



High-Impact Practices and Personality- Are HIPs Biased for Certain Traits?

Angie L. Miller, Ph.D.

Indiana University Bloomington, Center for Postsecondary Research

2018 Association for Institutional Research Annual Forum



Abstract

Is high-impact practice (HIP) participation more common in students with certain personality traits? This study uses National Survey of Student Engagement (NSSE) core and experimental items on the Five-Factor Model of personality, given to 10,255 students at 34 institutions. A series of t-tests suggests several significant differences. Those higher in Extraversion, Agreeableness, and Intellect are more likely to do learning communities, research with faculty, internships, leadership roles, and capstone experiences. Conversely, those higher in Conscientiousness are less likely to hold leadership roles or do study abroad. Understanding of these differences can help institutions develop HIP programming that is appealing and inclusive for all students.

Background

- Previous higher education research shows a link between personality traits and academic achievement (Soric et al., 2017), as well as academic motivation (Komarraju et al., 2009)
 - Programs such as learning communities, service learning, undergraduate research with faculty, internships, senior capstone projects or culminating experiences, and study abroad are recognized as HIPs due to their positive connection with key educational outcomes and mutual qualities that influence their effectiveness (Kuh, 2008)
 - Students are encouraged to participate in HIPs, and many institutional resources are directed to HIP programming and support
 - Important to understand role of personality traits in HIP participation rates, to determine:
 - 1) which HIPs might be the best fit for certain students
 - 2) how to adapt HIP programming to accommodate a variety of personality traits
- ## Research Question
- *Goal of current study:* Explore whether high-impact practice (HIP) participation is more common in students with certain personality traits

Participants

For the NSSE 2017 administration, an experimental item set measuring the Five-Factor Model of personality was appended to the core questionnaire for a subset of 34 institutions. This subset was selected by random assignment and mirrored the overall national landscape when looking at size, Carnegie classification, and control.

Over 10,255 first-year students and seniors responded to the experimental item set. Of the sample of responding students, 36% were men, 55% were White, and 86% were full-time enrolled. In terms of class level, 43% were first-year and 57% were seniors.

Measures

Mini-IPIP Scales (Donnellan et al., 2006): a 20-item set based on the Five-Factor Model Subscales for:

- Extraversion
- Agreeableness
- Conscientiousness
- Neuroticism
- Openness/Intellect

NSSE high-impact practice items:

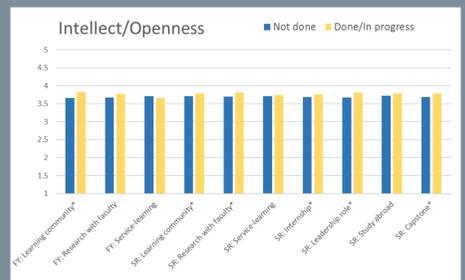
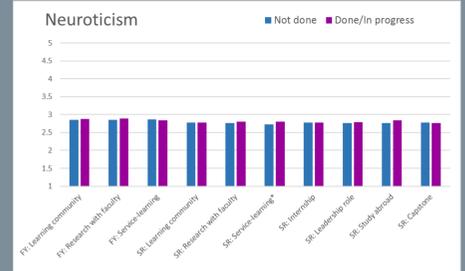
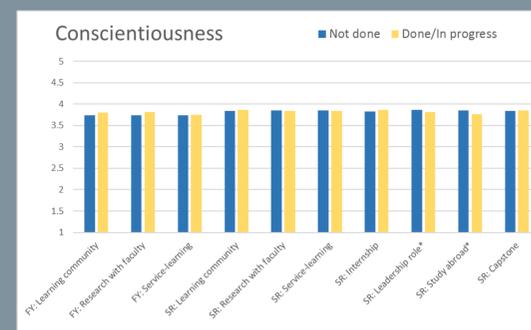
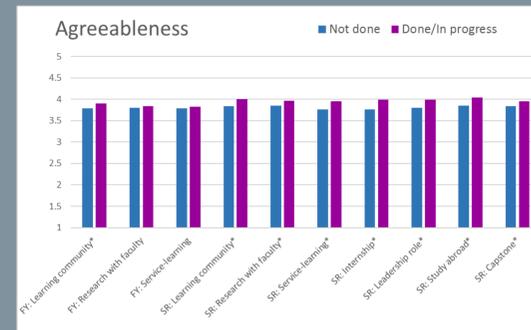
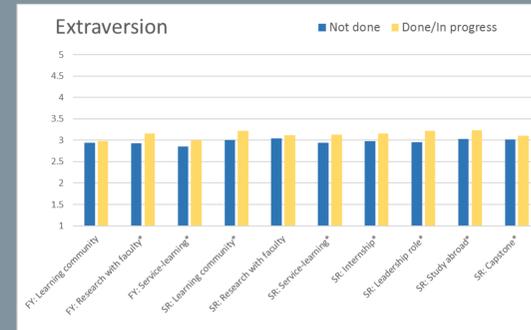
- Learning community
- Service-learning
- Research with faculty
- Internship/field experience
- Senior capstone project/culminating experience
- Study abroad
- Formal leadership role

