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# Mediation of the link between Popularity and Peer Influence Susceptibility

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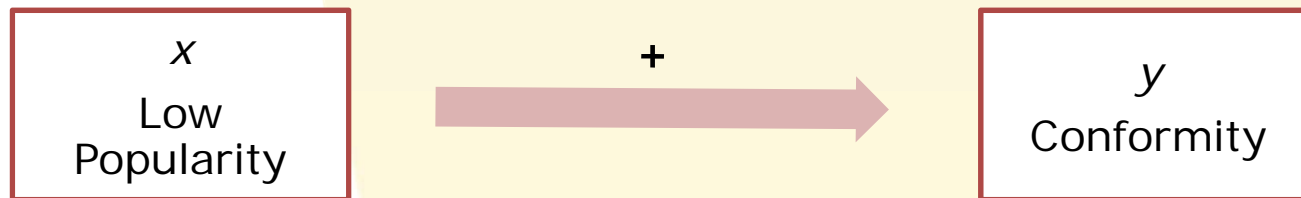
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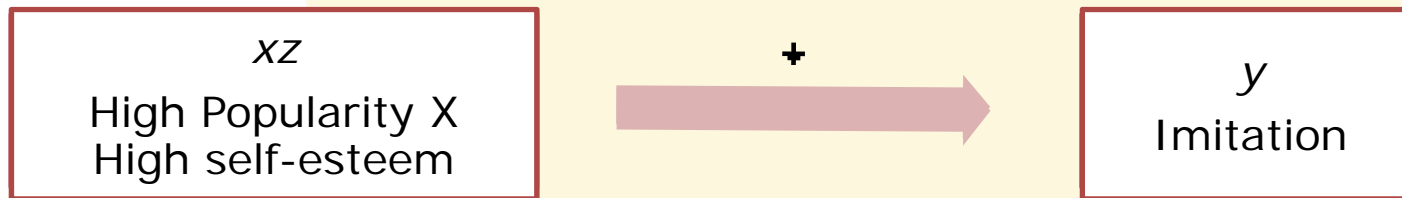
# Introduction

- Adolescents shape each other's attitudes and behaviors through peer influence processes (Prinstein & Dodge, 2008; Sandstrom, 2011)
- Any influence process is affected by characteristics of both the source and the target of influence (Hartup, 2005; Brown & Larson, 2008)
- Peer status: Popularity (Brown & Larson, 2009; Sandstrom, 2011)
- Conformity as one mechanism of peer influence



# Introduction (cont'd)

- Low popularity related to high conformity?
- Not necessarily, process is more complex...  
(Mayeux et al., 2008; Lansu et al, 2011)
- Moderation by self-esteem among high popular female students ( $n = 67$ ,  $M_{age} = 20.5$ ) (Lansu et al, 2011)



- Characteristics of the target of influence (influencee) that may explain the process

