

Student Work

---

12-8-2020

## Personality, Online Learning, and COVID-19

Dareen Christabel

Hannah Fields

Sarah M. Krysl

Mariah Rodriguez

Follow this and additional works at: [https://digitalcollections.dordt.edu/student\\_work](https://digitalcollections.dordt.edu/student_work)



Part of the [Psychology Commons](#)

---

### Recommended Citation

Christabel, D., Fields, H., Krysl, S. M., & Rodriguez, M. (2020). Personality, Online Learning, and COVID-19. Retrieved from [https://digitalcollections.dordt.edu/student\\_work/68](https://digitalcollections.dordt.edu/student_work/68)

This Article is brought to you for free and open access by Dordt Digital Collections. It has been accepted for inclusion in Student Work by an authorized administrator of Dordt Digital Collections. For more information, please contact [ingrid.mulder@dordt.edu](mailto:ingrid.mulder@dordt.edu).

**Personality, Online Learning, and COVID-19**

Dareen Christabel, Hannah Fields, Sarah M. Krysl, and Mariah Rodriguez

Department of Psychology, Dordt University

PSYC 366: Senior Research Project

Dr. Luralyn Helming

8 December 2020

### **Abstract**

While characteristics of in-person learning versus online learning and the impact of personality on academic success have been studied, the nature of these variables in the context of a stressful event like the COVID-19 pandemic remains undetermined. This quantitative correlational survey analysis investigated 133 participants' prior online learning experience and neuroticism levels, via the Big Five personality test, to examine relationships between those two variables and the variables of perceived learning, change in GPA, and perceived lost learning during COVID-19. Researchers found no significant correlations or effects between any of these variables. Researchers concluded that while the variables in question did not reveal any disadvantages towards specific students stemming from the pandemic, there might be other personality factors with effects or confounding variables that impacted students during the pandemic.

*Keywords:* neuroticism, COVID-19, perceived learning, lost learning, Big Five, personality, previous experience

### **Personality, Online Learning, and COVID-19**

Different aspects of personality correlate with many behaviors and personal attributes (Paunonen, 2003). The influence of personality on grades and student success has been demonstrated in both physical learning and online learning environments (Komarraju et al., 2009; Negru-Subtirica et al., 2019; Paunonen, 2003). There is evidence of personality affecting perceived learning as well (Blau et al., 2017). When the COVID-19 pandemic impacted many individual lives and societal functions, schools were not immune. Many students suddenly resumed their learning virtually, and which led to many issues and frustrations (Adnan & Anwar, 2020). Since personality has a role in many behaviors and learning elements, it may influence how different people were able to perform during the sudden transition to online learning during the pandemic. The purpose of this study is to investigate the effects of personality on the reactions of Dordt University students to the shift to online learning due to the COVID-19 pandemic. To do this, we studied their neuroticism personality scores, their previous online learning experience, their academic success shown in grade point average (GPA) over the 2019-2020 school year, and their perceived learning during the 2020 Spring semester.

### **Learning**

Learning is “a long-term change in mental representations or associations as a result of experience” (Ormrod, 2012, p. 4). Learning often takes place in formal classroom settings. In-person learning has been the typical format in schools but with the development of technology and societal changes, online learning has become more prevalent. Daughenbaugh et al. (2002) researched how personality types impact the satisfaction of online versus in-person classes. They believed this information would help to advise students of certain personality types to avoid online learning (Daughenbaugh et al., 2002). The data suggested that extroverted personality

types preferred online learning more than introverted personality types. Overall results were inconclusive, but the research did support the hypothesis that there are differences between personality types and their learning preferences (Daughenbaugh et al., 2002). Caspi et al. (2006) also analyzed the personality traits of classroom students, finding a significant difference in neuroticism, extroversion, and openness between those who participate and those who do not. The student participants were found to have higher extroversion and openness scores and lower neuroticism scores than non-participants. However, they found no significant difference between participants and non-participants in a web-based instructional environment.

McKissack (1997) investigated the differences in students' GPA between a traditional classroom setting and a distance learning setting. The data suggested there was no significant difference in students' GPA between both learning environments, but results demonstrated that student's completion rate might be more advanced in a traditional classroom format than in a distance format (McKissack, 1997). Traditional classrooms and online learning are two environments that can affect students differently.

