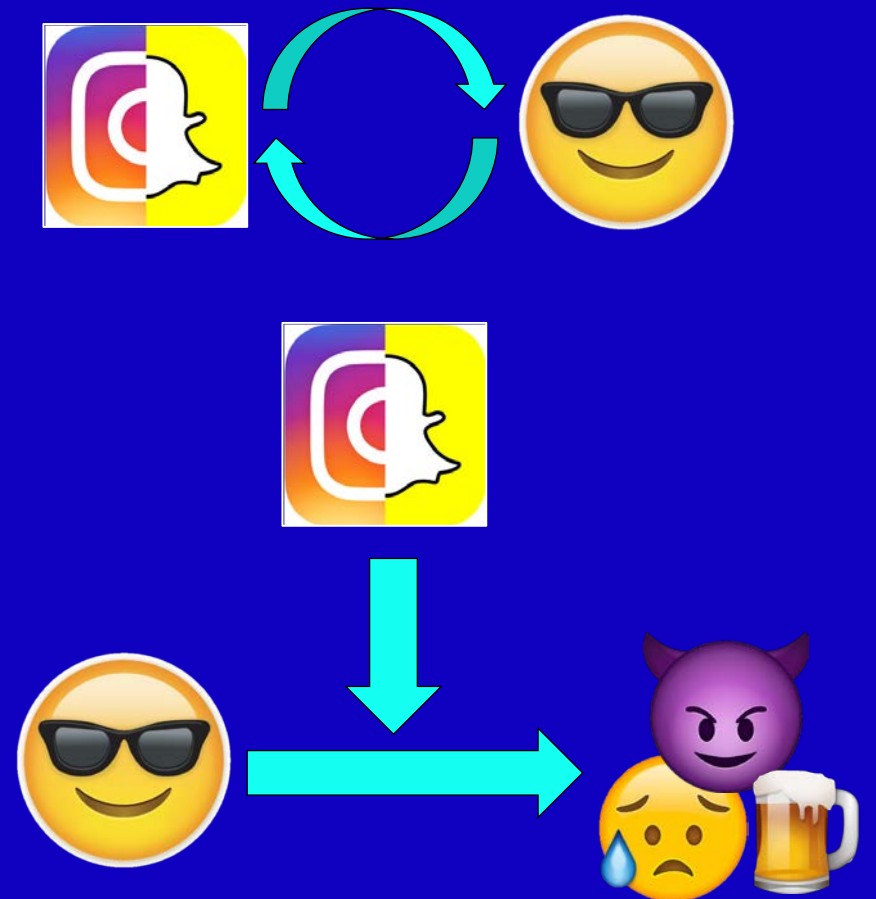
Entertainment

Posting funny videos



# Study Objectives

1. Examine the bidirectional relationships between social media use and perceived popularity among early adolescents
2. Evaluate whether social media use moderates the relationship between perceived popularity and risk for psychological adjustment problems
3. Investigate gender differences

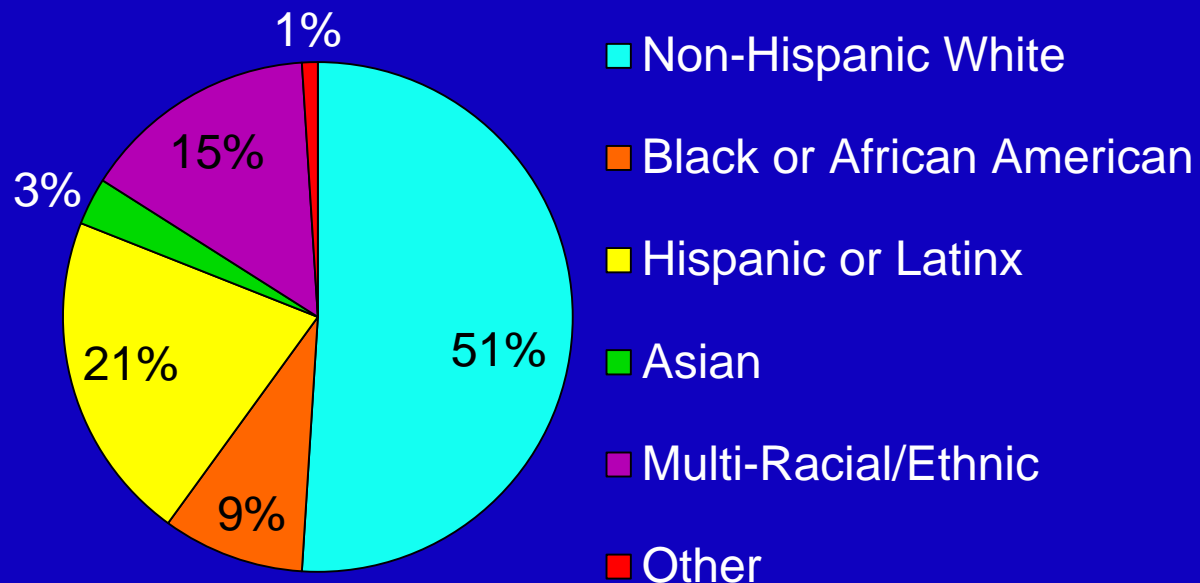


# Participants

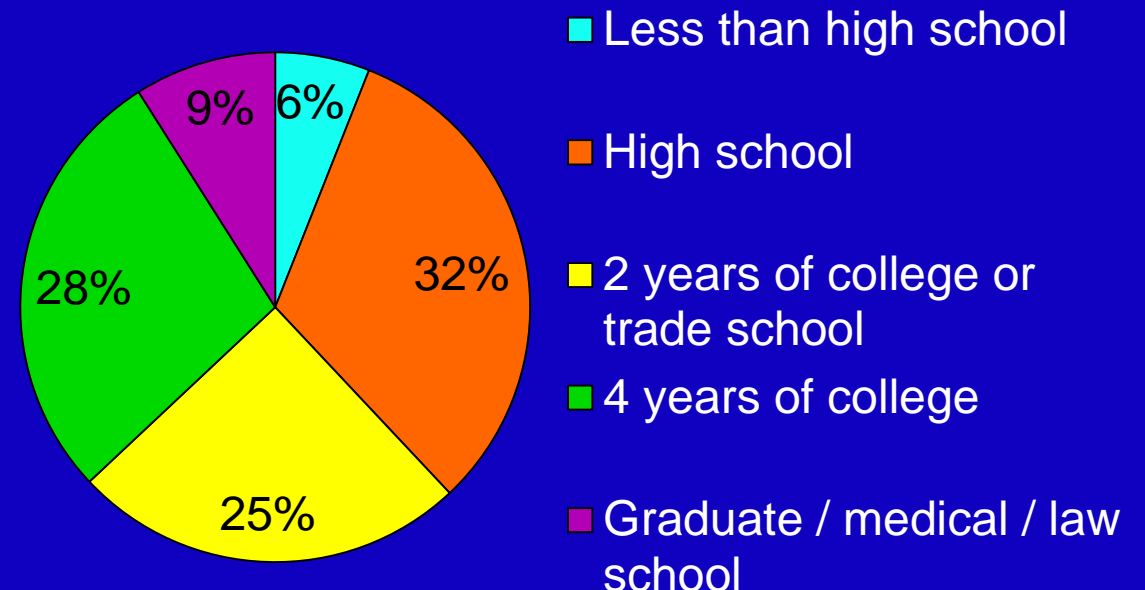


- 1,345 early adolescents (11-14 years; 51% girls)
- Participating in the PANDA Project (longitudinal study examining predictors of anxiety and depression in adolescence)

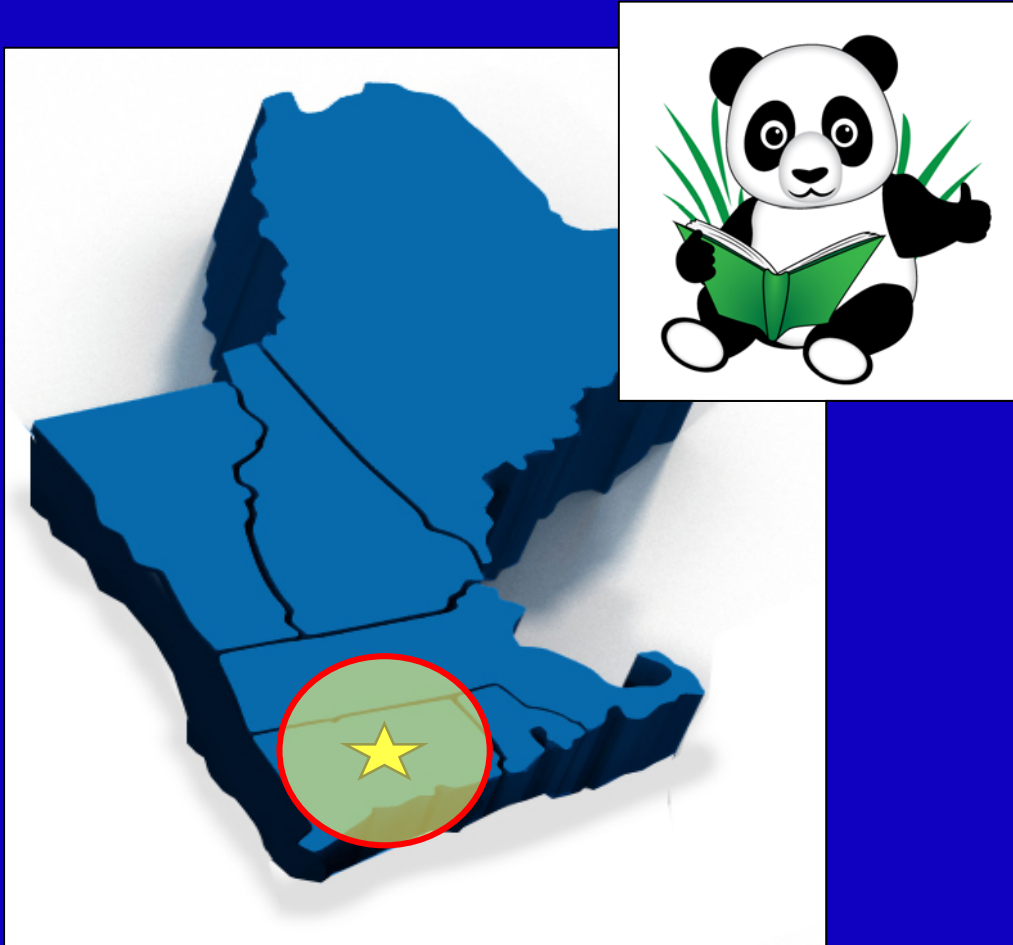
## Racial/Ethnic Background



## Parental Education



# PANDA Project Recruitment



## Schools

- Grades 7 and 8
- 5 public middle schools
- Rural, suburban, and urban

## Student Population

- 48% free or discounted lunch
- 9% English language learners

# PANDA Project Procedures



**Fall 2016  
(T1)**

**Spring 2017  
(T2)**

**Fall 2017  
(T3)**



# Measures

## *Perceived Popularity* 🧐

- Subjective Social Status Scale
  - Sense of place within the peer hierarchy
  - Strong, positive association with peer-perceived popularity ( $\eta^2 = .27$ )
  - Large, positive correlations with self-perceptions of being powerful, respected, and attractive ( $r_s = .60-.72$ )

How POPULAR are you compared with the rest of your grade? (not just compared with your own friends.)