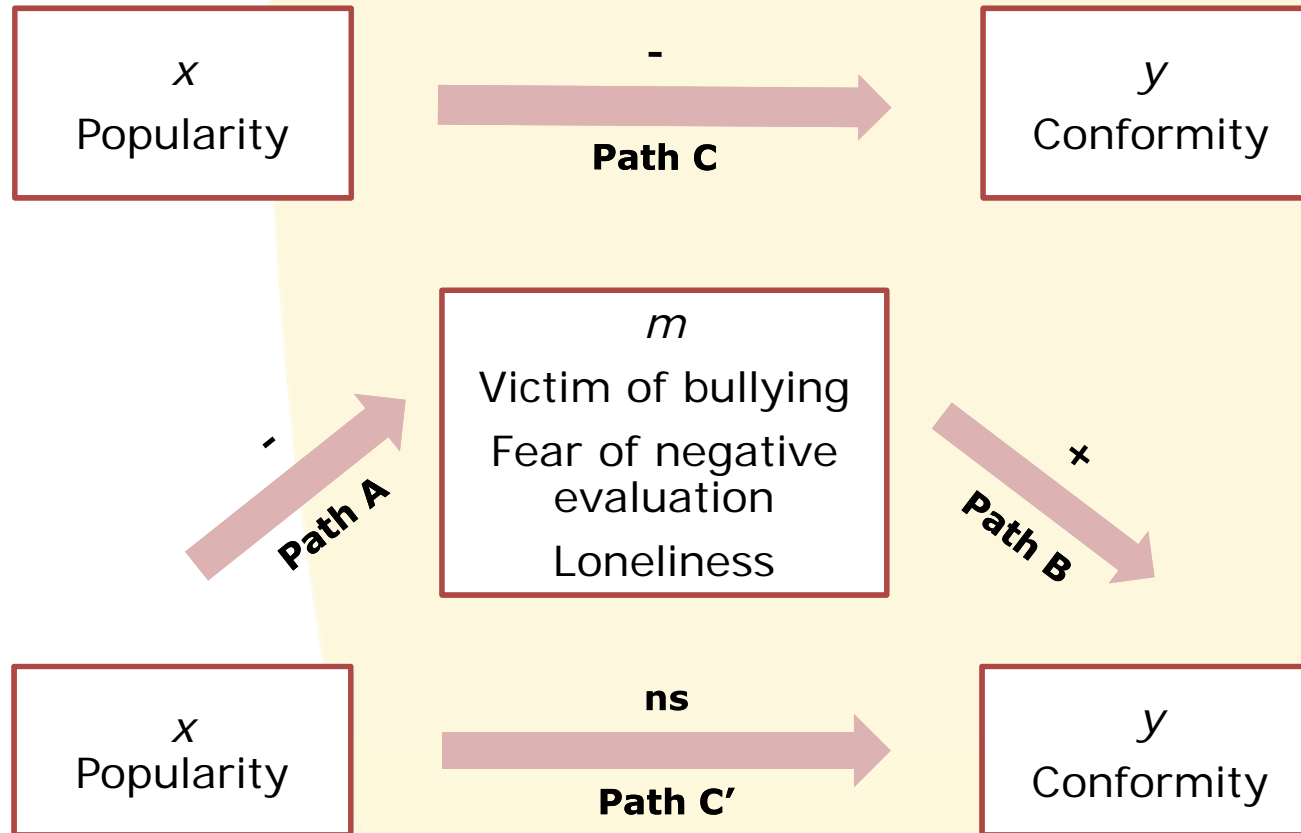


# Current study

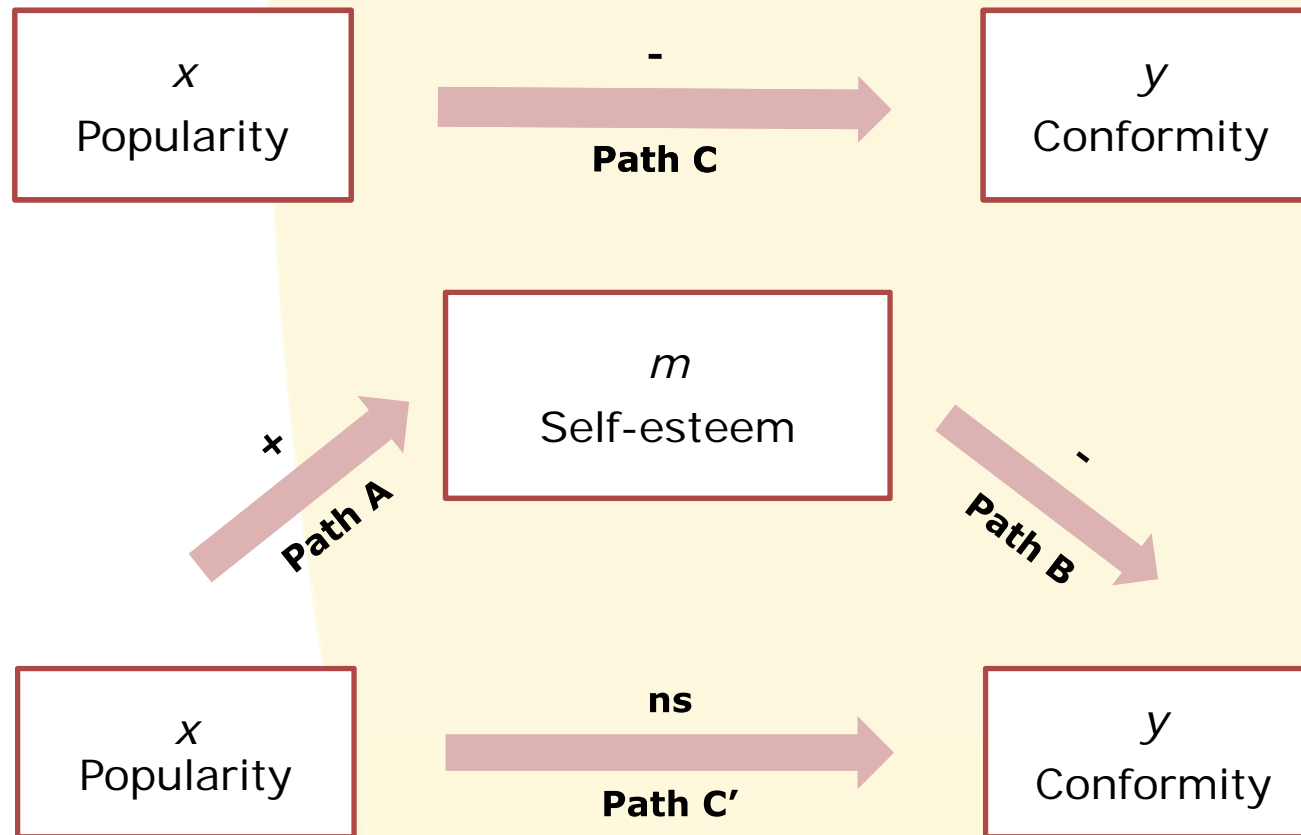
- Why are some adolescents more susceptible to peer influence than others?
- **Unfulfilled social desires** (e.g., Dishion, Piehler, & Myers, 2008; Dishion & Tipsord, 2011; Lakin, Chartrand, and Arkin, 2008; Prinstein, Boergers, and Spirito, 2001; Snyder et al., 2010)
- Current study: Possible mediators of the association between popularity and level of conformity
  - Victim of bullying (Olweus)
  - Fear of negative evaluation (Leary)
  - Loneliness (Louvain)
  - Self-esteem (Rosenberg)



