Relationships at School and Environmental Fit as Resources for Adolescent Engagement and Achievement

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Overview

Adolescent academic achievement and engagement in school

Engagement

- Being more interested and self-reliant in learning activities
- Being more interested, and less anxious and bored when facing new and ongoing schoolwork
- Observable demonstrations of motivation
  - Intensity and extent of effort
  - Emotional quality of involvement in actions
The Hypothesized Model

Latent-variable structure equation model (SEM)
Bootstrapping

Used bootstrapping to examine the strength of mediational (indirect) pathways (see Shrout & Bolger, 2002)

Resampling method – 1000 samples of 200 participants with replacement

Useful

- Cross-sectional mediational path models
- Relatively small to moderate sample sizes (N<400)
- Variables depart from a normal distribution
- Fairly easy to implement
Background

- Self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000, 2002) and
- Developmental theories of motivation, agency, initiative, positive youth development (Connell & Wellborn, 1991; Eccles, Larson, 2000; Wigfield & colleagues; Walls & Little, 2005; Wentzel, 1999)

- Environments can promote or undermine adolescents’ behavioral and emotional engagement in academic activities and achievement at school
Background

Engagement will be greater when environments have features that meet individual psychological needs for...

- Autonomy (a feeling of agency, opportunities for making decisions)
- Relatedness to others (belongingness, involvement, acceptance)
- Competence (an understanding of contingencies and self-efficacy)
Background

How do environments meet these psychological needs?

- Autonomy: Autonomy support vs. coercion
- Relatedness: Involvement and warmth vs. hostility
- Competence: Structure and predictability vs. chaos

The Hypothesized Model

Teacher-student Relationships

- Autonomy
- Relatedness
- Competence

Peer Relationships

- Autonomy
- Relatedness
- Competence

School Fit

- Positive Behavior & Emotion
- Negative Emotion
- Boredom & Distraction

Student Engagement

- Autonomy
- Relatedness
- Competence

Academic Achievement

Positive Behavior & Emotion

Negative Emotion

Boredom & Distraction

Autonomy

Relatedness

Competence
Autonomy, relatedness and competence

Autonomy = Autonomy support and not coercion
Relatedness = Warmth / involvement and not hostility
Competence = Structure and predictability and not chaos
Method: Participants

- 324 students in grades 10 and 11 at 2 high schools in SE Queensland, Australia
- 52% female
- Age $M = 15.3$, $SD = .74$, 79% 15-16 years old
Method: Measured Variables

- **Engagement**
  - Behavioral and emotional aspects, 18-item scale (Skinner et al., 1998). Factor analysis revealed 3 subscales:
    - Positive behavior and emotion, $\alpha = .80$
    - Negative emotion, $\alpha = .91$
    - Boredom and daydreaming, $\alpha = .74$
  - Teacher-student relationships: Autonomy support, coercion, involvement, hostility, structure, and chaos
    - A shortened version of the Students’ Assessment of Teacher Context (Belmont, Skinner, Wellborn, & Connell, 1992), $\alpha = .63$ to .65
    - Generalized reports about all teachers.
Method: Measured Variables

- Peer relationships
  - The Basic Need Satisfaction in Relationship Scale (La Guardia, Ryan, Couchman, & Deci, 2000), \( \alpha = .62 \) to .71

- School fit
  - The Basic Need Satisfaction in Relationship Scale (La Guardia, Ryan, Couchman, & Deci, 2000), \( \alpha = .62 \) to .71

- Achievement.
  - “What marks do you usually receive at school?”.
    - Response options: Usually A’s, usually B’s, usually C’s, or usually D’s and E’s/F’s.
    - Used because high school students are very accurate reporters of their own usual grades (Wigfield & Wagner, 2005)
School Fit as a Mediator

Two models were fit.

χ²(45, N = 342) = 93.5, p < .01, CFI = .97, RMSEA = .058 (90% CI .041 to .074)
Two additional models were fit.

\[ \chi^2(57, N = 342) = 138.3, p < .01, \text{CFI} = .95, \text{RMSEA} = .066 (90\% \text{ CI} .052 \text{ to } .081) \]
Summary of Findings: Pathways

Pathways to engagement and achievement were found that
- operated via students’ relationships with their teachers and their peers, and school fit.
- Adolescents’ representation of school important.
- Teacher and peer relationships come together to predict this perception of school fit.
- But, teacher-student relationships also are directly associated with engagement.