Top = most popular people in your year.

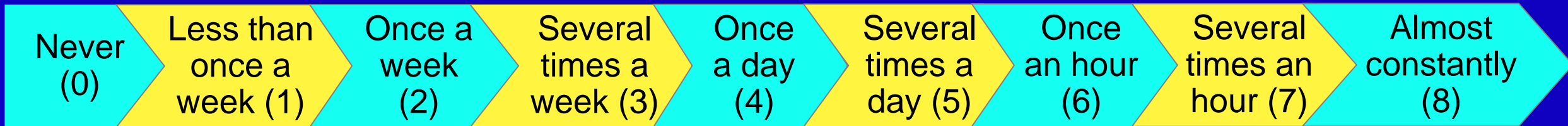


# Measures

## Social Media Use



- Average frequency of using Instagram and Snapchat



# Measures

## *Psychological Adjustment* 🥲🍺😈

Construct	Measure	Sample Item	Scale	$\alpha$
Anxiety Symptoms	Screen for Child Anxiety Related Disorders (SCARED)	<i>I am nervous</i>	SCARED Total Score	.94-.95
Depressive Symptoms	Center for Epidemiological Studies, Scale for Depression in Children (CES-DC)	<i>I feel sad</i>	CES-DC Total Score	.91-.93
Total Alcohol Consumption	Alcohol use in the past 6 months	<i>How often did you drink alcohol in the last 6 months?</i>	Quantity x Frequency	--
Delinquent Behaviors	Problem Behaviors Survey (PBS)	<i>In the last 6 months, how often did you start physical fights?</i>	PBS Average Total Score	.95-.96

*Birmaher et al., 1999; Gault-Sherman, 2013; Ohannessian, 2009; Weissman, Orvaschel, & Padian, 1980*

# Analytic Plan

## ***Objective 1: Bidirectional Relationships***

- Cross-lagged autoregressive path model
  - Self-perceived popularity and social media use (T1, T2, T3)

## ***Objective 2: Social Media Use as a Moderator***

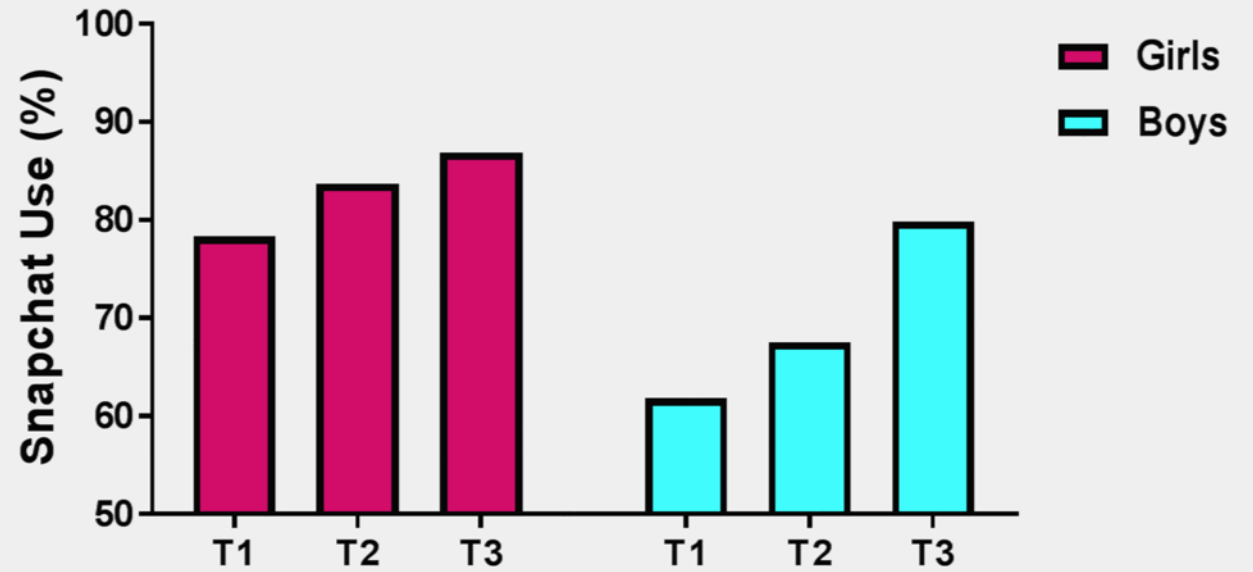
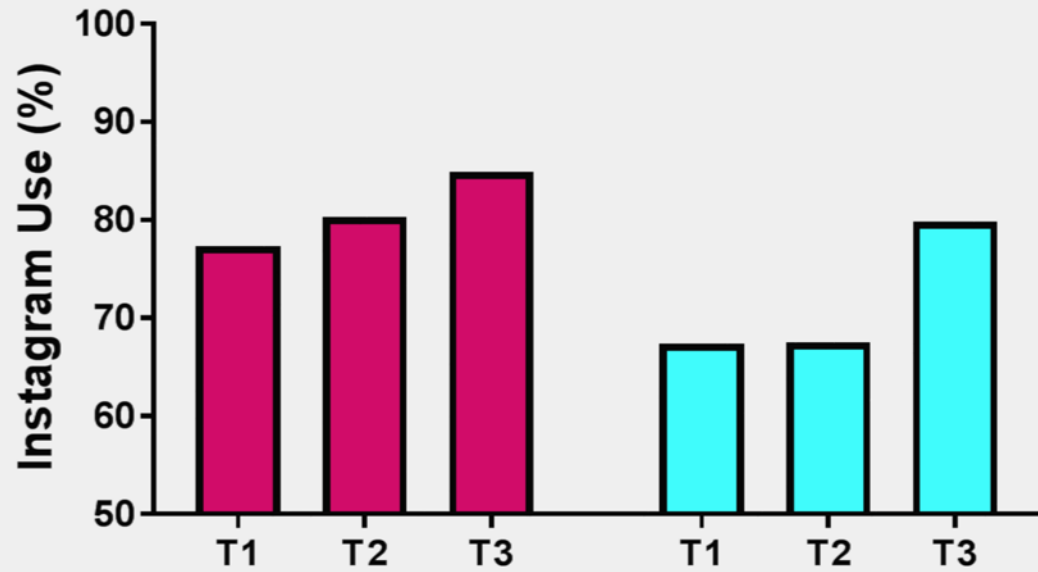
- Path model
  - IVs (T1): popularity, social media use, social media x popularity interaction
  - DVs (T3): anxiety symptoms, depressive symptoms, total alcohol consumption, delinquent behaviors

## ***Objective 3: Gender Differences***

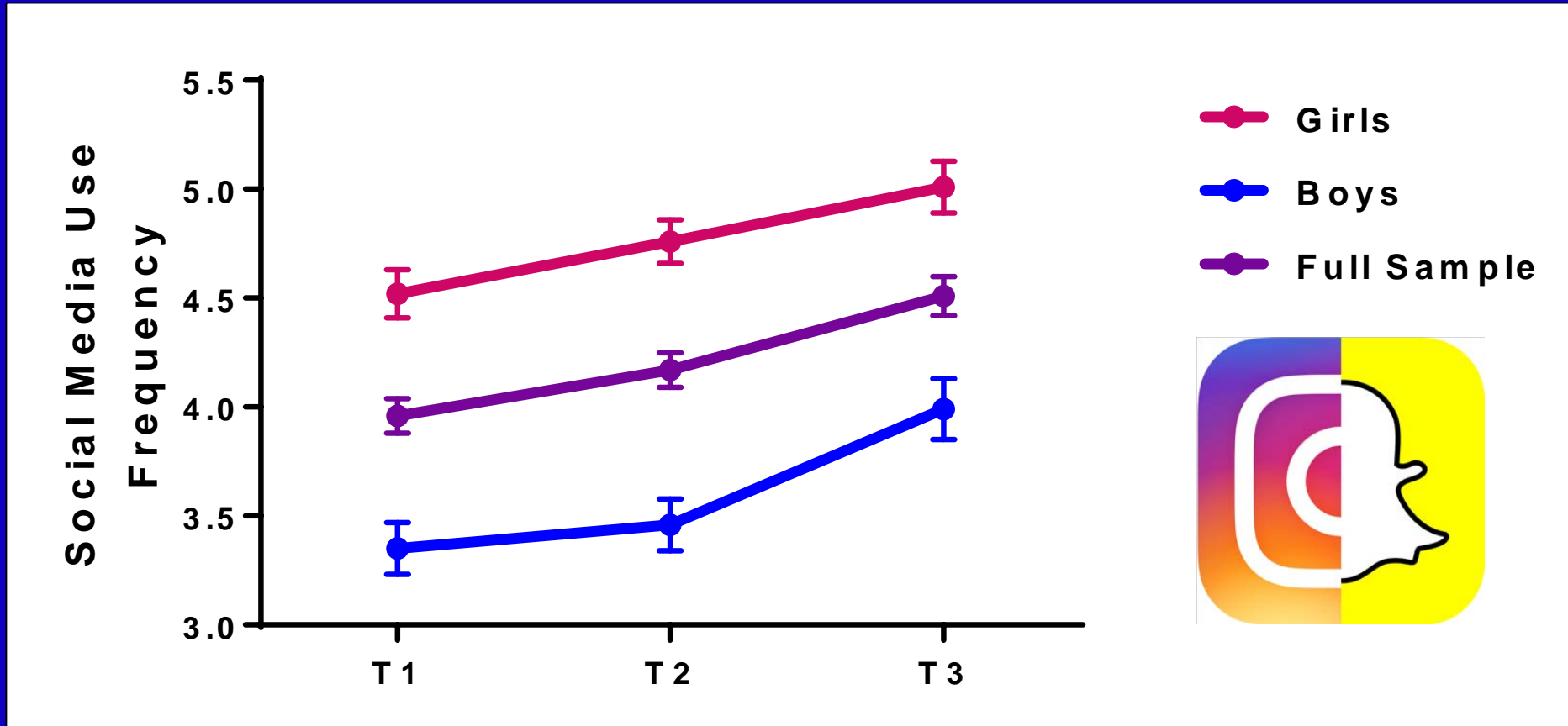
- Multiple group analysis
  - Grouping variable: gender (girls vs. boys)
  - Chi-square difference tests