# Model



# Model



# Current study (cont'd)

- 809 12- to 15-year-old adolescents ( $M_{\text{age}} = 13.77$ ;  $SD = 0.96$ ; 50.6% boys)
- Computerized quiz
  - 15 knowledge and 15 opinion questions
  - 5 random questions:
    - No manipulation (measuring actual peer group norm)
  - 10 random questions:
    - Manipulated peer group norm displayed on screen
- IV: Influencee's peer-perceived popularity (zMP – zLP)
- DV: Conformity = proportional deviation away from *actual peer group norm to manipulated peer group norm*



# Conformity

- Note
  - **Private decision** whether to conform or not (e.g., no real social gain or loss as a consequence)
  - Influencee's propensity to conform to (**status-unrelated**) behaviors and opinions
- Example questions
  - Knowledge (1-100): *What percentage of youngsters thinks religion is important in his/her life?*
  - Opinion (1 strongly disagree – 10 strongly agree): *Youngsters should do more volunteer work.*

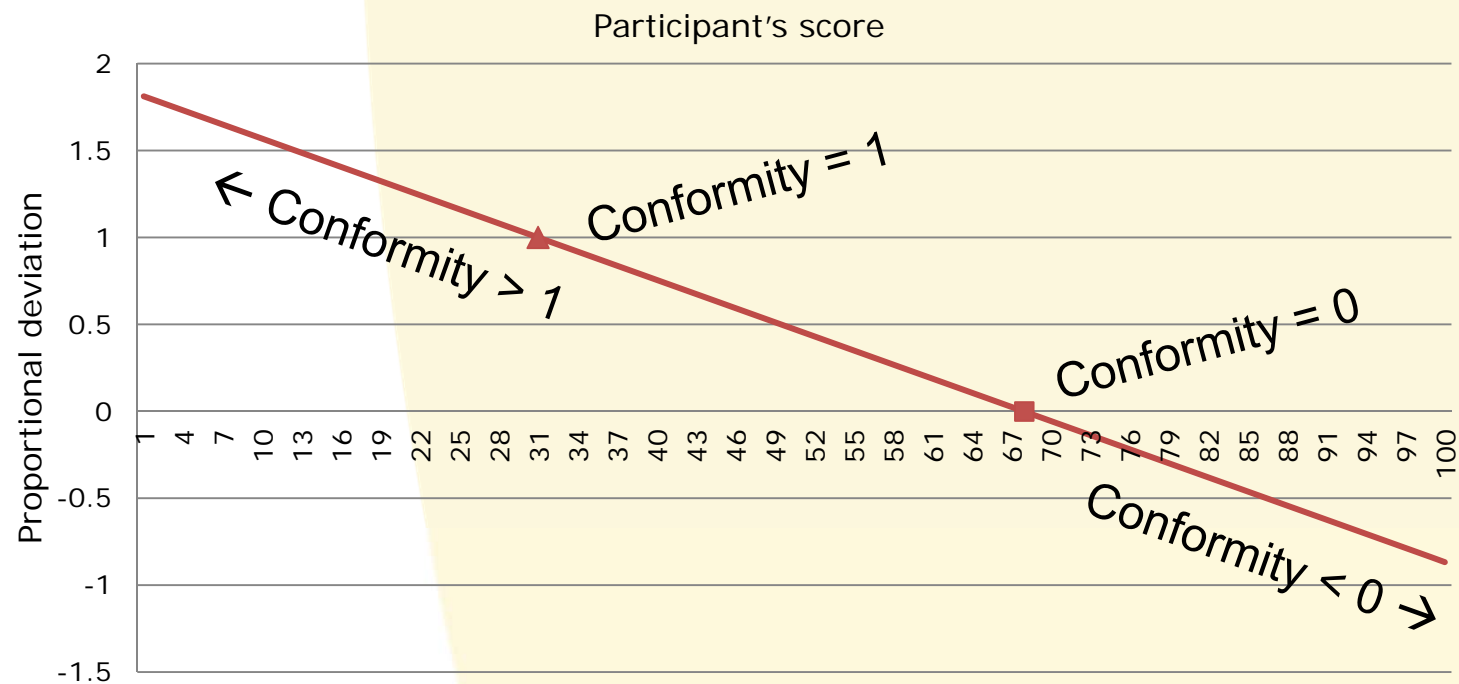




# Conformity

## Example

- *What percentage of youngsters thinks religion is important is his/her life?*
  - Manipulated peer group norm: 31% (▲)
  - Actual measured peer group norm: 67.95% (■)



