Theory of Mind, Empathy, and School Engagement in Adolescents

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HELLO SUSIE, THIS IS CALVIN. I LOST OUR HOMEWORK ASSIGNMENT. CAN YOU TELL ME WHAT WE WERE SUPPOSED TO READ FOR TOMORROW?

ARE YOU SURE YOU'RE NOT CALLING FOR SOME OTHER REASON?

WHY ELSE WOULD I CALL YOU?

MAYBE YOU MISSED THE MELODIOUS SOUND OF MY VOICE.

WHAT ARE YOU, CRAZY?? ALL I WANT IS THE STUPID ASSIGNMENT!

FIRST SAY YOU MISSED THE MELODIOUS SOUND OF MY VOICE.

THIS IS BLACKMAIL!

https://www.gocomics.com/calvinandhobbes/1986/12/09
OBJECTIVE

Describe the individual differences and the connections among adolescents’ social-cognition (ToM, empathy, self-conscious emotions) and school engagement (psychological, cognitive)
DEFINITIONS

Advanced Theory of Mind (ToM):
- Ability to label and explain mental and emotional states in self and other; usually emerges between 6 and 8 years of age (Carpendale & Chandler, 1996; Saarni, 1999)

Empathy
- Generalized tendency to recognize emotion and respond to other people's emotions (McCullough, Emmons, & Tsang, 2002).

Moral or Self-conscious Emotions (shame, guilt):
- Require:
  1) Self-monitoring ability and a personal standard for one's own behaviour
  2) Awareness of social rules (Lewis, 1993)
EMPIRICAL EVIDENCE

ToM, Emotion Knowledge, and School Engagement

- Studies show moral emotions and reasoning are connected by underlying social, cognitive, moral, and emotional mechanisms (Steinberg, 2014, 2015)

- Past research suggests that social cognitive and moral emotional abilities may partially underlie the links between ToM and school experiences (Hughes, 2011)

- Few studies on relations among adolescents’ social cognitive abilities (ToM, empathy) and perceived school engagement (Lecce et al., 2014)

- Higher levels of ToM and emotion knowledge → higher rates of school engagement among youth (Bosacki et al., 2017; Longo et al., 2017; McCullough, et al., 2000; Tucker, 2017), $g > b$ (Bosacki et al., 2017)
EMPIRICAL EVIDENCE

Problem

- Lack of research on the gendered, developmental linkages among ToM, empathy, self-conscious emotions, and perceptions of school engagement in adolescents (Devine & Hughes, 2013)

- More research is needed to explore how social cognitive processes influence young people’s school life experiences (social and academic)

- Moral and emotional reasoning ≠ prosociality and academic success.
RESEARCH QUESTION

Do individual differences and relations exist among ToM, empathy, and perceptions of school engagement in adolescents?
METHOD

Participants

- 32 Euro-Canadian children from middle SES, semi-rural neighbourhoods (22 girls; 15.6 y)

Procedure

- Participants were group-administered within a school setting
- Measures included paper-and pencil standardized, self-report questionnaires on ToM, empathy, self-conscious emotions, school engagement
MEASURES

Theory of Mind (ToM)

Affective:
Reading the Mind in the Eyes Test 3rd Ed. (Baron-Cohen et al., 2001)

Cognitive:
1. ToM Strange Stories (Happé, 2004)
2. 2nd order stories (Astington et al., 2002)

Emotion Knowledge:
1. Empathy (Interpersonal Reactivity Index) (IRI, Davis, 1980).
2. Test of Self-Conscious Affect (TOSCA, Tangney et al., 2000)

School Engagement Inventory (SEI, Appleton et al., 2006)
1. Psychological
2. Cognitive/Academic

Verbal Ability (VA) (WIAT, Wechsler, 2010)
RESULTS

MANCOVA (Age + Verbal age as covariates) showed significant ($p < .05$) gender effects:

- **ToM** ($2^{nd}$ order) $F(1,22) = 10.87, p < .01$
- **Empathy, Self-conscious emotions** (shame, guilt) $F(1,22) = 4.75, p < .05$

T-tests showed significant ($p < .05$) gender differences (See Figures 1-3):

- **G > B** in **Empathy, Self-conscious emotions** (shame, guilt)
- **G = B** in **ToM, school engagement**
Figure 1. Empathy scores (Mean)
Figure 2. Self-conscious emotions scores (Mean)
Figure 3. Student Engagement and ToM scores (Mean)

No significant gender differences
RESULTS

Correlational analyses showed a significant positive correlation between:

- Affective ToM (RMET) and school engagement – Teacher-student relations: \( r_p(32) = .396, p < .05 \)
- Cognitive ToM (SS, 2nd order) and family support for learning: \( r_s(18) = .652, p < .01 \)

Controlling for VA, significant positive partial correlations were found between:

- Affective ToM (RMET) and empathy: \( r_p(24) = .404, p < .05 \)

In contrast, no correlations between empathy and school engagement.
RESULTS

Correlational analyses also showed:

- Significant positive (+) correlation between ToM:
  - gratitude (simple appreciation) ($r_p(41) = .343, p = .032$)
  - total empathy ($r_p(41) = .485, p = .003$)

Significant positive (+) correlations between empathy (IRI):

- Guilt ($r_p(31) = .427, p < .05$)
- Shame ($r_p(31) = .384, p < .05$)

For girls only, significant positive (+) correlations between ToM (RMET) and total school engagement (SEI) ($r_p(22) = .493, p < .05$).

Regression analysis showed that ToM failed to account for significant amount of variance in school engagement above and beyond (VA) (21%).
DISCUSSION

- Results suggest that youth with high levels of ToM also had high levels of school engagement.

- Girls only reported high affective ToM and high levels of school engagement.

- Teenaged girls scored higher than boys on emotion knowledge.

- No gender differences in ToM and school engagement.
CONCLUSIONS

- Results support past research that suggests social cognition (ToM, empathy) and school engagement are multifaceted and complex (Hughes, et al., 2016)

- Youth who scored high on ToM perceived school and learning to be more socially engaging

- Results provide empirical groundwork for curriculum development in the following ways:
  
  › Personal and social skills areas aimed to promote social cognition and socioemotional literacy.
  
  › A psychological-focused curriculum aimed to foster emotional well-being, and prosocial, socially responsible goals.
NEW DIRECTIONS

- Examine links between perceived self-worth and ToM particularly regarding the moral or self-conscious emotions (e.g., gratitude, pride, embarrassment, shame, envy)

- Focus on sociocultural factors that may influence social cognition and emotional competence, particularly the role of language (expressive and receptive), gender, and family background (financial/cultural)

- Educational implications include the development of curriculum aimed to foster well-being and prosocial actions through moral and psychological language (self and social)

- Adapt a psychocultural approach to research on the development of children’s social cognition and prosocial behaviours (Bruner, 1996)
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