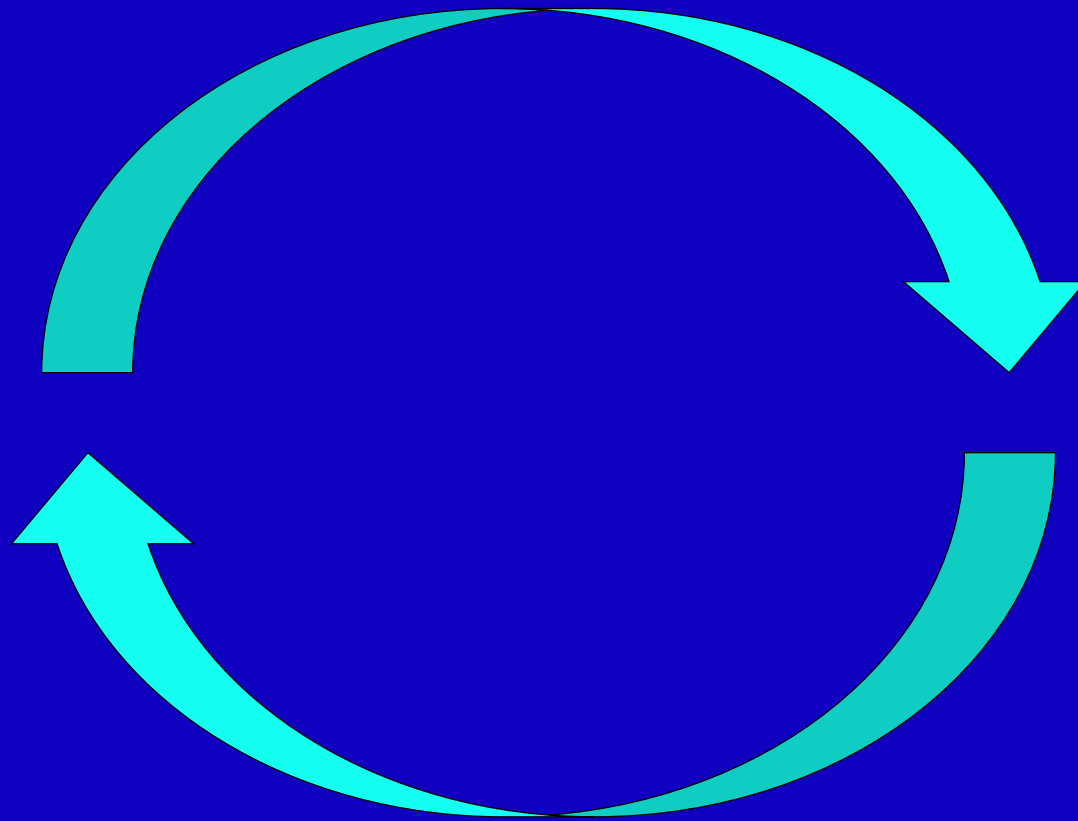
# Social Media Use



# Social Media Use Frequency



# Objective 1: Bi-Directional Relationships

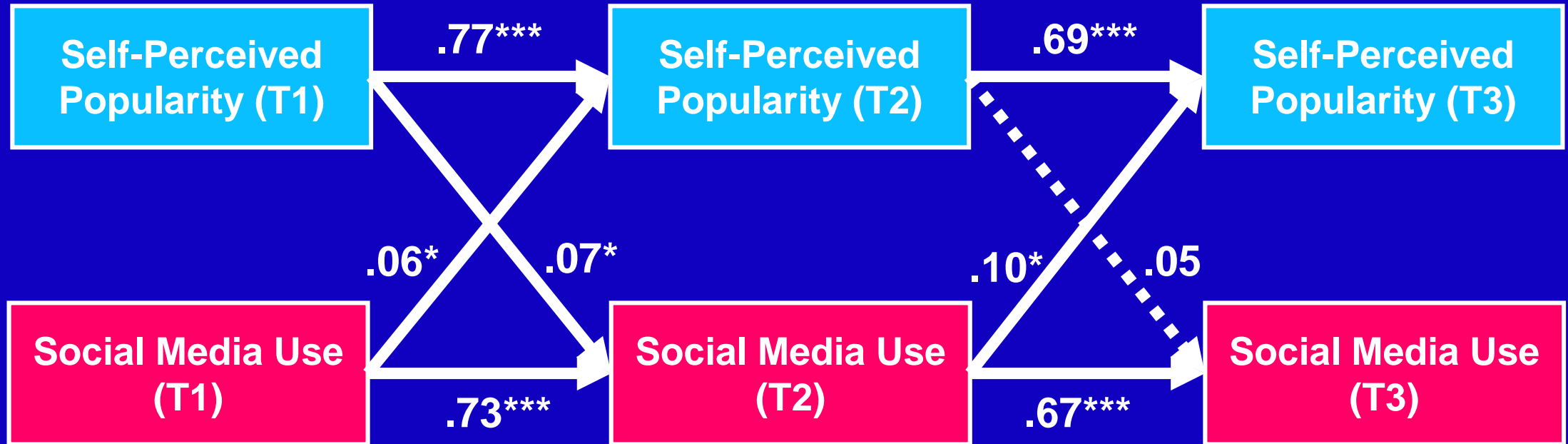


# Multiple Group Analysis by Gender

Model	$\chi^2$	df	$\Delta \chi^2$	$\Delta$ df	p value
Unconstrained	64.7	14	--	--	--
Structural Weights	95.9	34	31.2	20	.06
Structural Intercepts	141.2	38	76.5	24	< .001
Structural Means	257.9	43	193.2	29	< .001
Structural Covariances	271.9	55	207.2	41	< .001
Structural Residuals	290.5	61	225.8	47	< .001



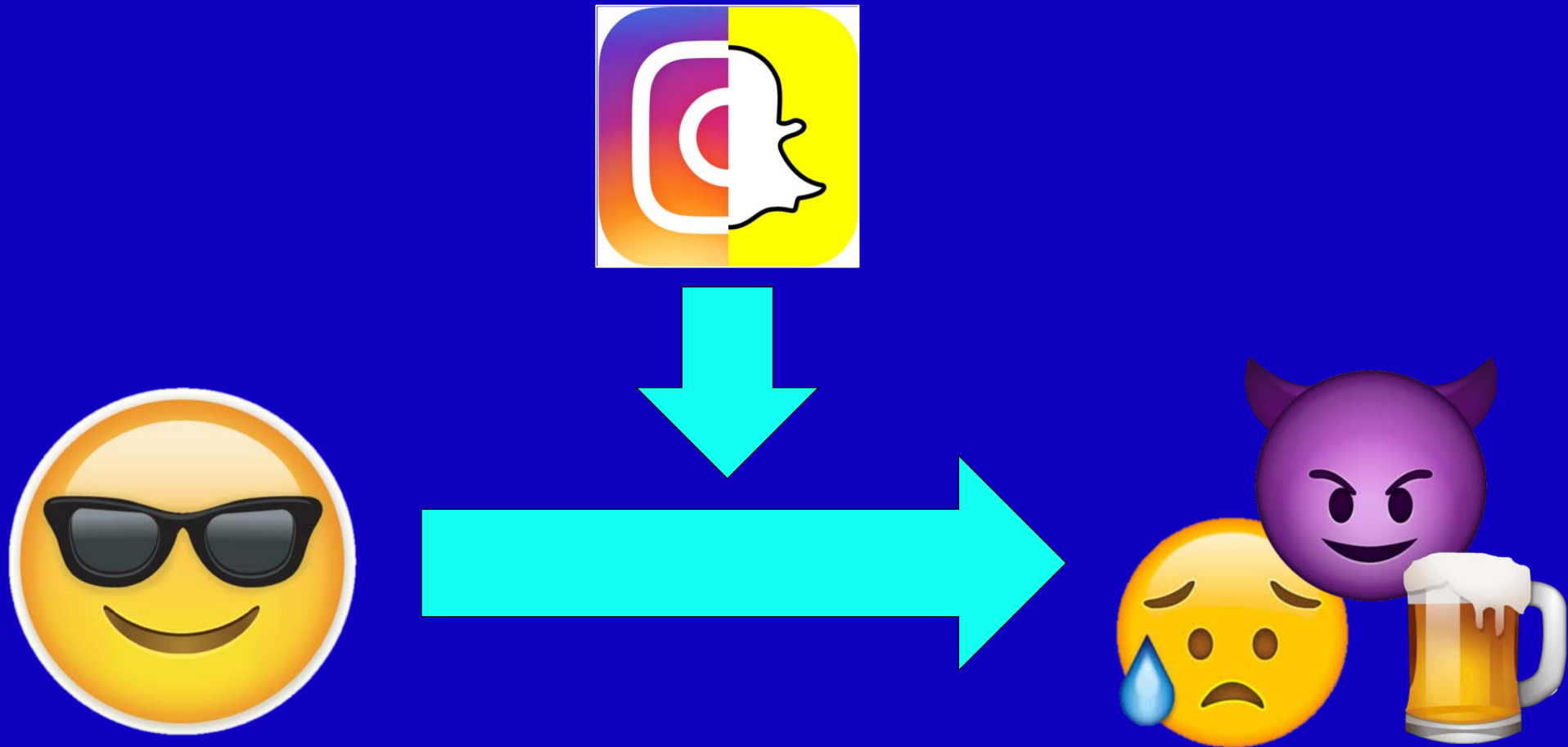
# Path Model for Full Sample



$\chi^2 (34) = 98.85, p < .001$ ; CFI = .98; TLI = .97; RMSEA = .04 (.03, .05)