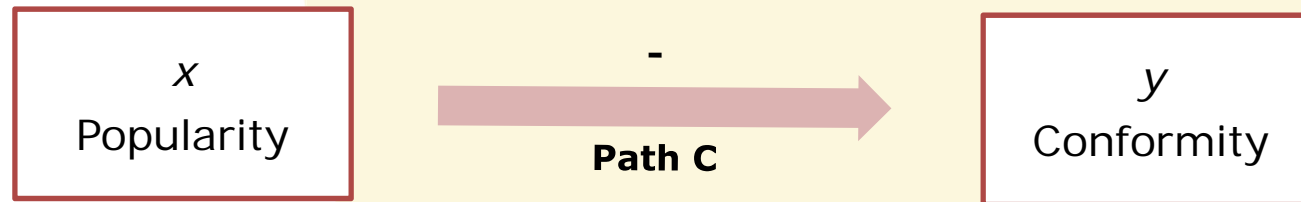
# Total effects (Path C)

Without mediation	<i>M</i>	<i>SD</i>	$\beta$	
Conformity knowledge	.23	.28	-.137	***
Conformity opinion	.23	.35	-.098	**

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

Standardized Z scores were used in all path analyses

- Lower popularity → More conformity



# Indirect effects (Path AB)

## Conformity knowledge

Knowledge	<i>M</i>	<i>SD</i>	$\beta$ <i>X</i> → <i>Y</i>	$\beta$ <i>X</i> → <i>M</i>	$\beta$ <i>M</i> → <i>Y</i>
Victim of bullying [1-5]	1.55	.62	-.140 ***	-.082 *	-.031
Fear of negative evaluation [1-6]	3.48	.89	-.127 ***	-.139 ***	.072 *
Loneliness [1-4]	1.49	.47	-.119 **	-.367 ***	.050
Self-esteem [1-4]	3.13	.54	-.131 ***	.076 *	-.079 *

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

Standardized Z scores were used in all path analyses

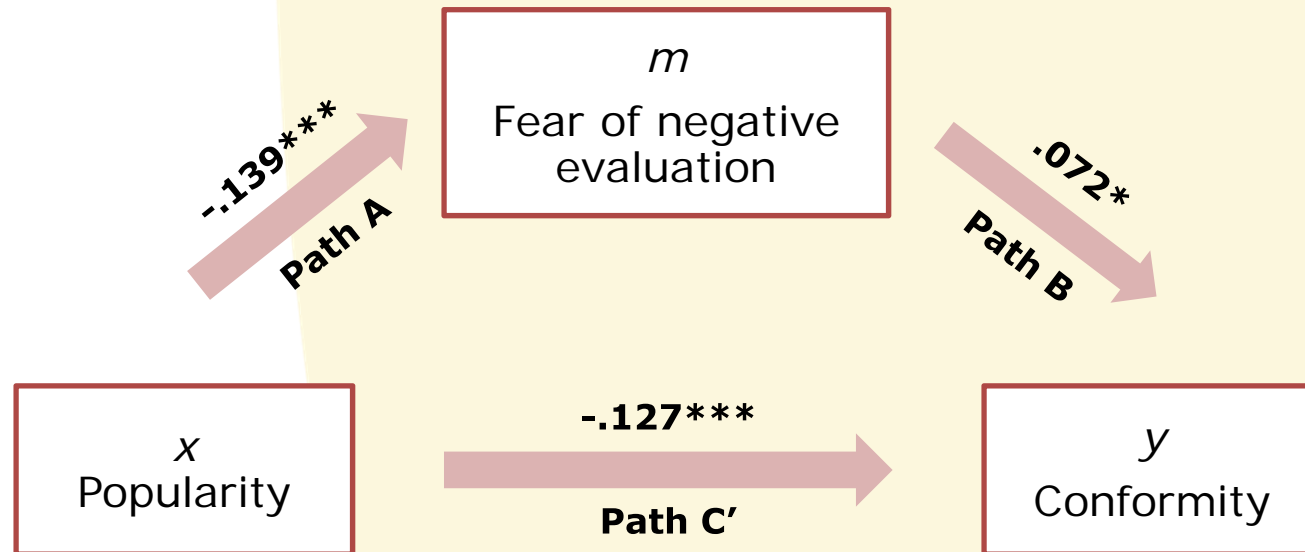
- Significant partial mediation by fear of negative evaluation and self-esteem
- Higher fear of negative evaluation → More conformity
- Lower self-esteem → More conformity
- Though, indirect effect sizes were (very) small



