

The significance of basic psychological needs and autonomic supportive learning climates as predictors of academic motivation

Tianyue Angela Dou, Dr. Maria Rogers, & Rylee Oram
ADHD and Development Lab, University of Ottawa



Introduction

Academic motivation is generally defined as a students' determination and efforts to succeed academically. Research has consistently found that whether a student is living in an environment with family and faculty who create an autonomy supportive learning climate plays a major role in improving students' intrinsic academic motivation and learning success (Grolnick, Gurland, DeCoursey, & Jacob, 2002; Trolian, Jach, Hanson, & Pascarella, 2016).

However recently, research on the Basic Psychological Needs Theory (BPNT) derived from Self-Determination Theory, which examines social conditions that encourage or inhibit motivation, has demonstrated positive influences on psychological wellbeing and academic motivation (Deci & Ryan 2002).

The BPNT dictates that one's basic psychological needs (BPN) include autonomy, competence and relatedness. Autonomy is defined as possessing feelings of agency and choice, competence possessing feelings of effectiveness, and relatedness possessing healthy and rewarding social relationships (Faye & Sharpe, 2008). The presence of a supportive learning climate has been shown to contribute towards fulfilling our BPN (Gagne, Ryan & Bargmann, 2003).

Current Study

- Each of the 3 BPN, along with a supportive learning climate, have been suggested as predictors of academic motivation, however, they have not been examined within the same model.
- This project examined the presence and variance in the significant relationships between each of the BPN, learning climate, and academic motivation.
- We hypothesize that the BPN and a supportive learning climate will both significantly predict academic motivation, however, we have no hypotheses for the variance in predictability.

Participants

- Participants were 197 undergraduate students (first year $n=120$; second year $n=39$; third year $n=16$; fourth year $n=17$; other $n=5$) at the University of Ottawa.
- 18.3% students identified as male ($n=36$) and 81.7% identified as female ($n=161$). 75% of participants were 18-20 years old. 25% were between the ages of 21-29.

Measures

Participants completed a 30-minute online survey which included self-report questionnaire measures of academic motivation, basic psychological need fulfilment, and supportive learning climate.

- **Academic Competence Evaluation Scales-College Version (ACES-College):** Assesses college students' academic competence by measuring their academic skills and enablers. As part of the ACES-College, the Motivation subscale measures students' academic initiative and persistence on a 5-point scale with selections ranging from *Never* to *Almost Always*. (DiPerna & Elliott, 2002).
- **Basic Psychological Needs Scale:** Measures basic psychological needs fulfillment (Deci & Ryan, 2000).
- **Learning Climate Questionnaire (LCQ):** Assesses learning environments fostered by instructors at a post-secondary level. It has 15 items scored by 5-point Likert-type scales, with higher scores representing higher autonomy support students perceive (Williams & Deci, 1996).

Data Analysis

- A hierarchal multiple regression analysis in two stages was conducted to examine the relative incremental contributions of each independent variable towards academic motivation prediction.

Results

| Variable | R | R ² | R ² Change | β | F/t | Sig |
|-------------------|------|----------------|-----------------------|-------|-------|----------|
| Step 1 | 0.35 | 0.12 | --- | --- | 26.63 | ≤ 0.0001 |
| Learning Climates | --- | --- | --- | 0.35 | 5.16 | ≤ 0.001 |
| Step 2 | 0.55 | 0.30 | 0.18 | --- | 20.39 | ≤ 0.001 |
| Learning Climates | --- | --- | --- | 0.15 | 2.14 | 0.03 |
| BPN-Autonomy | --- | --- | --- | -0.01 | -0.16 | 0.87 |
| BPN-Competence | --- | --- | --- | 0.55 | 6.09 | ≤ 0.001 |
| BPN-Relatedness | --- | --- | --- | -0.14 | -1.64 | 0.10 |

Regression Analyses

- The 1st stage in hierarchical linear regression measured the significance of supportive learning climate as a predictor of academic motivation.
- A significant positive relationship was found, $r = 0.35$, $F(1,195) = 26.63$, $p < 0.0001$.
- 12% of the variance was accounted for by the regression model.
- The 2nd stage measured the significance of each individual BPN compared to learning climate as predictors of academic motivation.
- A significant positive linear relationship was found, $r = 0.55$, $F(4,192) = 20.39$, $p < 0.001$.
- 18% of the variance was additionally accounted for by the regression model.

Discussion

- As hypothesized, both the BPN and a supportive learning climate significantly predicted academic motivation.
- Among the BPN, competence emerged as the most significant predictor of academic motivation, $t(192) = 6.09$, $p < 0.001$; this exceeds autonomy and relatedness.
- This is supported by previous research conducted by Faye & Sharpe (2008) where competence also demonstrated significant influence in promoting a strong sense-of-self and intrinsic motivation.
- The influence and significance of competence as a predictor of academic motivation was found to even exceed that of a supportive learning climate.
- This suggests that the reason BPN emerges as a greater overall predictor variable compared to learning climate is largely the result of the competence variable alone.

Contributions and Future Directions

- Moving forward, significant influential differences of competence versus a supportive learning climate in academic motivation should be further researched and investigated.
- This would be very beneficial towards cultivating an autonomy supportive environment which promotes university students' competent feelings of learning, studying and functioning.
- Supporting and promoting student mental health should be of the utmost importance towards Canada's future; it is an investment which nurtures student success, well-being, and economic prosperity.

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Contact

Tianyue Angela Dou
University of Ottawa
adou058@uottawa.ca

ADHD & Development Lab
University of Ottawa
adhd.lab@uottawa.ca
613-562-5800 ext. 4457