

STEM Inqueery

How Communion and Femininity Affects LGBTQ Individuals' Belonging in STEM that Affects Their Motivation to Pursue STEM

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INTRODUCTION

- Only 60% of STEM majors complete their degrees^[1].
- STEM is a cisgender, straight male^[2], agentic, and non-communal field^[3].
- The inclusion of communion in STEM boosts STEM motivation^[4].
- LGBTQ students highly value communion^[5] and are less likely to stay in STEM^[6].
- We explored how individuals' (future) motivation to pursue STEM is affected by...
 - their expectation for success and belonging in STEM that is affected by...
 - feminine gender expression, and/or
 - the desire for communal opportunities.

METHODS

Women
125

LGBTQ
79

Gender Identity of LGBTQ

Women
63

Men
7

Trans
9

Sexual Orientation of LGBTQ

Homo-
14

Bi-
36

Pan-
13

Hetero-
7

A-
8

Romantic Orientation of LGBTQ

Homo-
16

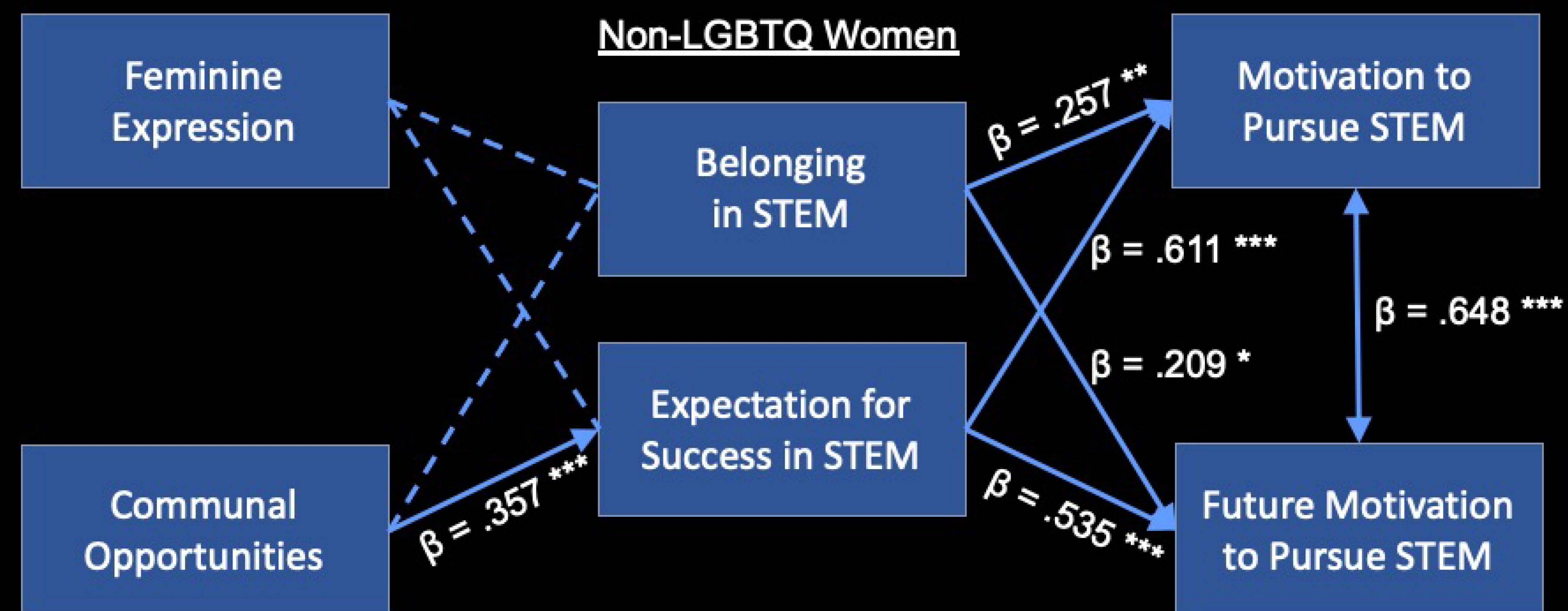
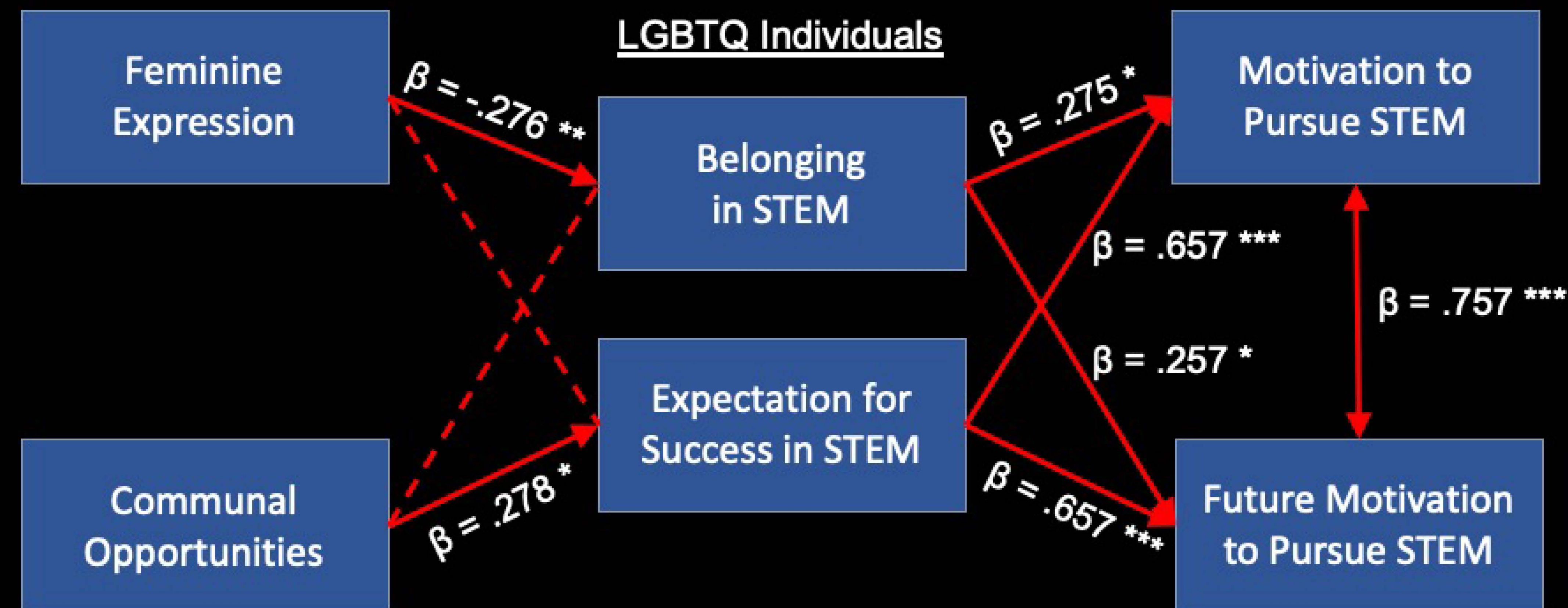
Bi-
29