# Indirect effects (Path AB)

## Conformity knowledge

- Higher fear of negative evaluation → More conformity



Sobel's  $t = -1.79, p = .07$

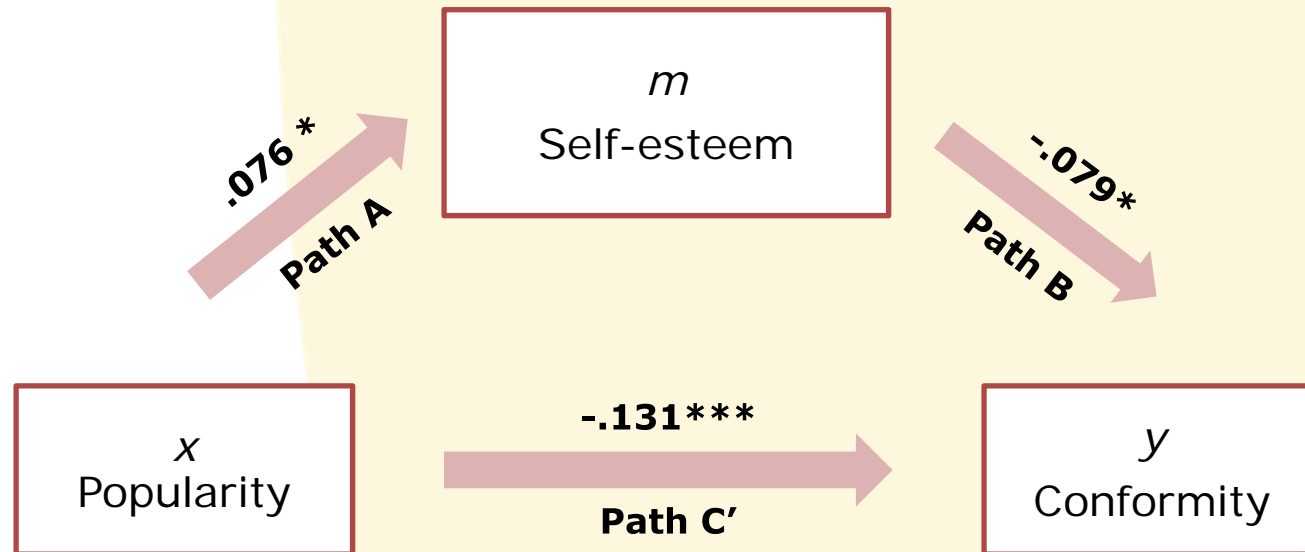
Completely Standardized Indirect Effect (Preacher & Kelley, 2011)  $ab_{cs} = -.01$  (small)  
Standardized Maximum Possible Indirect Effect (Preacher & Kelley, 2011)  $\kappa^2 = .02$  (small)  
Proportion of total effect mediated  $P_m = 7.3\%$



# Indirect effects (Path AB)

Conformity knowledge

- Lower self-esteem → More conformity



Sobel's  $t = -.93, p = .35$

Completely Standardized Indirect Effect  $ab_{CS} = -.006$  (very small)

Standardized Maximum Possible Indirect Effect  $\kappa^2 = .006$  (very small)

Proportion of total effect mediated  $P_m = 4.4\%$



# Indirect effects (Path AB)

## Conformity opinion

Opinion	<i>M</i>	<i>SD</i>	$\beta$ <i>X</i> → <i>Y</i>	$\beta$ <i>X</i> → <i>M</i>	$\beta$ <i>M</i> → <i>Y</i>
Victim of bullying [1-5]	1.55	.62	-.102 **	-.082 *	-.049
Fear of negative evaluation [1-6]	3.48	.89	-.081 *	-.139 ***	.123 ***
Loneliness [1-4]	1.49	.47	-.062	-.367 ***	.098 **
Self-esteem [1-4]	3.13	.54	-.098 **	.076 *	-.006

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

Standardized Z scores were used in all path analyses

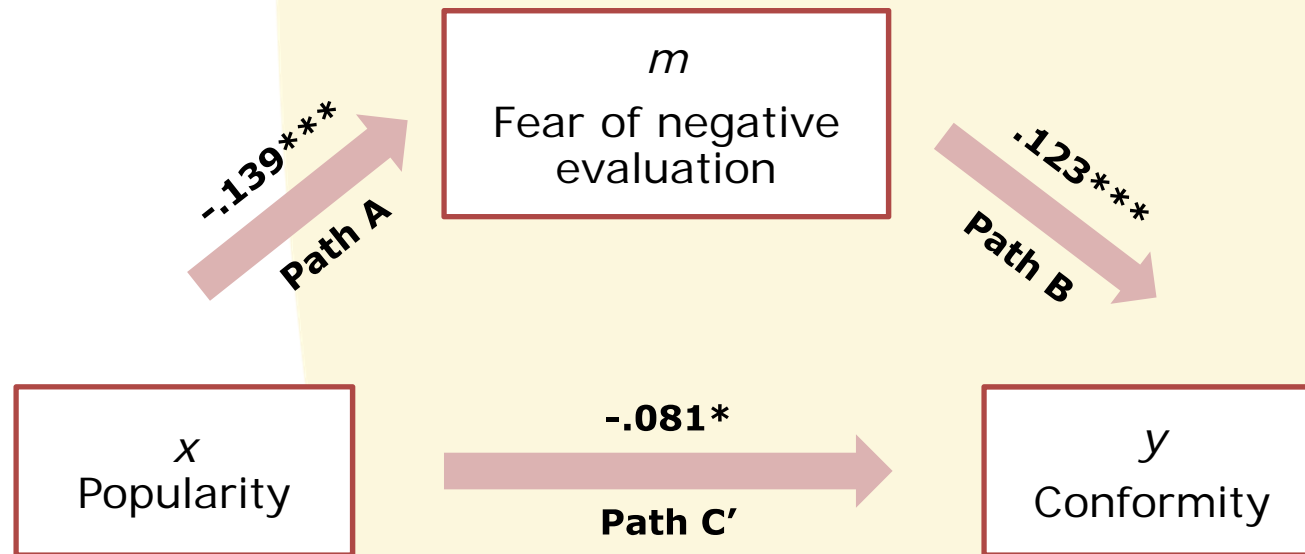
- Significant partial mediation by fear of negative evaluation and loneliness
- Higher fear of negative evaluation → More conformity
- Higher loneliness → More conformity
- Again, indirect effect sizes were small, though higher than with knowledge items



