

Personality and perceptions of online courses among students who chose and students who were forced to online learning

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Introduction

Online medical education may persist beyond the COVID-19 pandemic. Student perceptions of online learning have been shown to differ based on personality and motivation for online coursework.[1,2] Understanding these associations could assist medical faculty in preparing successful online curriculums.

We explored if associations between personality and perceptions of online learning differed between students who chose an online program and those who were forced to transition to online learning.

Methods

Three cohorts of students responded to validated survey instruments for personality type (Big Five Inventory, BFI [3,4]) and perceptions of online learning (Online Course Impressions, OCI [1]). All students were surveyed in Oct-Nov 2020.

- Master of Public Health (MPH, n=38): enrolled in a fully online program; only students in their first or second semester were invited to participate
- Medical student class of 2022 (co2022, n=33): forced to transition to online learning during the pandemic
- Medical student class of 2024 (co2024, n=45): expected some online learning due to the pandemic

Participant characteristics

MPH students were more likely to be 30 years or older, have more than 5 years of full-time work experience, and have taken an online class prior to their current program compared to co2022 and co2024. There were no significant differences in gender or marital status between cohorts.

References

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2. Rios T. The Relationship between Students' Personalities and Their Perception of Online Course Experiences. *Journal of Educators Online*. 2019 Jan;16(1):n1.
3. John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 114-158). New York, NY: Guilford Press.
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Results

Few significant differences in personality scores were observed between the cohorts.

