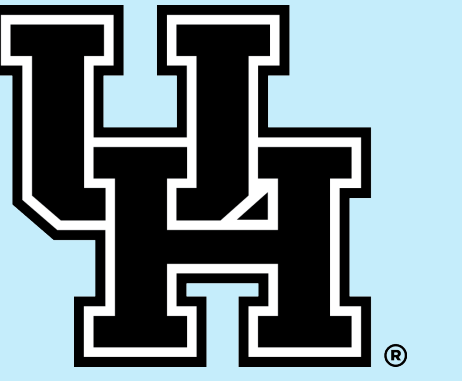


BELONGINGNESS PROGRAM EVALUATION WITH LOCAL MIDDLE-SCHOOL STUDENTS



ERSIE-ANASTASIA GENTZIS, ZACHARY G. BAKER, & C. RAYMOND KNEE, UNIVERSITY OF HOUSTON DEPARTMENT OF PSYCHOLOGY
CONTACT: egentzis@uh.edu

INTRODUCTION:

- Self-Determination Theory (SDT) states that all behavior is driven by the needs for:
 - Autonomy- being self-driven and authentic
 - Competence- feeling knowledgeable
 - Belongingness- feeling belonging with peers
- Latest research in SDT has looked at needs in school settings
- Students exhibit a drop in motivation upon entering middle school, and felt belongingness in school is associated with this decrease [1][2]
- Students worry about their relationships more in middle school, but those who report supportive relationships are more academically engaged [3][4]
- Supportive relationships are especially important for low-income students and can help reduce the consequences of the income-achievement gap [5]
- One practice found to increase supportive relationships is the review of social skills [6]
- Social skills also help close gaps in the classroom and promote collective student success [7]

HYPOTHESES:

H1: Student need satisfaction for belongingness will be higher at follow-up than at baseline

H2: Student need frustration for belongingness will be lower at follow-up than at baseline

H3: Student academic motivation will be higher at follow-up than at baseline

H4:a. Baseline academic motivation will predict follow-up belongingness satisfaction

b. Baseline academic motivation will predict follow-up belongingness frustration

c. Baseline belongingness satisfaction will predict follow-up academic motivation

d. Baseline belongingness frustration will predict follow-up academic motivation

>> Post-hoc hypotheses investigating changes in autonomy and competence satisfaction and frustration, along with their relationship with academic motivation, were conducted as well

METHOD:

PARTICIPANTS:

- 56+ low-income 5th-grade students attending a charter school's summer "bootcamp" to prepare for 6th grade

PROCEDURE:

- Baseline survey
- Two weekly social skills lessons
- Two weekly reflection surveys
- Follow-up survey

MEASURES:

- Academic Motivation Scale [8] (ex: "I plan to put more time into my schoolwork.")
- Basic Psychological Need Satisfaction and Frustration – Diary Version [9] (ex: "I feel confident that I can do things well at school.")
- Basic Psychological Need Satisfaction and Frustration – Diary Version – Modified

ANALYSES:

- Repeated-measures ANOVA; time treated as repeated variable

RESULTS:

	Baseline Intrinsic Academic Motivation (BIAM)	Baseline Belongingness Satisfaction (BBS)	Baseline Belongingness Frustration (BBF)	Belongingness Satisfaction Week 1 (BSW1)	Belongingness Satisfaction Week 2 (BSW2)	Follow-Up Intrinsic Academic Motivation (FIAM)	Follow-Up Belongingness Satisfaction (FBS)	Follow-Up Belongingness Frustration (FBF)
BIAM		.432 **	-.348*	.295	.127	.484**	.194	.157
BBS	.432**		-.141	.137	.201	-.109	.280	.142
BBF	-.348*	-.141		-.369*	.182	-.196	.084	.319
BSW1	.295	.137	-.369*		.426**	.139	.167	.035
BSW2	.127	.201	.182	.426**		.296**	.175	-.102
FIAM	.484**	-.109	-.196	.139	.296**		.162	-.154
FBS	.194	.280	.084	.167	.175	.162		.214*
FBF	.157	.142	.319	.035	-.102	-.154	.214*	

Table 1. Correlation Matrix for Primary Study Variables

Correlation matrix among primary outcomes of interest (belongingness satisfaction, belongingness frustration, and intrinsic academic motivation) across timepoints. Excludes autonomy and competence satisfaction and frustration.

* correlation is significant at the 0.05 level

** correlation is significant at the 0.01 level

Variable	F	p	df
Δ Intrinsic Academic Motivation (IAM)	.04	.23	30
Δ Belongingness Need Satisfaction (BNS)	1.04	.32	30
Δ Belongingness Need Frustration (BNF)	4.62	.04*	30
Δ Autonomy Need Satisfaction (ANS)	3.28	.08	30
Δ Autonomy Need Frustration (ANF)	1.01	.32	30
Δ Competence Need Satisfaction (CNS)	8.41	.007**	30
Δ Competence Need Frustration (CNF)	.87	.36	30

Table 2. Repeated Measures ANOVA Tests Assessing Changes in Intrinsic Academic Motivation and Basic Psychological Needs Satisfaction and Frustration

Within-persons ANOVAs conducted with time as the repeated measure to assess changes in intrinsic academic motivation and basic needs (belongingness, autonomy, and competence) satisfaction and frustration from baseline to follow-up. Gender was tested as a moderating variable but was not found to be significant in any association and is therefore not displayed in the table.