### ***Online Learning***

There is clear evidence of an increase in online education in the United States (Christensen et al., 2011). Schools that offer students online courses at a young age, do it to offer students schedule flexibility, combine the academic world with the outside world, and to develop skills and familiarity with online instructions that might play a role in their future career or education (Oblender & Glass, 2004). Many universities have adapted to distance online learning to accommodate the needs of students (Hannay & Newvine, 2006). Many students do prefer distance learning more than traditional education because they believe can easily balance their

other responsibilities without decreasing the quality of their education (Hannay & Newvine, 2006). With online learning environments, other aspects can be studied.

Lee (2014) investigated math and science graduate students and their satisfaction levels with online courses. The study focused on human factors (professor/instructor) and design factors (course structure and technical properties) and how both can influence the effectiveness of student domains, which can then lead to the effectiveness of online learning (Lee, 2014). The data demonstrated that for the human factors, students' levels of satisfaction were related to the professor's knowledge of the materials and their effective strategies (Lee, 2014). For the design factors, student satisfaction levels were related to clear guidelines for online courses and clear rubrics for assignments (Lee, 2014).

Individual differences exist in online learning as well. Regarding gender differences, Rovai and Baker (2005) found females experienced higher perceived learning and a stronger sense of community compared to males in online learning. Berenson et al. (2008) studied emotional intelligence and personality theories relating to success in online learning. They found emotional intelligence correlated to higher academic success in online courses according to grade point averages; this was considered a predicting factor (Berenson et al., 2008). These researchers also studied the Assessment of Character Traits Profile (ACT- personality test) of personality traits concerning academic success; individuals who were characterized as aggressive, tense, or those with external loci of control tended to obtain lower grade point averages compared to those with lower scores on those same scales (Berenson et al., 2008).

### **Big Five Personality**

The Big Five personality traits are each measured on a scale; the traits include extroversion, neuroticism, agreeableness, conscientiousness, and openness (Chen & Caropreso,

2004). One of the key personality traits of the Big Five structure is neuroticism or emotional stability (Goldberg, 1990). Neuroticism, as a personality trait, is a lasting predisposition to experience negative emotional conditions (Widiger, 2009). A person who has high levels of neuroticism is likely to experience feelings such as anxiety, anger, guilt, and depression; and is also likely to respond poorly when facing environmental stress (Widiger, 2009). The personality traits of Big Five have been used to predict different areas such as career success (Judge et al., 1999), emotional intelligence and academic intelligence (Zee et al., 2002), and academic emotion and achievement (Komarraju et al., 2009). Big Five personality traits also correlate with honesty, popularity, GPA, and other various behaviors (Paunonen, 2003). Specifically, Conscientiousness is deemed to be the most powerful predictor for academic success in adolescence (Dumfart & Neubauer, 2016). Trapmann et al. (2007) investigated noncognitive factors and their role in the prediction of students' academic success. They measured neuroticism's relationship with academic satisfaction. Neuroticism predicted results for academic satisfaction, but more research can be investigated on high levels of neuroticism and its effect on different learning environments, such as online learning.

Amichai-Hamburger et al. (2002) studied the relationship between extroversion and neuroticism on the internet. They predicted that people who score high on scales of introversion or neuroticism find their true selves through the internet, whereas people who score low on scales of introversion or neuroticism find their true selves through traditional social interactions. Their findings were in line with their hypothesis. We would like to see if this result can be generalized to online learning for neuroticism.

***Physical Learning and Big Five***

The Big Five personality traits impacted students' academic performance through their relationship with self-efficacy and motivation (De Feyter et al., 2012). Neuroticism correlates to lower levels of self-efficacy, and De Feyter et al. (2012) related neuroticism levels to students' fear of failure. In-class learning has greater fear associated with it as there are more tangible consequences versus the disconnected format of online learning. How students cope with this fear determines whether their neuroticism results in amotivation or extrinsic motivation (De Feyter et al., 2012). If a student has positive self-efficacy, they are more likely to cope well with the fear of failure and therefore, their neuroticism will work for them in the form of extrinsic motivation. On the other hand, negative self-efficacy will result in negative coping behaviors, which will stimulate the student's neuroticism in the form of amotivation (De Feyter et al., 2012).

