



Peer rejection negatively affects subsequent academic motivation regardless of gender context of the rejection

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Peer rejection and school adjustment

Negative effects of peer rejection

Being rejected by classmates associates with low school achievement and higher classroom disengagement and school absenteeism (e.g., Lessard & Juvonen, 2020; Lorijn et al., 2021).

Early adolescence as a sensitive period

This developmental period is characterized by growing importance of peer relations and heightened school adjustment problems (Lessard & Juvonen, 2020).

Research gap

Little is known about effects on emotional and motivational school adjustment, including **academic motivation**, or **liking school** or **feeling safe** at school (e.g., Guo et al., 2015; Wigfield et al., 2006).

Gender of the rejected student

Number of studies documented differences in maladjustment experienced by rejected or excluded boys and girls (for a review see McDougall et al., 2001) in areas, such as:

- self-esteem (Lopez & DuBois, 2005; Rudolph & Conley, 2005)
- sadness and worry (Goodman & Southam-Gerow, 2010)
- negative feelings (Grills & Ollendick, 2002)

Perceptions of teachers

Teachers express higher concerns about its negative impact for girl targets than boy targets (Kollerová & Killen, 2021).

Theories about same vs. cross-gender contexts

The gender segregation model

The model suggests that children strive primarily for peer acceptance by their same-gender as from early age they show normative in-group bias in preferring to interact with same-gender peers (Maccoby, 2002).

This model implies that same-gender peer rejection is more harmful for the rejected student.

The intergroup developmental model

This model states that cross-gender peer rejection and its behavioral component of peer exclusion often stem from prejudice and bias. Bias-based peer harassment was found to have more severe negative consequences for adjustment of the students targeted by the harassment (Killen et al., 2013).

This model implies that cross-gender peer rejection is more harmful for the rejected students.

Hypotheses and a research question

Effects of peer rejection on subsequent school adjustment

H1: Peer rejection at Time 1 would have unique negative effects on school adjustment variables (academic motivation, school attachment, and feelings of safety) at Time 2.

Moderating role of gender of the rejected students

H2: Gender of the rejected student would interact with peer rejection at Time 1 such as that the association between peer rejection and school adjustment will be stronger for girls than boys.

Differential effects of same- vs. cross-gender peer rejection

Research question: Will there be a difference in size of the effects of same- and cross-gender rejection?

Participants

Early adolescents ($N = 751$) of 7th graders retrieved from 39 classrooms of 20 randomly selected elementary schools in Prague.

Gender

50.6% female

Age

The average age of the participants was 12.9 years ($SD = 5$ month; range: 11-15).

Participation rate

77% at Time 1 and 73% at Time 2

Assessment

Data were collected by trained administrators using paper-pencil procedure in classrooms.



Instruments: School adjustment

Scales retrieved from the Social and Health Assessment survey (SAHA; Ruchkin et al., 2004) that was validated for Czech adolescents (Blatny et al., 2006).

academic motivation (6 items)

E.g., *I try hard at school.*

The McDonald's ω coefficient was .63 for Time 1 and .69 for Time 2.

school attachment (4 items)

E.g., *Most mornings I look forward to going to school.*

The McDonald's ω coefficients was .83 for Time 1 and .83 for Time 2

feelings of safety at school (7 items)

E.g., *I feel safe at my school.*

The McDonald's ω coefficients was .80 for Time 1 and .84 for Time 2.

Instruments: Peer rejection

Nominations received from classmates in response to a question *With whom do you least like talking during breaks?* (adapted from Kollerová a Smolík., 2016).

There related but distinct indicators were computed:

peer rejection

- based on nominations from all classmates

same-gender peer rejection

- based on nominations from same-gender peers

cross-gender peer rejection

- based on nominations from other-gender peers

For all peer nomination indicators the number of peer nominations received was divided by the number of nominators.