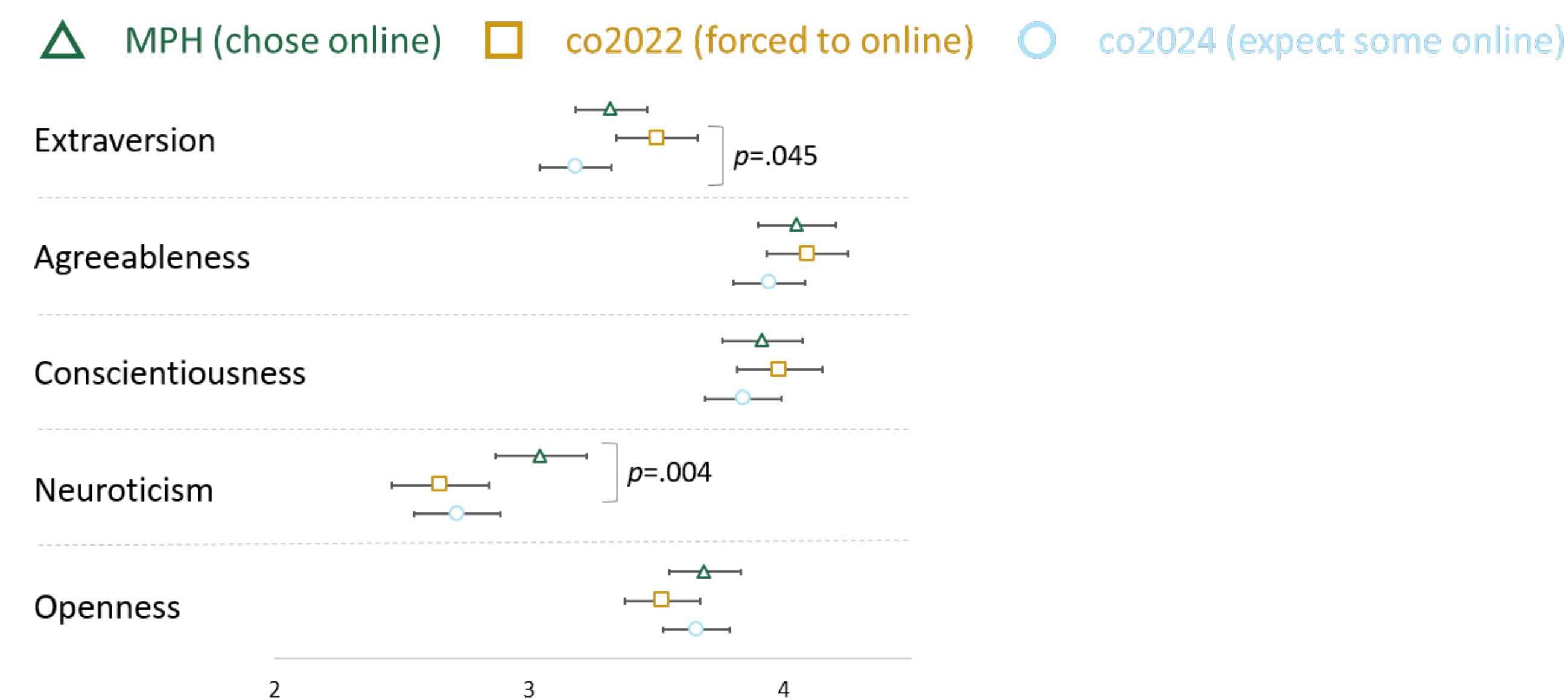


Figure 1: Mean BFI personality score by cohort, adjusted for age, gender, marital status, previous work experience, and previous online course experience (score range: 1-5)

Correlations

Significant correlations between conscientiousness and perceptions of online learning were observed among MPH students but not among medical students. Among co2022, extroversion and engagement in online courses were positively correlated.

Table 1: Correlations between BFI and OCI scores among MPH students

OCI dimension	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Engagement	0.01	-0.03	0.35 **	-0.25	-0.01
Value to career	0.09	0.05	0.37 **	-0.17	0.08
Overall evaluation	0.08	0.04	0.25	-0.31 *	0.10
Anxiety/frustration	0.04	0.11	-0.34 **	0.16	0.11
Prefer online	-0.12	-0.15	0.18	-0.01	-0.03

** Significant at $p < .05$, * Significant at $p < .10$

Conclusions

Although personality scores were similar, significant differences in perception of online learning existed between students who chose an online curriculum compared to those forced to transition.

- Lack of correlations between personality and perceptions among medical students suggests that other mechanisms may affect their experience but more research is needed
- Stronger correlations among MPH students may exist because certain personality traits influence choice of an online program; medical students do not have this choice
- Transition to online for co2022 may have been particularly stressful because of the anticipated transition to clerkships

Significant differences in perception of online learning domains were observed between MPH and medical students. Fewer differences were observed between medical student classes.