Pan-
18

Hetero-
15

2

For LGBTQ individuals, their feminine gender expression weakens belonging in STEM, which affects (future) motivation to pursue STEM.

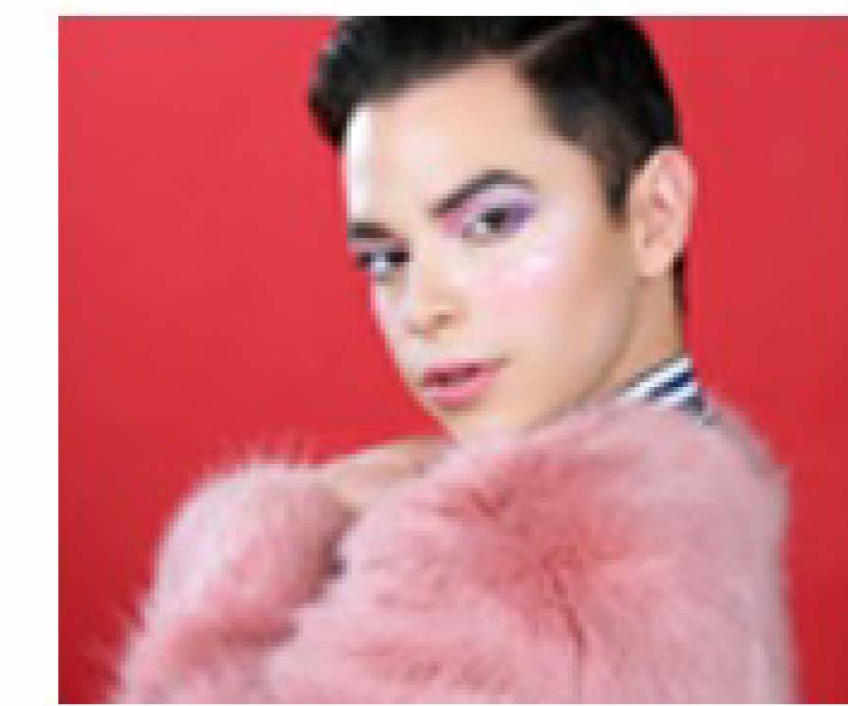


For both, communal opportunities boost expectation for success in STEM which affects (future) motivation to pursue STEM.

METHODS CONT.

Femininity ('A')

Masculinity ('B')



Scales

- Motivation to Pursue STEM ($\alpha = .95$)^[9]
- Future Motivation to Pursue STEM ($\alpha = .97$)^[10]
- Expectation for Success in STEM ($\alpha = .93$)^[11]
- Belonging in STEM ($\alpha = .88$)^[7]
- Gender Expression^[8]
- Communal Opportunities ($\alpha = .90$)^[3]

RESULTS IN STEM

- Results in the center.
- We used an indirect analysis.
 - *: $p < .050$
 - **: $p < .010$
 - ***: $p < .001$
 - Dashed lines are not significant.

DISCUSSION

- This model shows that...
 - Femininity is factor for LGBTQ individuals belonging while not for non-LGBTQ women.
 - Communal opportunities do not affect individuals' belonging path but do affect individuals' expectation for success path.
- Future directions for next study
 - Asking a question about how people in STEM present themselves for style "A"/"B".
 - Collect equal or large enough non-LGBTQ men to compare to the other two groups.

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[1] NSF, 2016, 2020
[2] Miller et al., 2020
[3] Diekmann et al., 2010
[4] Brown et al., 2018
[5] Vaccaro & Newman, 2017

[7] Starr, 2018
[8] Brown et al., 2015
[9] Eccles and Wigfield (1995)
[10] Smith et al., 2013
[11] Tate et al., in press