Not shown: covariances, residual variances, and covariates (T1 age, race/ethnicity, perceived socioeconomic status). \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

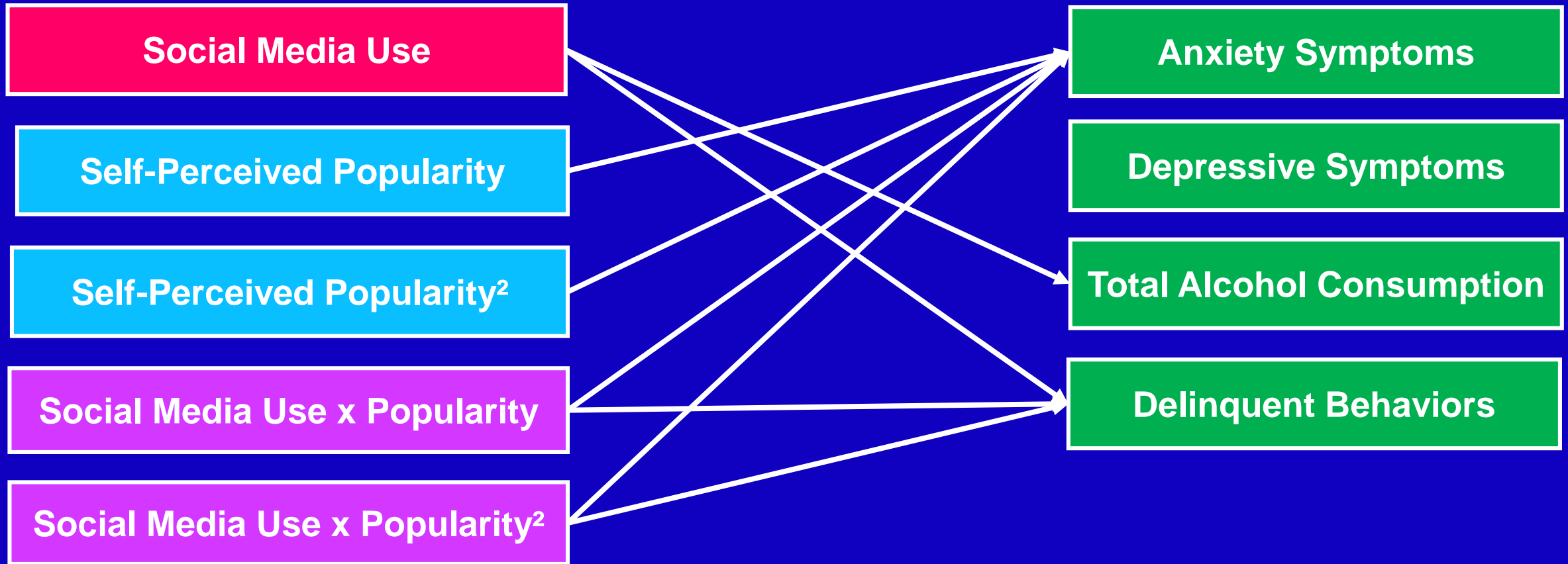
## Objective 2: Social Media Use as a Moderator



# Multiple Group Analysis by Gender

Model	$\chi^2$	df	$\Delta \chi^2$	$\Delta$ df	p value
Unconstrained	127.7	30	--	--	--
Structural Weights	205.1	66	77.4	36	< .001
Structural Intercepts	249.1	70	121.4	40	< .001
Structural Means	495.2	82	367.5	52	< .001
Structural Covariances	917.4	157	789.6	127	< .001
Structural Residuals	991.8	167	864.1	137	< .001

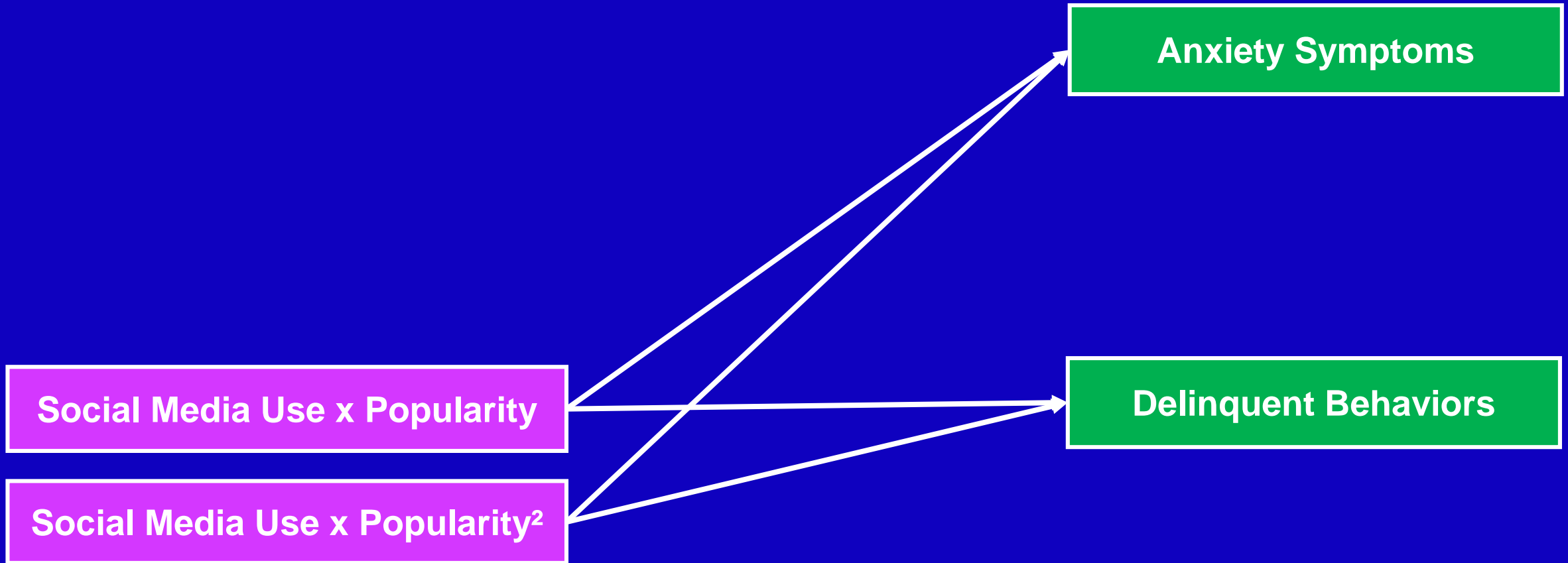
# Path Model for Girls



$\chi^2 (30) = 127.7, p < .001$ ; CFI = .99; TLI = .98; RMSEA = .05 (.04, .06)

Not shown: covariances, residual variances, and covariates (T1 age, race/ethnicity, perceived socioeconomic status, psychological adjustment). \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