***Online Learning and Big Five***

Chen and Caropreso (2004) found students with higher scores in the Big Five personalities of agreeableness, extroversion, and openness tended to excel in communication skills and fulfilling goals of online discussion forums. When students who scored high on these scales were paired in online discussion groups with those who scored low on the scales, communication improved over time within the groups (Chen & Caropreso, 2004). This change was attributed to the interaction between the different personalities of individuals. Online discussions can also be beneficial to students who have high levels of introversion and neuroticism, as these individuals tend to be intimidated during in-person discussions (Aloni & Harrington, 2018).



When focusing on the Big Five personality traits or neuroticism/emotional stability, Blau et al. (2017) found emotionally stable students acquired more literal and inferential knowledge and had higher levels of perceived learning and enjoyment compared to their more neurotic counterparts during online learning. This supports Kraut et al.'s (2002) “rich get richer” model which, while based mainly on extroversion, “predicts that those who are highly sociable and have existing social support will get more social benefit from using the internet” (p. 58). This theory was used to outline how people with higher social skills in physical environments also experience internet communication and communities in more positive ways than those with social impairments.

Knowing the perceptions held by students participating in online learning is vital to improving course format and adapting environments to benefit students. Keller and Karau (2013) created online course impressions (OCI) to measure five different perceptions they considered important and analyzed their data against the Big Five personality traits. Keller and Karau's (2013) five perceptions were engagement, value to career, overall evaluation, anxiety/frustration, and preference for online courses. Data supported two main relationships. Conscientiousness was positively related to engagement, value to career, overall evaluation, and preference for online courses, but related negatively to anxiety/frustration (Keller & Karau, 2013). This data also supported that agreeable and open students were more likely to find that online learning positively impacted their future careers (Keller & Karau, 2013).

### ***GPA and Big Five***

Of the five personality traits identified from the Big Five, conscientiousness was found to influence students' GPA the most. Conscientious students were more likely to stay motivated through self-discipline and organization (Komarraju et al., 2009). Paunonen (2003) studied the

correlation between conscientiousness and GPA and found multiple Big Five scales that confirmed this idea. Openness played a role in students' motivation and supported Komarraju et al.'s (2009) claim that "the intellectually curious are more likely to enjoy learning" (p. 50). Motivation resulting from both personality traits had a positive impact on these students' GPA and academic achievement. Negru-Subtirica et al. (2019) additionally discovered that GPA and personality traits mutually influence each other. Neuroticism has been previously linked to negative effects on GPA when students are compared to their own mean, at an individual level (Negru-Subtirica et al., 2019). This effect is even stronger when under the effect of social comparison.

### **COVID-19 Pandemic's Effects on Personality and Education**

Sutin et al. (2020) studied the Big Five personality traits concerning the COVID-19 pandemic; they hypothesized that the neuroticism factor would increase because they perceived anxiety levels of the general public to be increasing. They instead found that levels decreased (Sutin et al., 2020). Their inductive reasoning for this change explained that people might rate themselves as being less neurotic individuals if they believe everyone around them to be neurotic as well due to the stress of dealing with the pandemic (Sutin et al., 2020).

Forced online learning due to COVID-19 offered many issues and produced negative perspectives (Adnan & Anwar, 2020). Pakistani online higher education was concluded to need significant improvement by students in this study. There has been much research done on online learning, but little is known about online learning amid the COVID-19 pandemic, better termed by Adnan and Anwar (2020) as "crisis learning" (p. 46). The purpose of this research is to investigate how participants' neuroticism levels and prior experience correlate to their academic

success and perceived learning during the transition to online education due the COVID-19 pandemic.

## **Methods**

### **Participants**

The sample was comprised of 133 student volunteers from Dordt University. Participants were recruited from various classes in the psychology department, through posted announcements, and personal interactions. Participants received extra credit points after completing the study at the discretion of their instructors. All participants attended Dordt University during the Fall 2019 and Spring 2020 semesters. Participants remained anonymous and their information confidential.

### **Measures**

#### ***Big-Five Factor Model (Goldberg, 1990)***

To investigate participants' personality traits, specifically neuroticism, the participants were asked to complete the Big Five personality test. This measurement consisted of fifty questions that asked participants to describe themselves to the best of their abilities and in relation to other people (*Administering IPIP Measures, with a 50-Item Sample Questionnaire*, n.d.). The neuroticism subscale consisted of 10 items ( $\alpha = .87$ ). One example question is, "I get stressed easily"; for each of the questions, participants were asked to answer on a 5-point Likert scale, where 1 was Very Inaccurate and 5 was Very Accurate (*Administering IPIP Measures, with a 50-Item Sample Questionnaire*, n.d.).