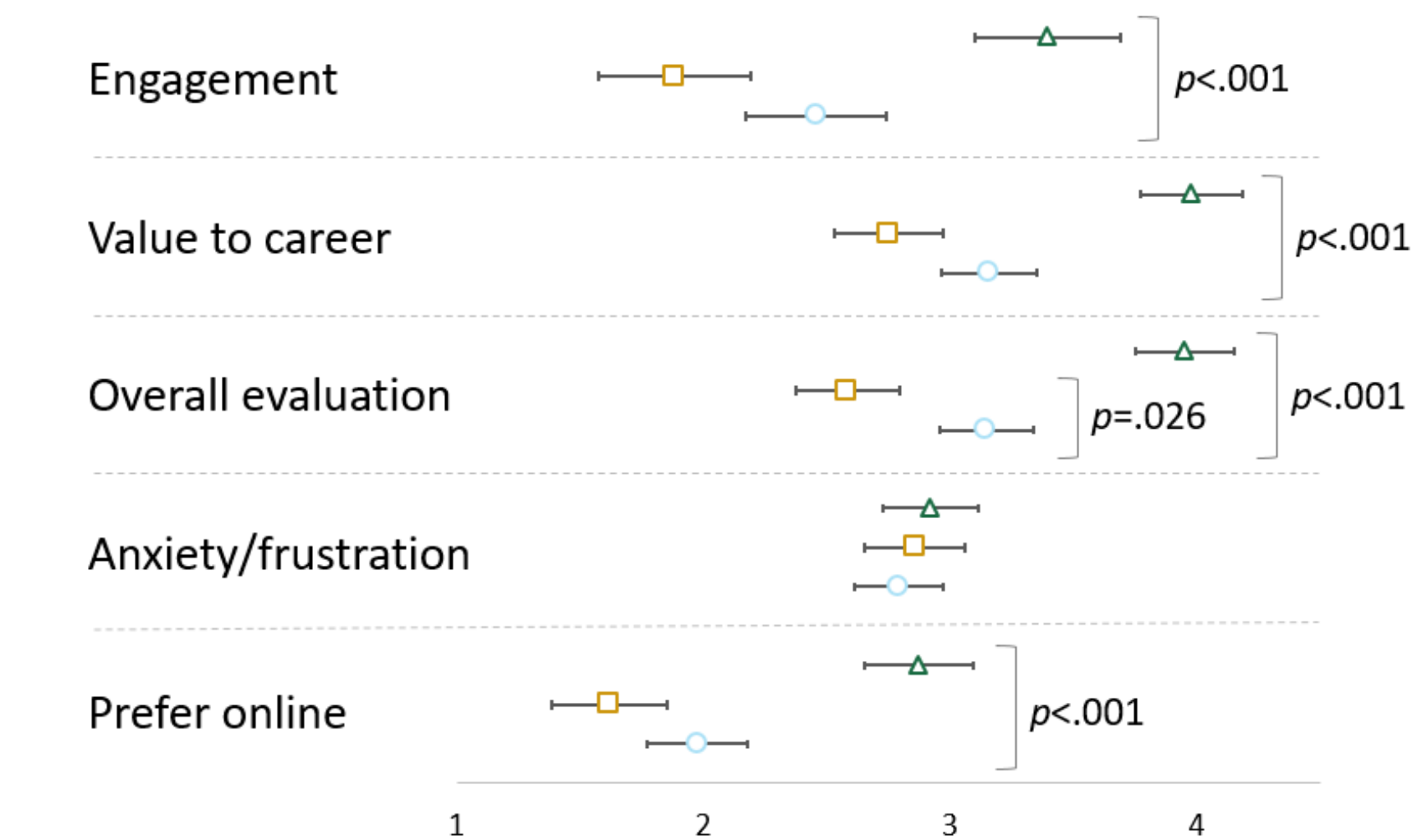


Figure 2: Mean OCI perception of online learning score by cohort, adjusted for age, gender, marital status, previous work experience, and previous online course experience (score range: 1-5)

Table 2: Correlations between BFI and OCI scores among co2022

OCI dimension	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Engagement	0.35 **	0.04	0.10	-0.15	-0.21
Value to career	0.13	-0.02	0.16	0.13	-0.25
Overall evaluation	0.24	0.11	0.12	0.02	-0.14
Anxiety/frustration	0.32 *	0.14	0.19	-0.19	0.10
Prefer online	-0.01	0.24	-0.13	-0.08	-0.15

** Significant at $p < .05$, * Significant at $p < .10$

Table 3: Correlations between BFI and OCI scores among co2024

OCI dimension	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Engagement	-0.14	0.02	-0.09	0.05	-0.12
Value to career	0.64	0.72	0.68	0.98	0.46
Overall evaluation	-0.17	0.02	-0.16	0.03	-0.18
Anxiety/frustration	0.19	-0.05	0.02	0.11	0.04
Prefer online	-0.18	0.03	-0.20	0.22	-0.19

** Significant at $p < .05$, * Significant at $p < .10$

Our study includes some limitations:

- We could not control for the quality of online courses; MPH courses are intentionally designed for online learning
- Small cohort sizes may have limited our power to detect additional differences in personality and perceptions
- Although we controlled for key demographic factors, other differences in lifestyle and life circumstances between MPH and medical students may explain the observed differences

Future directions include exploring other mechanisms that affect medical student's online experience, understanding the faculty perceptions of the transition to online, and examining whether faculty perceptions may explain student perceptions.