# Path Model for Girls

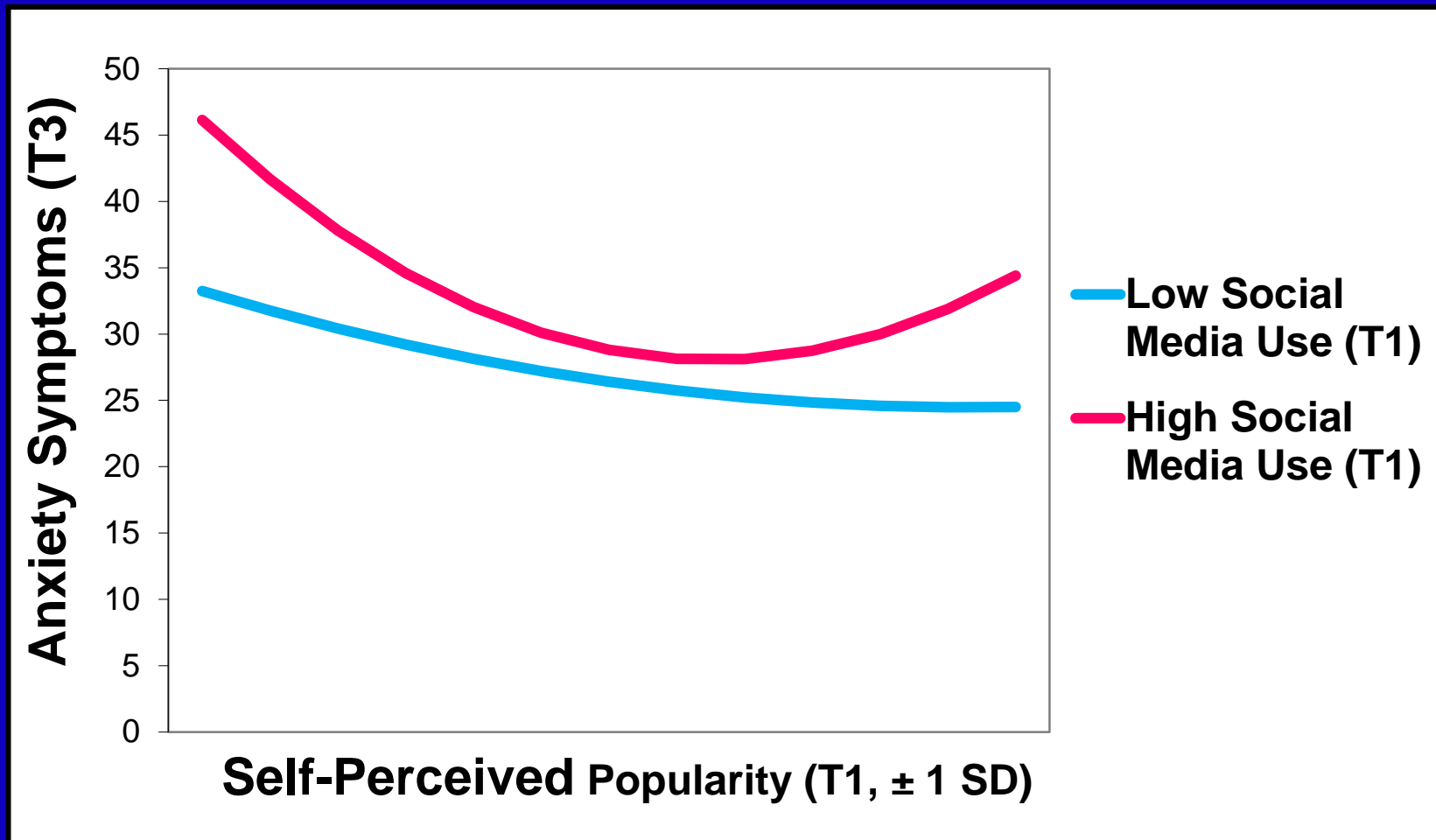


$\chi^2 (30) = 127.7, p < .001$ ; CFI = .99; TLI = .98; RMSEA = .05 (.04, .06)

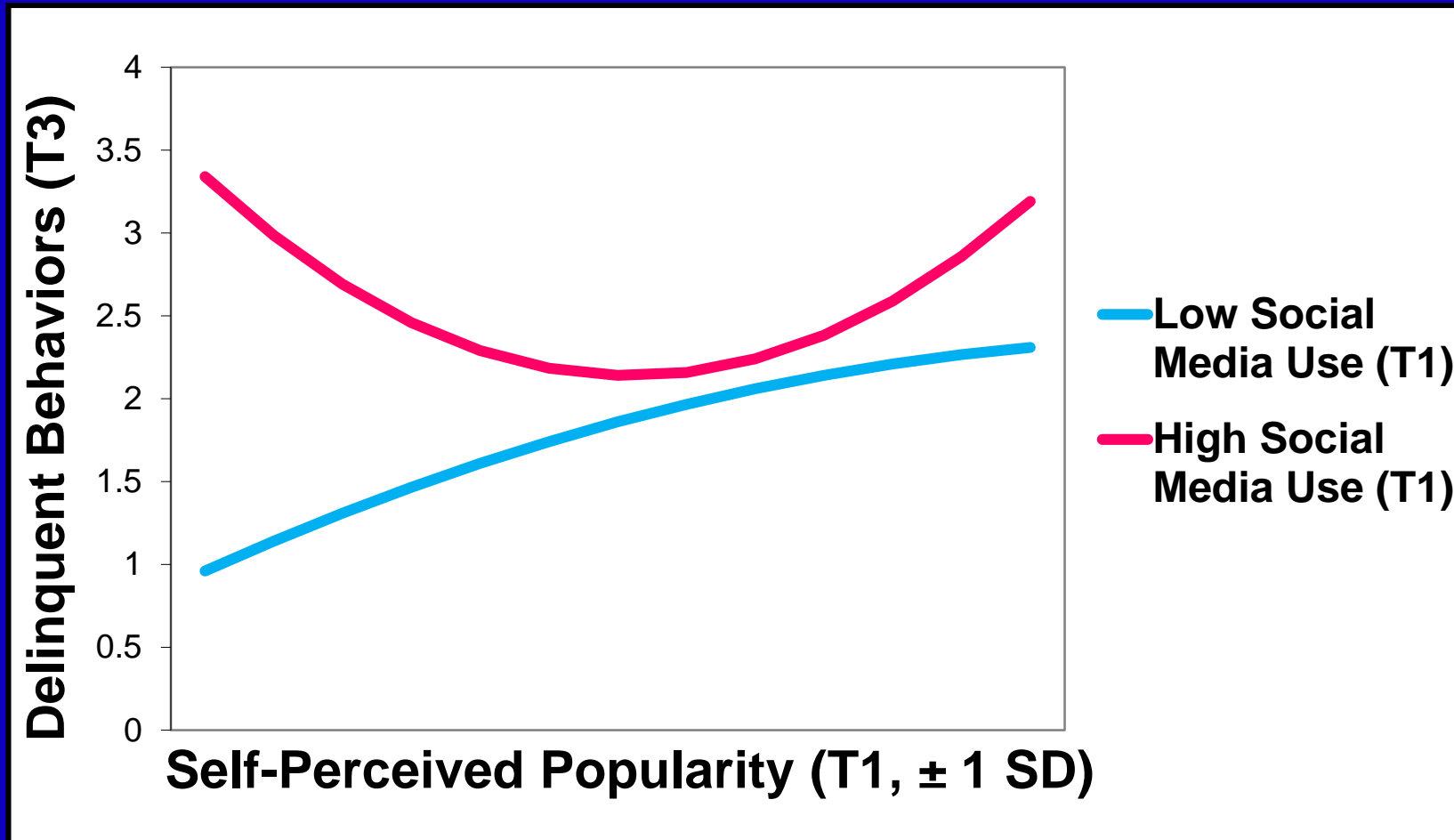
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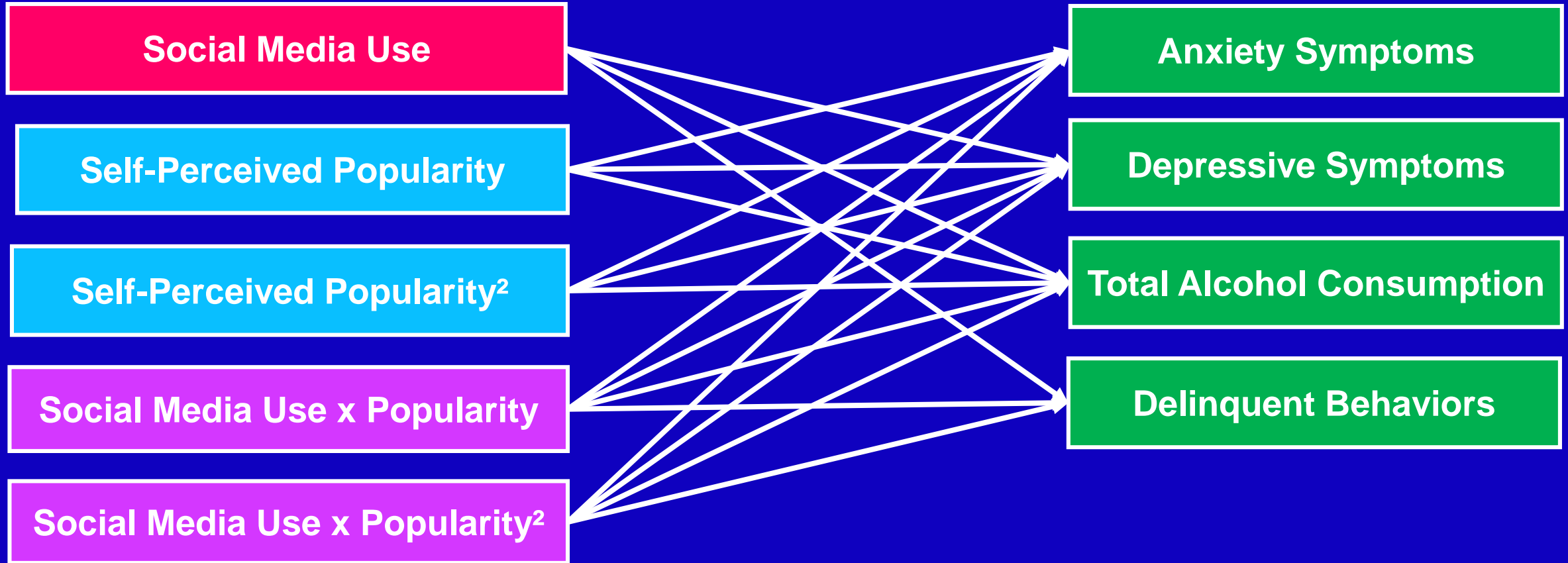
# Social Media as a Moderator for the Relationship Between Self-Perceived Popularity and Anxiety in Girls