Descriptives and correlations

Study variables	Time 1						Time 2									
	Mean (SD)	Range	1.	2.	3.	4.	5.	6.	Mean (SD)	Range	1.	2.	3.	4.	5.	6.
1. Academic motivation	17.20 (2.88)	6–24	-						16.82 (3.13)	6–24	-					
2. School attachment	9.48 (2.82)	4–16	.42	-					9.05 (2.80)	4–16	.47	-				
3. Feelings of safety	21.94 (3.82)	7–28	.21	.29	-				22.02 (3.90)	7–28	.28	.18	-			
4. Peer rejection	.12 (.14)	0–83	-.14	-.19	-.19	-			.13 (.14)	0–90	-.16	-.20	-.20	-		
5. Same-gender peer rejection	.11 (.14)	0–86	-.11	-.20	-.21	.81	-		.12 (.16)	0–88	-.13	-.17	-.17	.82	-	
6. Cross-gender peer rejection	.14 (.20)	0–1	-.11	-.11	-.11	.80	.40	-	.18 (.34)	0–3	-.08	-.13	-.15	.63	.69	-

Note. N = 751; All correlation coefficients were statistically significant at $\alpha = .05$.

Main analyses

Separate random intercept multilevel models with students and classrooms as levels.

Main effects model:

$$Y_{t=2} = \beta_{0j} + \beta_1 \mathit{Rejection}_{t=1} + \beta_2 \mathit{Gender} + \beta_3 Y_{t=1} + \epsilon$$

Interactive effects model:

$$Y_{t=2} = \beta_{0j} + \beta_1 \mathit{Rejection}_{t=1} + \beta_2 \mathit{Gender} + \beta_3 \mathit{Rejection}_{t=1} \mathit{Gender} + \beta_4 Y_{t=1} + \epsilon$$

Peer rejection

	Main effects models			Interactive effect model
	Academic motivation at T2	School attachment at T2	Feelings of safety at T2	Academic motivation at T2
Female	0.41(0.21)	0.12(0.18)	-0.19(0.28)	0.49 (0.28)
School adjustment at T1	0.60 (0.04)*	0.67(0.03)*	0.57(0.04)*	0.60 (0.04)*
Peer rejection at T1	-3.30(0.81)*	-1.10(0.67)	-2.06(1.10)	-2.98 (1.08)*
Peer rejection at T1*female				-0.67 (1.52)

Note. * $p < 0.05$. T1 = Time 1, T2 = Time 2. School adjustment at T1 = Corresponding school adjustment indicator (i.e. academic motivation or school attachment or feelings of safety) at Time 1.

Same- vs. cross-gender peer rejection

	T2 academic motivation	T2 school attachment	T2 feelings of safety
Models for same-gender peer rejection			
Female	0.44 (0.21)*	0.13 (0.18)	-0.16 (0.28)
School adjustment at T1	0.61 (0.04)*	0.67 (0.03)*	0.58 (0.04)*
Same-gender peer rejection at T1	-2.32 (0.75)*	-0.97 (0.62)	-0.99 (1.02)
Models for cross-gender peer rejection			
Female	0.46 (0.21)*	0.15 (0.18)	-0.16 (0.28)
School adjustment at T1	0.61 (0.04)*	0.68 (0.03)*	0.58 (0.04)*
Cross-gender peer rejection at T1	-1.87 (0.55)*	-0.22 (0.45)	-1.34 (0.72)

No significant difference between the effects of same- and cross-gender peer rejection on school motivation was found.

Note. * $p < 0.05$. T1 = Time 1, T2 = Time 2. School adjustment at T1 = Corresponding school adjustment indicator (i.e. academic motivation or school attachment or feelings of safety) at Time 1.

Summary of the findings

In early adolescents,

- (1) **school attachment** and **feelings of safety at school** were negatively associated with peer rejection, but only **concurrently**, not over time,
- (2) **academic motivation** was negatively associated with peer-nominated peer rejection both concurrently and **over a six-month period**,
- (3) and the longitudinal negative effects of peer rejection on academic motivation was **the same across varying gender contexts**.

Implications

Future research

- addressing the moderating role of classroom norms (Lessard & Juvonen, 2022)
- including also subjective perceptions of belonging that could provide complementary information and unique contributions to the adjustment of rejected students (O'Neel & Fuligni, 2013).

Teacher education

- challenging teacher gender biases, namely underestimating of the harmfulness of peer adversities in some gender contexts (Kochenderfer-Ladd & Pelletier; Kollerová & Killen, 2021)
- informing teachers about harmfulness of peer rejection across various gender contexts

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Thank you for your attention!

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