* change is significant at the 0.05 level

** change is significant at the 0.01 level

Predictor Variables (baseline levels) →	Intrinsic Academic Motivation	Belongingness Satisfaction	Belongingness Frustration	Autonomy Satisfaction	Autonomy Frustration	Competence Satisfaction	Competence Frustration
Criterion Variables (follow-up levels) ↓							
IAM		5.71, .024*, -.651, -.41	.00, .95	.49, .49	1.95, .17	.00, .99	.03, .87
BNS	.21, .65						
BNF	3.36, .08						
ANS	2.54, .12						
ANF	1.12, .30						
CNS	.01, .94						
CNF	.31, .58						

Table 3. Simultaneous Regressions Assessing Associations between Intrinsic Academic Motivation and Basic Psychological Need Satisfaction and Frustration

Follow-up levels of criterion (outcome) variables are regressed onto baseline levels of predictor variables. Baseline levels of criterion variables were controlled in each regression. Degrees of freedom is 29 across all regressions. Results are listed as F, p in each table grid box. For significant results, b and r are included below F and p.

* change is significant at the 0.05 level

** change is significant at the 0.01 level

DISCUSSION:

- No significant differences between baseline and follow-up belongingness satisfaction, competence frustration, autonomy satisfaction, autonomy frustration, or academic motivation
 - Possibly because of small sample size ($n = 32$) and fidelity concerns
 - Also possibly because summer school program was only four weeks long– not long enough to establish successful rapport with peers, review fundamental course knowledge, and integrate identity successfully
- Baseline belongingness frustration significantly increased at follow-up and competence satisfaction significantly decreased at follow-up
 - These changes are expected during middle school transition because of disruptions in peer friendships and overall increased academic demands
 - Four week-long program was not enough adjustment time, and degree of control, discipline, and structure in summer school also likely inhibited adjustment
 - Disruptive students were sent home, so it is likely that students felt they had to choose between connecting with peers or engaging academically
 - Supported by result below: students who already had belongingness satisfaction were able to prioritize classes
- Baseline belongingness satisfaction predicts residual change in academic motivation at follow-up
 - This result has been seen in literature before and is not surprising, as increased belongingness can lead to increased academic motivation
 - Also possibly because students with satisfied belongingness at baseline struggled less to find new belonging and were able to engage in classes more

CONCLUSION:

- Students suffered an increase in belongingness frustration and a decrease in competence satisfaction
- Belongingness satisfaction did predict follow-up academic motivation, confirming the connection between belongingness and academic motivation
- Multiple limitations included sample size, constrained timeline, and fidelity challenges
- Future research should investigate utility of summer school programs to initiate student adjustment to middle school

REFERENCES:

- [1] Anderman, E. M., Maehr, M. L., & Midgley, C. (1999). Declining Motivation after the Transition to Middle School: School Can Make a Difference. *Journal of Research and Development in Education*, 32, 131-147. [2] Ryan, R. M., Stiller, J. D., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *The Journal of Early Adolescence*, 14(2), 226-249. [3] LaFontana, K. M., & Cillessen, A. H. N. (2010). Developmental changes in the priority of perceived status in childhood and adolescence. *Social Development*, 19(1), 130-147. [4] Hay, I., & Ashman, A. F. (2003). The development of adolescents' emotional stability and general self-concept: The interplay of parents, peers, and gender. *International Journal of Disability, Development and Education*, 50(1), 77-91. [5] Kagan, S., & Kagan, M. *Kagan Cooperative Learning*. San Clemente, CA: Kagan Publishing, 2009. [6] Kuperminc, G. P., Leadbeater, B. J., Emmons, C., & Blatt, S. J. (1997). Perceived school climate and difficulties in the social adjustment of middle school students. *Applied Developmental Science*, 1(2), 76-88. [7] Murray, C. (2009). Parent and Teacher Relationships as Predictors of School Engagement and Functioning Among Low-Income Urban Youth. *The Journal of Early Adolescence*, 29(3), 376-404. [8] Lockwood, Penelope, Jordan, Christian H., & Kunda, Ziva (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology*, Vol 83(4), 854-864. [9] van der Kaap-Deeder, J., Vansteenkiste, M., Soenens, B., & Mabbe, E. (2017). Children's daily well-being: The role of mothers', teachers', and siblings' autonomy support and psychological control. *Developmental Psychology*, 53(2), 237-251.