# Social Media as a Moderator for the Relationship Between Self-Perceived Popularity and Delinquent Behaviors in Girls



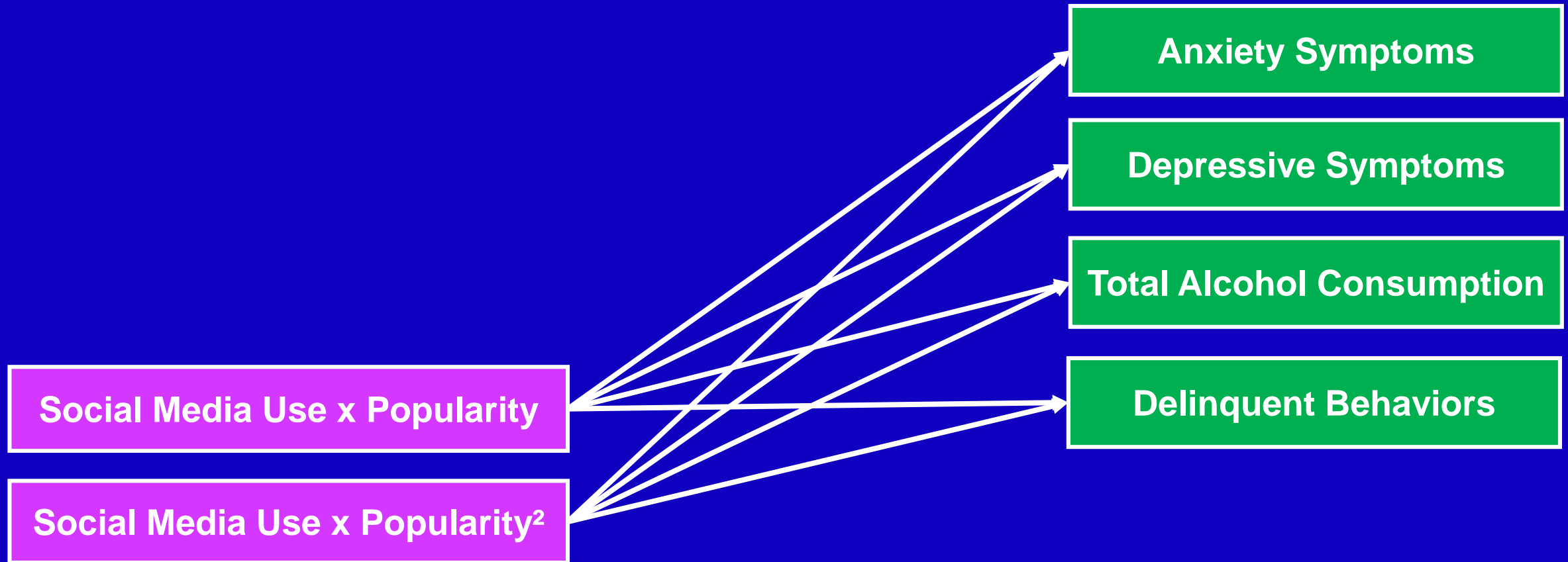
# Path Model for Boys



$\chi^2 (30) = 127.7, p < .001$ ; CFI = .99; TLI = .98; RMSEA = .05 (.04, .06)

Not shown: covariances, residual variances, and covariates (T1 age, race/ethnicity, perceived socioeconomic status, psychological adjustment). \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

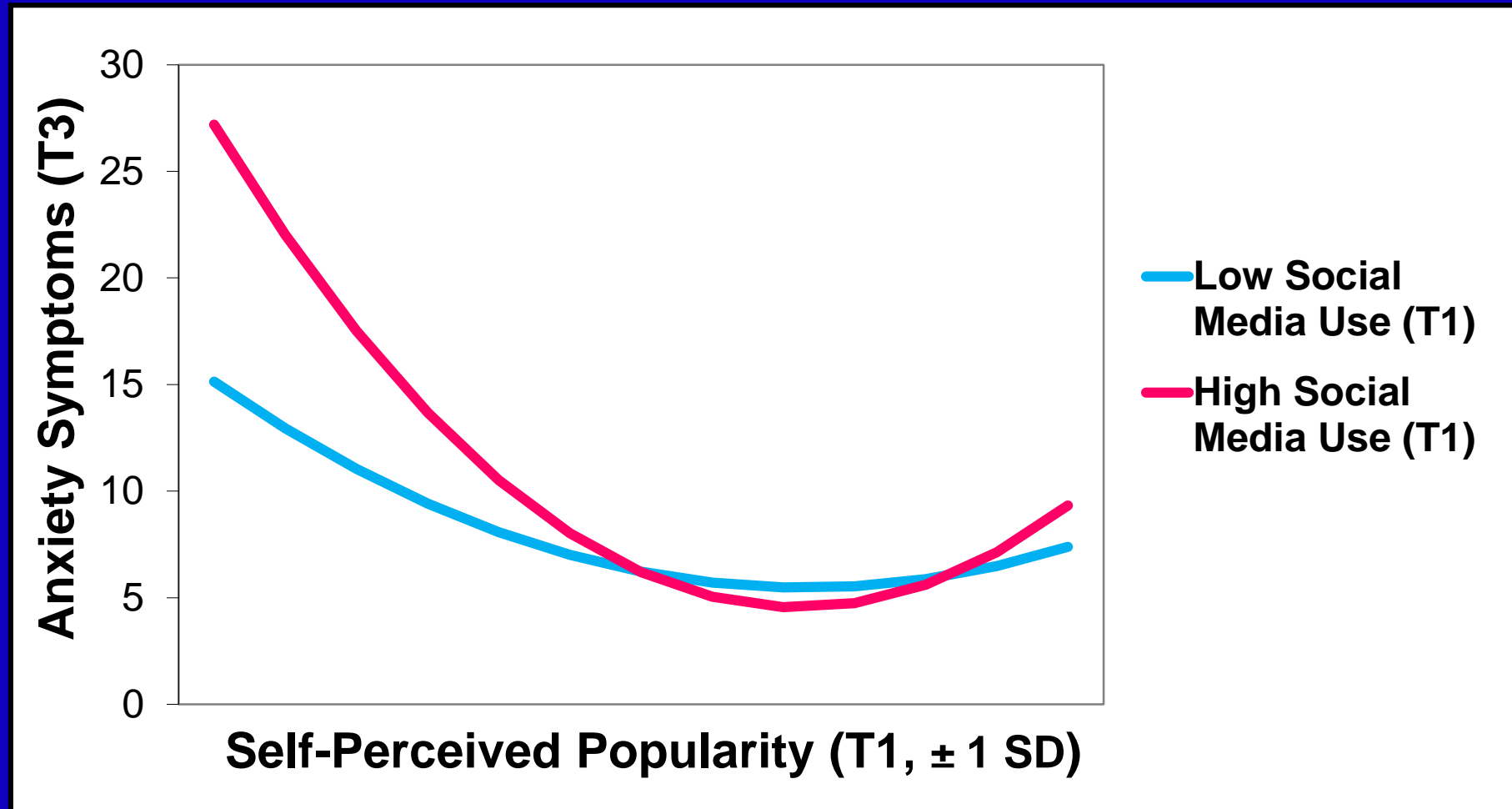
# Path Model for Boys



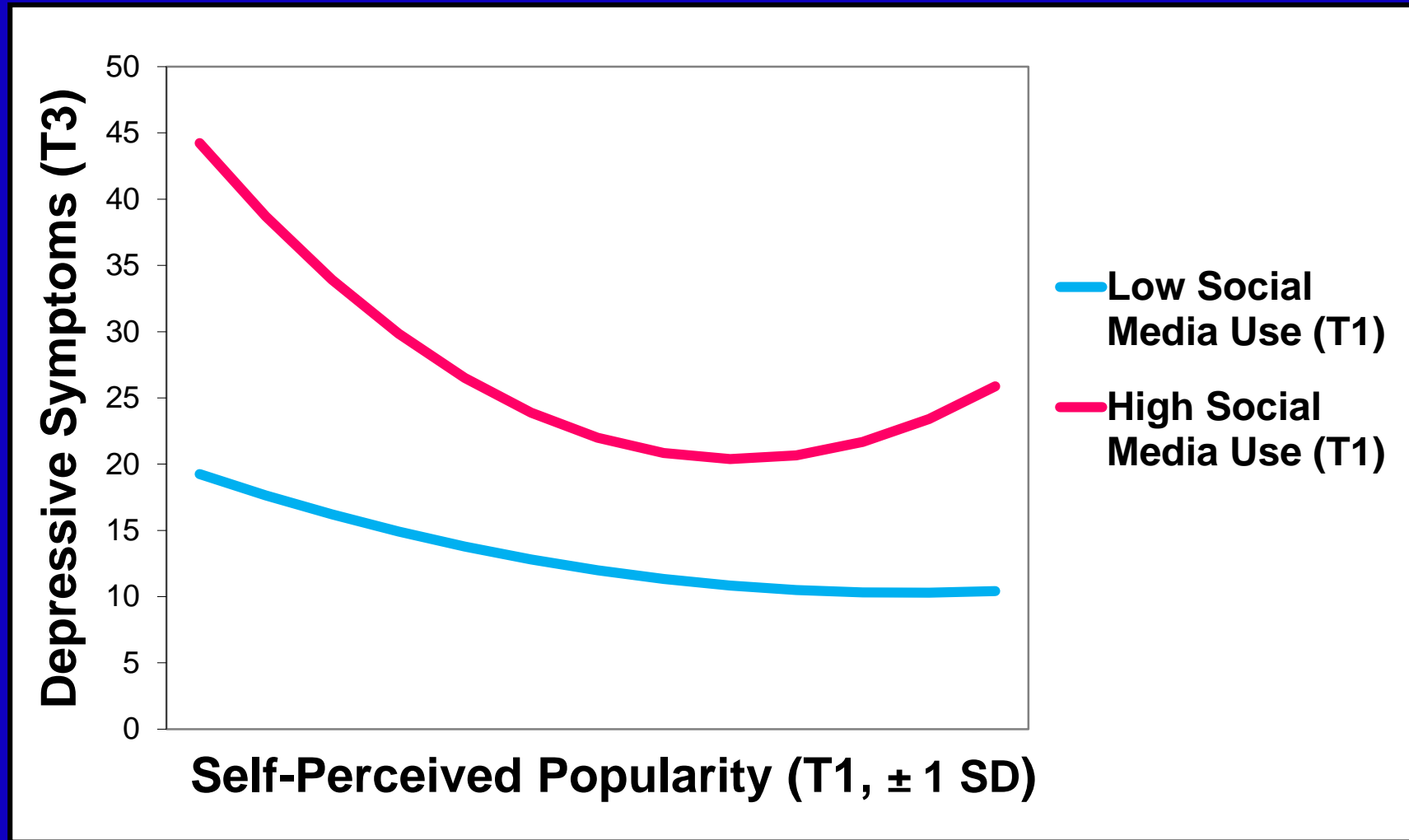
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Not shown: covariances, residual variances, and covariates (T1 age, race/ethnicity, perceived socioeconomic status, psychological adjustment). \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

