



Research Week 2021

“Strengths-based Perspectives of Impulsivity in supporting STEM development of undergraduate students.”

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Keywords

Impulsivity, STEM, focus groups, strength-based, qualitative, e-feedback, informatics, neuroscience

Abstract

Introduction:

Impulsivity is associated with many diagnoses (e.g., Attention Deficit Hyperactivity Disorder, etc.), but can be present at non-clinical levels for a wider population. Our prior work showed that impulsivity can negatively influence students' beliefs in their STEM abilities. While impulsivity is often associated with a negative stigma, it can also have benefits related to STEM engagement. This project will examine student perceptions of impulsivity in relation to persistence in STEM education.

Methods:

Students who have persisted with STEM at the undergraduate level will be invited to participate in strengths-based focus groups held virtually. Impulsivity will be assessed on the Barratt Impulsiveness Scale (BIS-15), with scores used to group participants into tertiles for focus groups (low (lowest 25%), mid (middle 50%), or high (top 25%)). Focus group transcriptions will be analyzed for thematic content using Taguette software. Focus group feedback will be used to generate personalized e-feedback for an informatics-based STEM development and tracking tool. Feedback will include student-identified strategies for supporting STEM persistence across impulsivity tertiles.

Impact:

The data collected will be used to inform supports for STEM students by highlighting the benefits of neurodiversity in STEM education including the benefits of impulsivity as it relates to persistence in STEM education. This project may have broader-reaching impacts on the scientific community by helping to de-stigmatize impulsivity while embracing positive aspects of the trait. This work can raise awareness of existent neurodiversity in

STEM and encourage the application of universal design principles to STEM educational supports for the benefit of neurodiverse students and the broader population.