# Indirect effects (Path AB)

## Conformity opinion

- Higher fear of negative evaluation → More conformity



Sobel's  $t = -2.62, p < .01$

Completely Standardized Indirect Effect  $ab_{cs} = -.02$  (small)

Standardized Maximum Possible Indirect Effect  $\kappa^2 = .02$  (small)

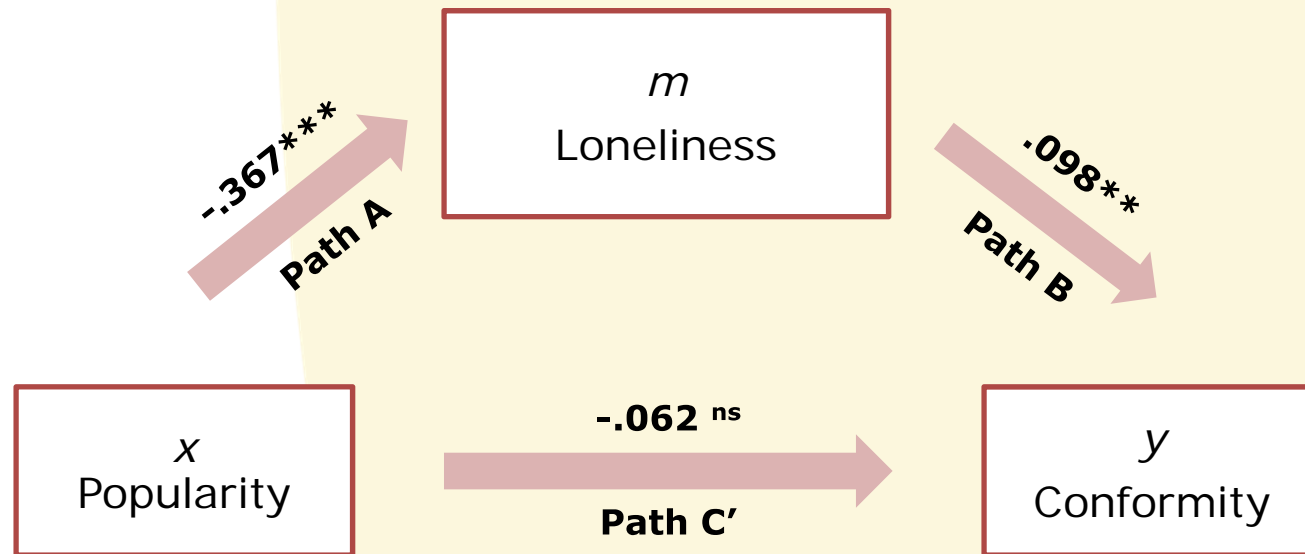
Proportion of total effect mediated  $P_m = 17.4\%$



# Indirect effects (Path AB)

## Conformity opinion

- Higher loneliness → More conformity



Sobel's  $t = -2.54, p < .05$

Completely Standardized Indirect Effect  $ab_{cs} = -.04$  (small)

Standardized Maximum Possible Indirect Effect  $\kappa^2 = .03$  (small)

Proportion of total effect mediated  $P_m = 36.7\%$





# Conclusion

- Remember...
  - **Private decisions** to conform or not
  - **Status-unrelated** behaviors and opinions
- Yet still, small though significant direct & indirect effects
- Lower popular adolescents are more likely to conform.
- Mediated by:
  - fear of negative evaluation (+, small)
  - loneliness (+, small)
  - self-esteem (-, insignificant)
- Stronger indirect effect for the opinion items
- **Regardless of victimization**; no significant indirect effects found for victim of bullying



# Discussion

## Limitations & Directions for future research

- Mediation implies causation: temporal order of variables assumed not tested
- What if...
  - ...**public** decisions?
  - ...**status-related** behaviors and opinions?
- Popularity = heterogeneous construct
- Variability in the perceived importance of popularity  
(LaFontana & Cillessen, 2009)
- **Moderated mediation** (e.g., likeability, age, gender)  
(Preacher, Rucker, & Hayes, 2007)





# Thank you for your attention!

Any questions or comments?