# Social Media as a Moderator for the Relationship Between Self-Perceived Popularity and Anxiety in Boys

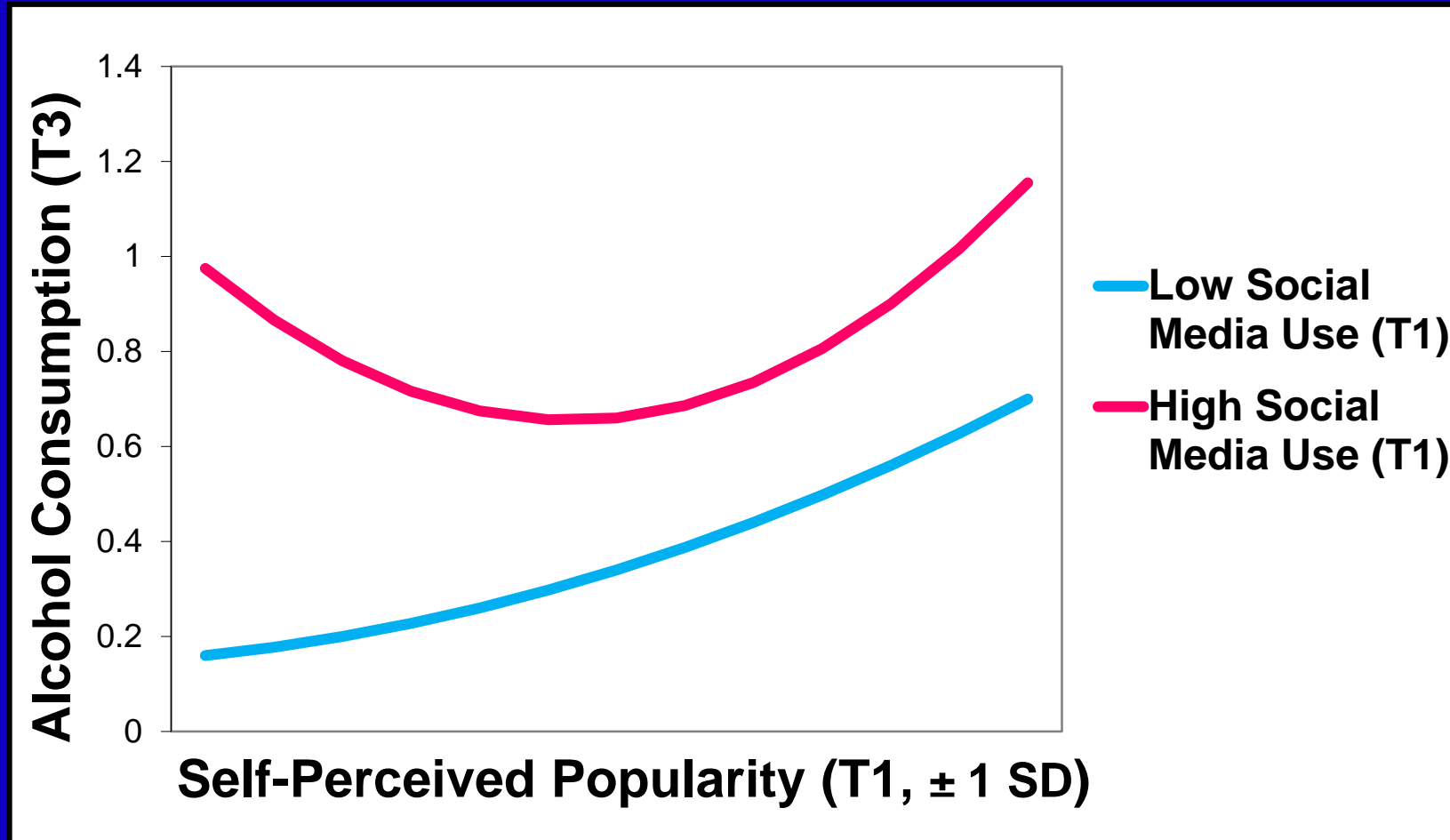


# Social Media as a Moderator for the Relationship Between Self-Perceived Popularity and Depressive Symptoms in Boys

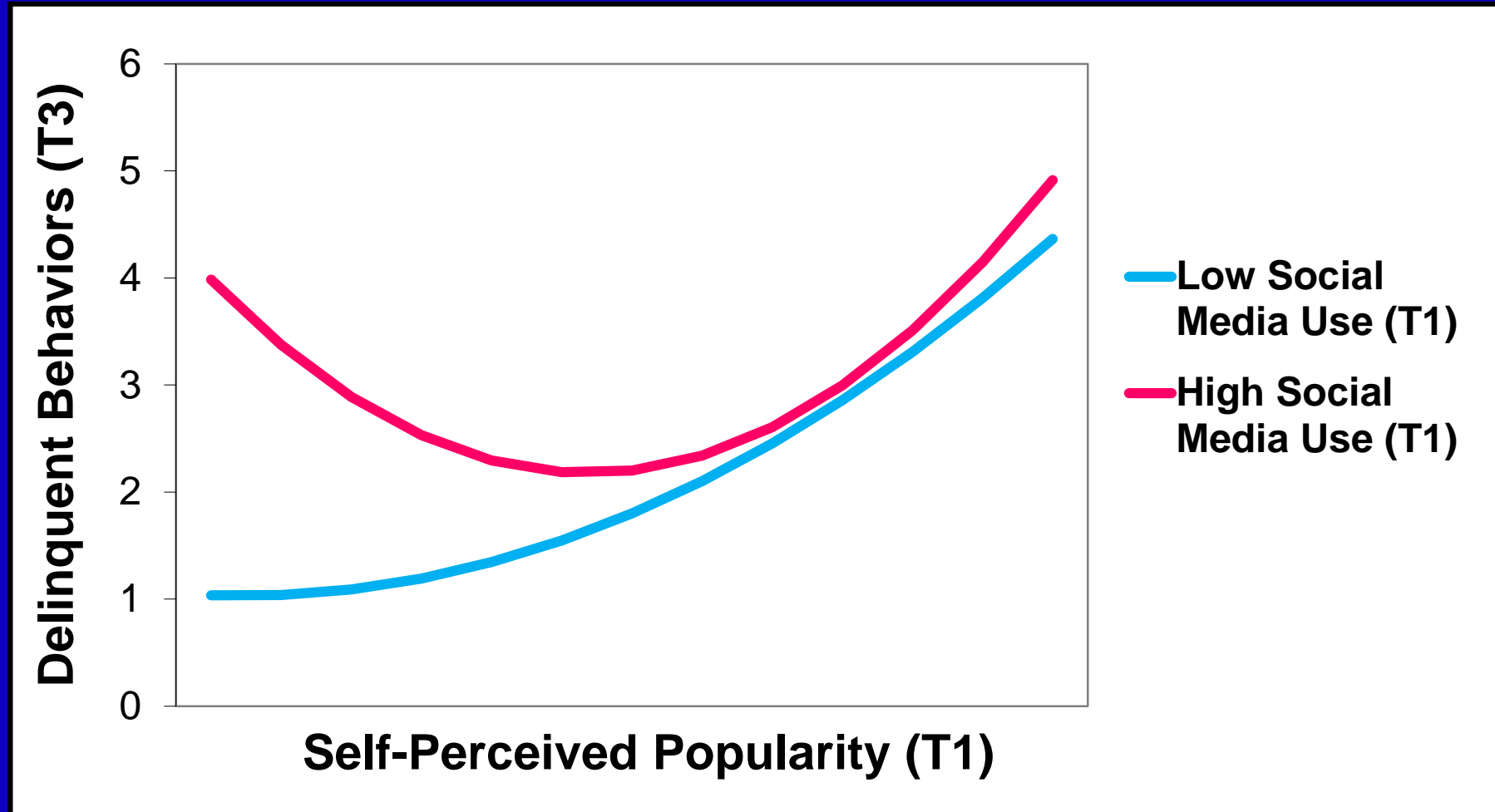




# Social Media as a Moderator for the Relationship Between Self-Perceived Popularity and Alcohol Consumption in Boys

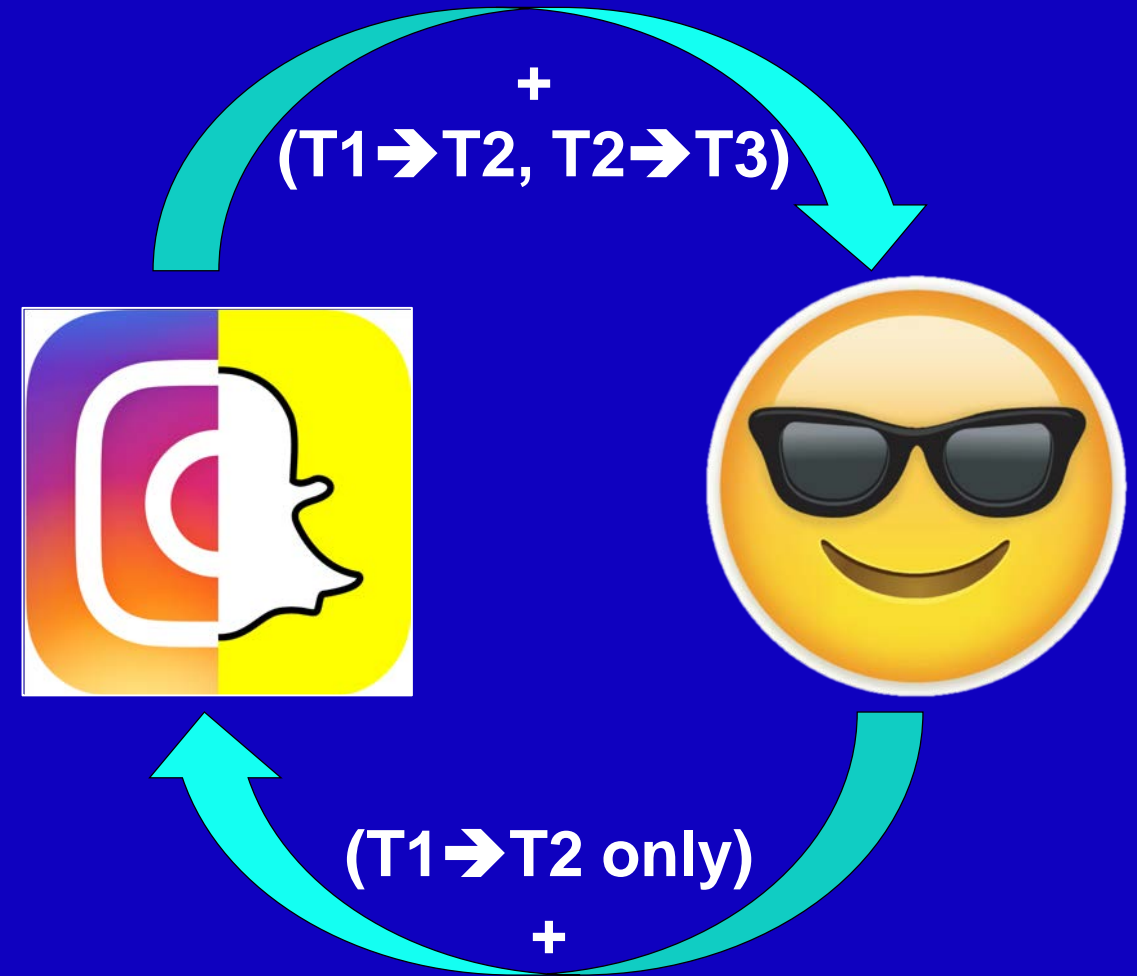


# Social Media as a Moderator for the Relationship Between Self-Perceived Popularity and Delinquent Behaviors in Boys



# Summary and Discussion

- Support for transformation framework
- Extends cross-sectional findings in older adolescents
- Quantifiable reinforcement
  - Status seeking behaviors
  - Cyberaggression
- Social enhancement hypothesis (“rich get richer”)



*Kraut, 2003; Nesi, Choukas-Bradley, & Prinstein, 2018;  
Nesi & Prinstein, 2015, 2018; Sherman et al., 2016, 2018a, 2018b*

# Summary and Discussion



## Low Popularity

- Reassurance seeking
- Online victimization
- Implicit negative reactions to popular peers

## Common Mechanisms

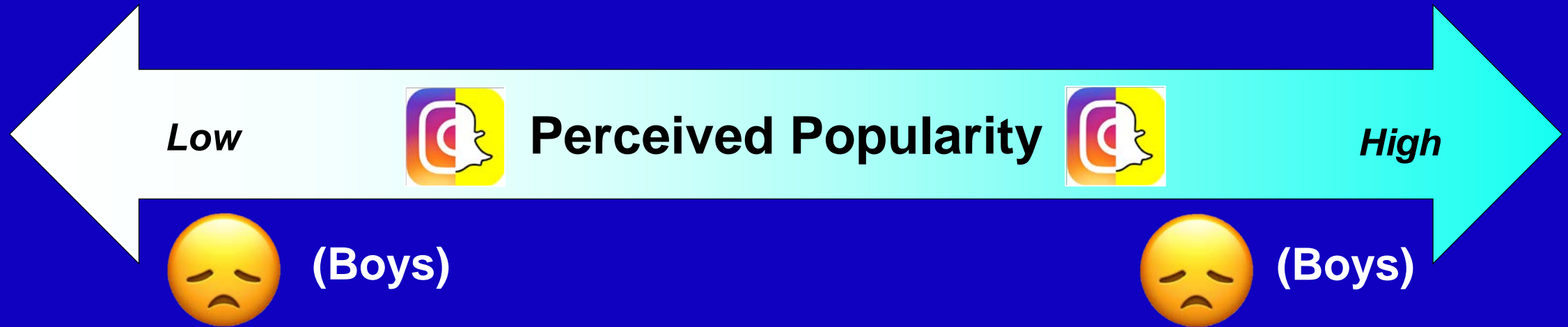
- Social comparison
- Peer status worries
- Fears of missing out

## High Popularity

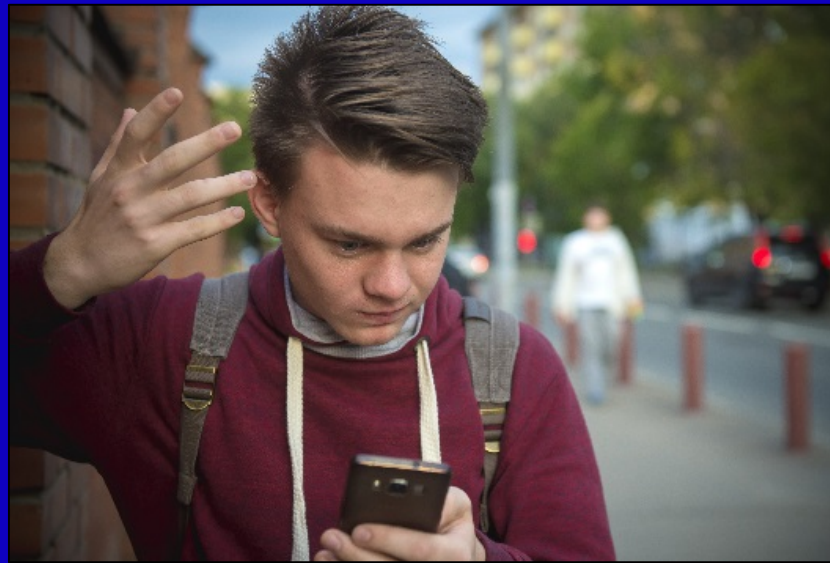
- Pressure to maintain peer status
- Drama and rumors
- Attention bias toward popular peers

*Lansu, Cillessen, & Karremans, 2012; Lansu & Troop-Gordon, 2017; Nesi, Choukas-Bradley, & Prinstein, 2018; Nesi & Prinstein, 2015*

# Summary and Discussion

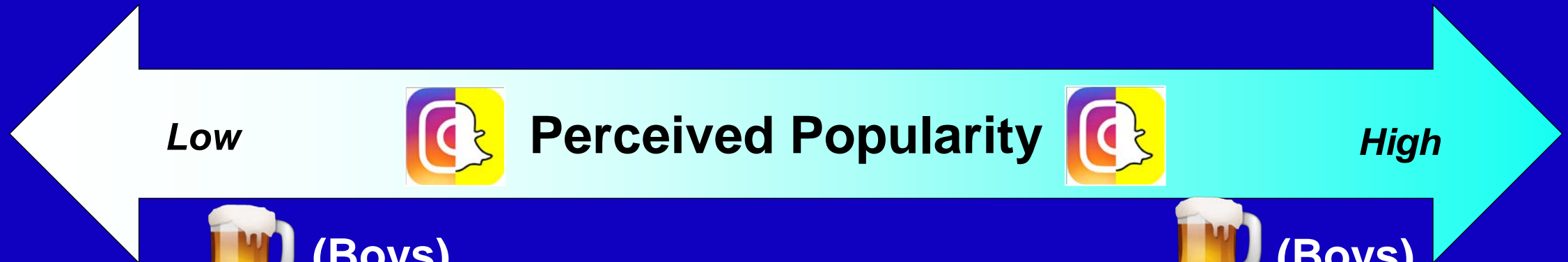


Social media context  
may exacerbate  
social comparison  
that boys do not  
otherwise experience



Boys with depression  
vulnerability may be  
drawn to seek feedback  
and reassurance via  
social media

# Summary and Discussion



(Boys)



(Girls and Boys)

