On the Importance of Examining Reciprocal Deterministic Relationships in Positive Psychology

Presentations:
1. Attending Class is Only the First Step in Being Present in Class: Attendance is Not Presence
   - Gareau, Gaudreau, & Miranda
2. Psychological Need Satisfaction as an Antecedent and Consequence of Coping and Goal Progress
   - Gunnell, Fecteau, & Gaudreau
3. Examining the Mediating Role of Coping in the Differential Associations of Affective and Motivational States with Affective Spillover
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Reciprocal Relationship

Antecedent: X

Consequence: Y
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Psychological Need Satisfaction as an Antecedent and Consequence of Coping and Goal Progress

KATIE GUNNELL,
MARIE-CLAUDE FECTEAU,
PATRICK GAUDREAU
Introduction

- **Academic Achievement**
  - Goal progress

- **Self-Determination Theory** *(Deci & Ryan, 2002)*
  - Psychological Need Satisfaction (PNS)
    - Competence
    - Autonomy
    - Relatedness

- **Coping**
  - Task-Oriented Coping
  - Disengagement-Oriented Coping
Purpose 1

- Examine the complex relationships between
  - Psychological need satisfaction (PNS)
  - Coping
  - Academic goal progress

Ntoumanis, Edmunds, & Duda, 2009
Purpose 2

- Examine Coping as a mediator
  - Between PNS and goal progress

Diagram:
- PNS
  - Task-Oriented Coping
  - Disengagement-Oriented Coping
- Goal Progress
- PNS
Purpose 3

- Examine the reciprocal relationships between PNS and coping/goal progress
Hypotheses

- Disengagement-Oriented Coping
- Task-Oriented Coping
- PNS
- Goal Progress
Method

- **Procedures**
  - Time 1: Start of semester (Early October)
  - Time 2: A few weeks after midterms (Late November)
  - Time 3: Winter semester (Early February)

- **Participants**
  - N = 269 undergraduate students
  - Age Range: 16 to 48 years (M =19.47, SD = 3.29)
  - Female = 67.3%
  - Most first year students (58.4%)
  - Most Caucasian (65.9%), Asian (18.2%)

- **Measures**
  - Participants self-reported an academic goal
Measures

- **Time 1 & Time 3:**
  - PNS: Basic Psychological Need Satisfaction Scale adapted to academic contexts (12-items; Gagné, 2003)

- **Time 2:**
  - Coping: Short COPE (Carver, 1997) and achievement-related coping questionnaire (16-items; Gaudreau & Blondin, 2002)

- **Time 3:**
  - Goal Progress: Three items from Dugas et al., 2012
Data Analyses

- All Analyses conducted using Mplus 7.0

1. Preliminary Data Screening

2. Longitudinal Invariance

3. Structural Equation Modeling
   - Mediation model
     - Bootstrapped Bias Corrected Confidence intervals
Results

- Attrition analyses
  - No differences on study variable
  - Gender difference between those who completed all 3 times points

- Longitudinal Invariance: loadings, intercepts, errors

- Measurement model:
  - $\text{MLR} \chi^2_{(85)} = 134.57, p = .0005,$
  - $\text{CFI} = .97,$
  - $\text{TLI} = .96,$
  - $\text{RMSEA} = .05,$
  - $\text{RMSEA 90\% CI} = .03 - .06$
* $p < .05$, † $p < .06$. Standardized betas 95% confidence intervals around the standardized betas.

\[ \text{MLR} \chi^2(86) = 134.32, \ p = .0007, \ CFI = .97, \ TLI = .96, \ RMSEA = .05, \ RMSEA (90\% \ CI = .03 - .06,) \ SRMR = .06. \]
Results

- Total effect and total indirect effect from PNS (T1) to goal progress (T3) was positive and significant
  - Mediated by task-oriented (T2) - positive
  - Mediated by disengagement-oriented coping (T2) - negative
Results

- Total effect from task-oriented coping (T2) to PNS (T3) was significant
  - Mediated by goal progress (T3) – positive
- Non-significant total effect from disengagement-oriented coping (T2) to PNS (T3)
  - Mediated by goal progress (T3)- negative
Results

- Total effect from Time 1 and Time 3 PNS was significant:
  - Mediated by task-oriented coping (T2) - positive
  - Mediated by Task-oriented coping (T2) to goal progress (T3) - positive
Discussion

- Integrative reciprocal model accounted for small to large proportions of variance
  - 8-42%

- Reciprocal relationship
  - PNS leads to greater task-oriented coping and less disengagement-oriented coping
  - In turn, coping lead to greater PNS through goal progress
Limitations and Future Directions

**Limitations**
- Self-report
- Casual Conclusions
- Between-person design

**Future Directions**
- Informant report
- Cross-lagged Analyses
- Within-person design
Practical Implications

- The strategy of managing effort leads to progressing on academic goals.
- Coping intervention to improve academic achievement
- Stress management programs
  - Gaudreau and colleagues currently running a randomized controlled trial
Acknowledgements

- This research was supported by the Social Sciences and Humanities Research Council of Canada

- This research was part of a manuscript has been submitted for publication
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