Analyses

A series of exploratory independent samples t-tests were conducted, comparing those who had and had not participated in the various HIPs on the five personality trait sub-scales. To address the possibility of Type I error, a Bonferroni correction of $\alpha = .005$ was used as a cut-off for statistical significance (Field, 2009).

Results

First-year students who participate in learning communities are significantly higher in Agreeableness and Intellect, while those who do research with faculty and service-learning are higher on Extraversion. For seniors, many significant patterns emerged as well. Those who complete learning communities, internships, and culminating capstone experiences are significantly higher on Extraversion, Agreeableness, and Intellect. Seniors completing service-learning are higher on Extraversion, Agreeableness, and Neuroticism. Those who do research with faculty are higher on Agreeableness and Intellect, while those who hold formal leadership roles are lower in Conscientiousness. Finally, those who do study abroad are higher on Extraversion and Agreeableness, but lower in Conscientiousness. (See Figures below; * $p < .005$)



Implications

- Results are somewhat reflective of previous research relating certain personality traits to motivation and achievement (Clark & Schroth, 2010; Tross et al., 2000), but conscientiousness is usually positively related
- Findings for leadership roles and study abroad may be due to concerns for time management in co-curricular activities and ability to complete graduation requirements while spending a semester at a different university
- Institutions may need to develop new HIP programming that is more appealing and inclusive for all students

References

Bauer, K.W., & Liang, Q. (2003). The effect of personality and precollege characteristics on first-year activities and academic performance. *Journal of College Student Development, 44*(3), 277-290. doi: 10.1353/csd.2003.0023

Clark, M.H., & Schroth, C.A. (2010). Examining relationships between academic motivation and personality among college students. *Learning and Individual Differences, 20*, 19-24. doi: 10.1016/j.lindif.2009.10.002

Donnellan, M.B., Oswald, F.L., Baird, B.M., & Lucas, R.E. (2006). The Mini-IPIP Scales: Tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment, 18*(2), 192-203. doi: 10.1037/1040-3590.18.2.192

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London: Sage Publications.

Komarraju, M., Karau, S.J., & Schmeck, R.R. (2009). Role of the Big Five personality traits in predicting college students' academic motivation and achievement. *Learning and Individual Differences, 19*, 47-52. doi: 10.1016/j.lindif.2008.07.001

Kuh, G.D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*. Washington, DC: Association of American Colleges and Universities.

Soric, I., Penezic, Z., & Buric, I. (2017). The Big Five personality traits, goal orientations, and academic achievement. *Learning and Individual Differences, 54*, 126-134. doi: 10.1016/j.lindif.2017.01.024

Tross, S.A., Harper, J.P., Osher, L.W., & Kneidinger, L.M. (2000). Not just the usual cast of characteristics: Using personality to predict college performance and retention. *Journal of College Student Development, 41*(3), 323-334.