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# Conformity

- Example:
  - Manipulated peer group norm: 31%
  - Actual peer group norm: 67.95%

$$\text{conformity} = \frac{X_{\text{participant's score}} - Y_{\text{actual peer group norm}}}{Z_{\text{manipulated peer group norm}} - Y_{\text{actual peer group norm}}}$$

X	Y	Z	C
10	67.95	31	1.56
26	67.95	31	1.13
42	67.95	31	.70

X	Y	Z	C
58	67.95	31	.26
74	67.95	31	-.16
90	67.95	31	-.60



# Moderation

## Conformity knowledge

Knowledge	<i>M</i>	<i>SD</i>	$\beta$ <i>X</i> → <i>Y</i>		$\beta$ <i>M</i> → <i>Y</i>		$\beta$ <i>XM</i> → <i>Y</i>
Victim of bullying [1-5]	1.55	.62	-.137	***	-.032		-.023
Fear of negative evaluation [1-6]	3.48	.89	-.129	***	.072	*	-.001
Loneliness [1-4]	1.49	.47	-.120	**	.047		-.009
Self-esteem [1-4]	3.13	.54	-.132	***	-.079	*	.005

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

Standardized Z scores were used in all path analyses



# Moderation

## Conformity opinion

Opinion	<i>M</i>	<i>SD</i>	$\beta$ <i>X</i> → <i>Y</i>	$\beta$ <i>M</i> → <i>Y</i>	$\beta$ <i>XM</i> → <i>Y</i>
Victim of bullying [1-5]	1.55	.62	-.102 **	-.049	.001
Fear of negative evaluation [1-6]	3.48	.89	-.081 *	.123 ***	-.006
Loneliness [1-4]	1.49	.47	-.064	.117 **	.053
Self-esteem [1-4]	3.13	.54	-.098 **	-.006	.008

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

Standardized Z scores were used in all path analyses



# Correlations

	1.	2.	3.	4.	5.	6.
1. Popularity						
2. Conformity knowledge	-.137 **					
3. Conformity opinion	-.098 *	.391 ***				
4. Victim of bullying	-.082 †	-.019	-.041			
5. Fear of negative evaluation	-.139 **	.090 †	.134 **	.247 ***		
6. Loneliness	-.367 ***	.094 †	.121 **	.476 ***	.500 ***	
7. Self-esteem	.076	-.090 †	-.013	-.295 ***	-.534 ***	-.513 ***

\*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , †  $p < .10$

Holm (1979) correction was applied to control for FWER in multiple comparisons.

- Negative correlations between popularity & other vars
- Moderate correlation between outcomes
- Strongest correlations between conformity opinion, and fear of negative evaluation and loneliness
- Moderate correlations between mediators



# Correlations by gender

Boys	1.	2.	3.	4.	5.	6.
1. Popularity						
2. Conformity knowledge	-.141 **					
3. Conformity opinion	<b><u>-.132</u></b> **	.362 ***				
4. Victim of bullying	<b><u>-.148</u></b> **	.012	.021			
5. Fear of negative evaluation	-.121 *	.076	.120 *	.313 ***		
6. Loneliness	-.328 ***	.111 *	<b><u>.174</u></b> ***	.534 ***	<b><u>.548</u></b> ***	
7. Self-esteem	.086 †	<b><u>-.130</u></b> **	<b><u>-.044</u></b>	-.310 ***	-.459 ***	-.508 ***

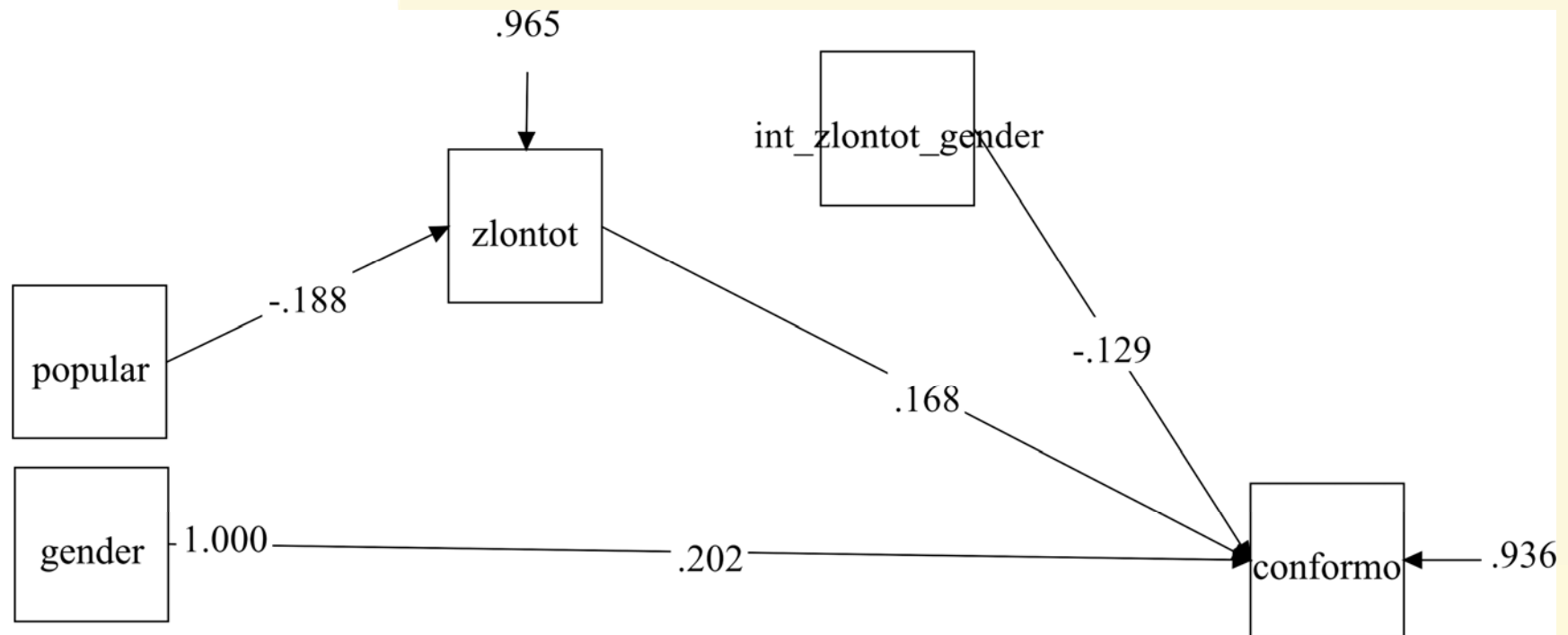
Girls	1.	2.	3.	4.	5.	6.
1. Popularity						
2. Conformity knowledge	-.105 *					
3. Conformity opinion	<b><u>-.012</u></b>	.370 ***				
4. Victim of bullying	<b><u>-.023</u></b>	-.001	-.065			
5. Fear of negative evaluation	-.118 *	.010	.024	.290 ***		
6. Loneliness	-.400 ***	.040	<b><u>.017</u></b>	.462 ***	<b><u>.441</u></b> ***	
7. Self-esteem	.029	<b><u>-.033</u></b>	<b><u>.134</u></b> **	-.377 ***	-.535 ***	-.503 ***