#### ***Perceived Learning Self-Report***

The perceived learning self-report consisted of two questions based on a nine-point scale; the questions were adapted from a previous scale created by Richmond et al. (1987). The first

question measured perceived learning by comparing how students perceived their learning in the Spring 2020 semester to previous semesters. Participants were asked to respond to the question: “On a scale of 0 to 9, how much did you learn during the Spring 2020 semester, with 0 meaning you learned nothing and 9 meaning you learned more than during any other semester?” Then, participants were asked to respond to the following question: “On a scale of 0 to 9, how much do you think you could have learned during the Spring 2020 semester if your classes were not moved to online learning due to COVID-19?” The second question was subtracted from the first to calculate participants’ perceived loss of learning.

### ***Grade Point Average (GPA)***

Data for participants’ GPA was collected via self-report. Two questions on the survey asked for participants’ GPA; one asked for the Fall 2019 semester GPA and one asked for the Spring 2020 semester GPA. Participants were given a link to a page where they could locate their GPAs for each semester at Dordt University. They were also given instructions on how to locate their semester GPAs on that page.

### **Procedure**

Researchers sent emails to the volunteering students asking them to complete the study by a specific date. Reminders were sent out one week before the due date and four days before the due date. Participants received a link to a survey. The survey began with a link to an informed consent document (see Appendix A for the informed consent) so participants could read the document and click to confirm their consent before participating. Participants then completed the rest of the survey (see Appendix B for the survey). The first section of the survey consisted of the Big Five personality questions. The second section asked two questions about GPA and provided a link where students could access their GPAs. The third section asked one

yes or no question about their prior online school experience. The last section asked two perceived learning questions. At the end of the survey, there was a link to the debriefing statement. The statement informed them of the purpose of the study, provided the participants with a link to the Big Five personality survey, which gave them the option to take the survey again to see their personality scores, and provided participants with a link to receive extra credit per their professors' discretion.

### Results

We tested the correlation of neuroticism levels and GPA difference, perceived learning, and perceived loss learning using Pearson's product-moment correlation. We found no statistically significant correlation between neuroticism and any of the dependent variables. The variables of neuroticism and GPA difference between semesters had no significant correlation,  $r(131) = .03, p = .699$ . The variables of neuroticism and perceived learning,  $r(131) = .04, p = .688$ , as well as the variables of neuroticism and perceived lost learning,  $r(131) = -.11, p = .194$ , also had no significant correlations.

We also performed a Welch Two Sample *t*-test to examine possible statistically significant differences between those who reported prior online learning experience and those who did not and GPA differences, perceived learning, and perceived loss learning. There was no significant difference in GPA between those with prior online experience ( $M = 0.03, SD = 0.39$ ) and those without prior experience ( $M = -0.01, SD = 0.39$ ),  $t(129.29) = -0.65, p = .515$ . There was also no significant difference in perceived learning between those with prior online experience ( $M = 4.76, SD = 1.65$ ) and those without prior experience ( $M = 4.44, SD = 1.61$ ),  $t(128.78) = -1.12, p = .263$ . Additionally, no significant difference was found between

those with prior online experience ( $M = 2.49$ ,  $SD = 1.68$ ) and those with no prior experience ( $M = 2.57$ ,  $SD = 1.88$ ) for perceived lost learning,  $t(131) = 0.26$ ,  $p = .798$ .

For exploratory purposes, we tested the correlations between GPA difference and perceived learning and GPA difference and perceived lost learning using Pearson's product-moment correlations. GPA differences and perceived learning were found to have a weak positive correlation  $r(131) = .26$ ,  $p < .05$ . GPA differences and perceived lost learning were found to have a weak negative correlation  $r(131) = -.29$ ,  $p < .05$ .

### Discussion

In this study, we hypothesized that higher levels of neuroticism would correlate with individuals receiving lower grades in the Spring 2020 semester compared to the Fall 2019 semester since students and faculty were forced to transition to online learning during the Spring. There was not a significant relationship between levels of neuroticisms and GPA differences for the sample. We also hypothesized that individuals with higher levels of neuroticism would correlate with lower levels of perceived learning and higher levels of perceived lost learning. There were no significant relationships between these factors either. Additionally, we hypothesized that individuals who had prior experience in taking online classes would respond better to classes being moved online due to COVID-19. Yet, we found no significant differences in GPA differences, perceived learning, or perceived learning loss between those who had prior experience and those who had no prior experience.