## Low Popularity

- Status seeking
- Reactive aggression
- Boys use alcohol to cope or improve status

## Common Mechanisms

- “Likes” increase motivation for risky behaviors
- Decreased cognitive control when viewing popular photos of risky behaviors



(Boys)



(Girls)

## High Popularity

- Increased pressure
- Status displays of risky behaviors
- Proactive aggression



# Strengths and Limitations

## *Strengths*

- Large, diverse sample of early adolescents
- Longitudinal design
- Good retention

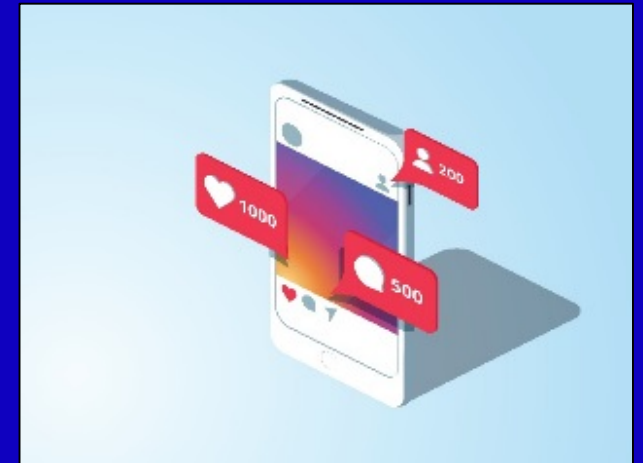
## *Limitations*

- Self-reports
- General social media use assessment
- Small subgroup of youth identifying as transgender and gender non-binary



# Conclusions and Implications

- Transformation framework holds utility for conceptualizing how social media influences peer status processes
  - May increase perceived popularity
  - May exacerbate risk for psychological adjustment problems among adolescents low and high in perceived popularity
- Girls and boys more similar than different
- Social development theories need to
  - Expand conceptualization of perceived popularity
  - Address the social media context



# Future Directions

- Broaden assessment strategies
  - Multiple popularity indices
  - Objective social media use measures
- Evaluate mechanisms
  - Digital status seeking
  - Social comparison and feedback seeking
  - Implicit associations and attention
  - Neurobiological processes
- Examine how peer status processes are transformed in the social media context among adolescents from diverse demographic and cultural backgrounds



# Acknowledgements

- Alvord Foundation
- School partners and adolescents who participated in this study
- UConn faculty and PANDA project staff for their unmatched dedication to the implementation of this project







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