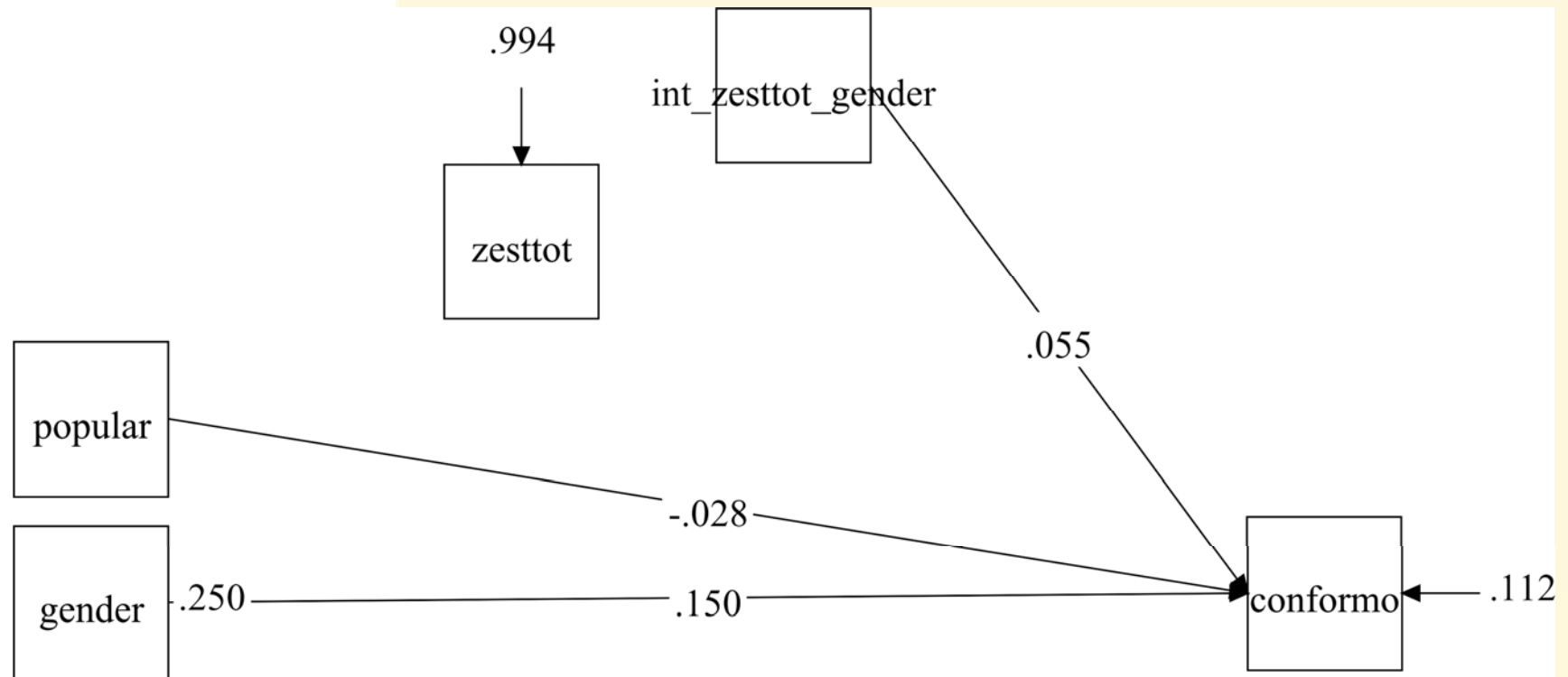
# Moderated mediation

Loneliness on Conformity opinion (Path B) by Gender



# Moderated mediation

Self-esteem on Conformity opinion (Path B) by Gender



# What it looked like...