For exploratory purposes, we evaluated the relationship between GPA differences and perceived learning and between GPA differences and perceived lost learning to learn more about the nature of the perceived learning scales. We found that higher levels of perceived learning positively correlated with higher GPAs in the Spring compared to the Fall. Therefore, the

evidence supported that participants' perceptions of their learning, according to the scale used, corresponded well with their academic performance measured by GPA. We also found that higher levels of perceived lost learning were negatively correlated with GPAs in the Spring compared to the Fall which meant that students who perceived higher learning losses in the Spring also received lower grades in the Spring when they were learning online due to the pandemic. Participants' academic performance corresponded with their perceptions of their lost learning. While these two findings were not initially apart of the study, the significance found might add to future research.

Widiger (2009) found that high levels of neuroticism correlated with poor responses to environmental stressors. Our findings differed as we found no significant correlations between neuroticism levels and academic performance, despite the added stress of the COVID-19 pandemic. Trapmann et al. (2007) found that neuroticism was significantly correlated with academic satisfaction. Yet, we found no significant correlations between neuroticism levels and perceived learning or perceived lost learning, which would be likely factors in academic satisfaction. Blau et al. (2017) found that emotionally stable students acquired more inferential knowledge, acquired more literal knowledge, and had higher levels of perceived learning compared to neurotic counterparts.

Our findings did not parallel these past studies. However, Aloni and Harrington (2018) found that students with high levels of neuroticism tended to benefit from online discussions; they hypothesized that students with high neuroticism levels were often intimidated during in-person discussions. Our results align with this past study because we found no significant correlations between neuroticism levels and academic performance or perceived learning; perhaps our sample of students that were high in neuroticism also benefited from being online

during the stressful period of COVID-19 since they did as well as their emotionally stable counterparts.

Sutin et al. (2020) studied how the Big Five personality test changed during an acute phase of the COVID-19 pandemic and found that neuroticism levels decreased in the general public; this was likely due to individuals rating themselves lower in neuroticism because they viewed their stress as relative to the high levels of stress of others around them during the pandemic. Our lack of significant correlations between neuroticism and academic success appeared to correspond to the changes in the personality scale itself due to the pandemic. Although we hypothesized that there would be a difference in GPA, perceived learning, and lost learning between those who had prior online school experience compared to those who were attending online school for the first time, we found no significant difference between groups either. We hypothesized that these two groups would be different because of the added effects of going online mid-semester during COVID-19, but our findings affirm McKissack's (1997) findings of no significant differences in students' GPA between online learning and in-person learning.

Several possible confounds might have altered the results of our study. One of these is that our participants' perceived learning could have been biased by their GPA. Researchers prompted participants for their GPAs before presenting them with questions about how they perceived their learning. Participants' perceived learning answers might have been influenced by seeing their differences in GPA. This can be reduced by presenting participants with questions about perceived learning before asking for their GPAs.

Bowling et al. (2016) elaborated on the inaccuracy of self-report data. Since the data we received was collected through a self-report method, participants could have manipulated their



answers to obtain a more desirable outcome. Self-report allows room for participants to answer questions from a biased perspective that favors what they may wish to be like rather than what their actual personality is. Additionally, participants were answering the self-report questions based on what happened months ago in a previous semester. The time delay might have influenced their self-report as well. Future researchers can reduce this confound by collecting a second opinion on the participants' personalities or use a Big Five questionnaire that includes a lie or social desirability scale to ensure higher internal validity and reliability in its results.

A third possible confound is that the COVID-19 pandemic might have altered individuals' perceptions of their personality. As stated above, Sutin et al. (2020) found that during an acute phase of the pandemic, neuroticism levels decreased in the general public; they believe this reduction was due to individuals perceiving their neuroticism levels to be lower because of the relatively high levels stress levels of other individuals during the pandemic. Therefore, perhaps Sutin et al.'s (2020) findings correspond with our sample as well. Individuals might not have rated their emotional stability in the same way as they would have if they were taking this survey before the pandemic occurred, which might have skewed results. Future researchers could avoid this confound by evaluating to see if the Big Five personality survey is still evaluating neuroticism levels in a reliable way or if it decreases in reliability due to a change in perceived personality from a pandemic. Future researchers should also study the long-term changes of the Big Five personality survey itself.

In conclusion, this study was important because it did not support the claim that high neuroticism levels in personalities harm a person's academic achievement or perceived academic success. Therefore, the research provides evidence supporting the claim that a person with low neuroticism levels will not have an academic advantage over a person with high neuroticism

levels. Additionally, although this research did not find any significant correlations or differences between the variables, it provided insight and direction for future research regarding COVID-19 and its effects on students. Future research should focus on how the COVID-19 pandemic affected individuals, students in particular, so that there is an understanding of how different individuals respond to stressful events. Future research should also direct attention to the possibility that the other four Big Five personality characteristics – openness, conscientiousness, extroversion, and agreeableness – might relate to the variables of academic achievement and perceived success during the COVID-19 pandemic. Additional research regarding the possibility of difference in Big Five personality results (particularly the neuroticism scale) after a pandemic is also suggested.

### References

- Administering IPIP Measures, with a 50-item Sample Questionnaire*. (n.d.). Retrieved September 29, 2020, from [https://ipip.ori.org/new\\_ipip-50-item-scale.htm](https://ipip.ori.org/new_ipip-50-item-scale.htm)
- Adnan, M., & Anwar, K. (2020). Online learning amid the covid-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology*, 2(1), 45–51.
- Aloni, M., & Harrington, C. (2018). Research based practices for improving the effectiveness of asynchronous online discussion boards. *Scholarship of Teaching and Learning in Psychology*, 4(4), 271–289. <http://dx.doi.org/10.1037/stl0000121>
- Amichai-Hamburger, Y., Wainapel, G., & Fox, S. (2002). “On the internet no one knows i’m an introvert”: Extroversion, neuroticism, and internet. *CyberPsychology and Behavior*, 5(2), 125–128. <https://doi.org/10.1089/109493102753770507>
- Berenson, R., Boyles, G., & Weaver, A. (2008). Emotional intelligence as a predictor of success in online learning. *International Review of Research in Open and Distributed Learning*, 9(2). <https://doi.org/10.19173/irrodl.v9i2.385>
- Blau, I., Weiser, O., & Eshet-Alkalai, Y. (2017). How do medium naturalness and personality traits shape academic achievement and perceived learning? An experimental study of face-to-face and synchronous e-learning. *Research in Learning Technology*, 25. <http://dx.doi.org/10.25304/rlt.v25.1974>
- Bowling, N. A., Huang, J. L., Bragg, C. B., Khazon, S., & Liu, M. (2016). Who cares and who is careless? Insufficient effort responding as a reflection of respondent personality. *Journal of Personality and Social Psychology*, 111(2), 218–229. <https://doi.org/10.1037/pspp0000085>

- Caspi, A., Chajut, E., Saporta, K., & Beyth-Marom, R. (2006). The influence of personality on social participation in learning environments. *Learning and Individual Differences, 16*(2), 129–144. <https://doi.org/10.1016/j.lindif.2005.07.003>
- Chen, S.-J., & Caropreso, E. J. (2004). Influence of personality on online discussion. *Journal of Interactive Online Learning, 3*(2), 17.
- Christensen, C. M., Horn, M. B., Caldera, L., & Soares, L. (2011, February). *Disrupting college: How disruptive innovation can deliver quality and affordability to postsecondary education*. Center for American Progress; Innosight Institute.  
<https://www.americanprogress.org/issues/economy/reports/2011/02/08/9034/disrupting-college/>
- Daughenbaugh, R., Ensminger, D., Frederick, L., & Surry, D. (2002). *Does personality type effect online versus in-class course satisfaction?* <https://eric.ed.gov/?id=ED464631>
- De Feyter, T., Caers, R., Vigna, C., & Berings, D. (2012). Unraveling the impact of the big five personality traits on academic performance: The moderating and mediating effects of self-efficacy and academic motivation. *Learning and Individual Differences, 22*(4), 439–448. <https://doi.org/10.1016/j.lindif.2012.03.013>
- Dumfart, B., & Neubauer, A. C. (2016). Conscientiousness is the most powerful noncognitive predictor of school achievement in adolescents. *Journal of Individual Differences, 37*(1), 8–15. <https://doi.org/10.1027/1614-0001/a000182>
- Goldberg, L. R. (1990). An alternative “description of personality”: The big-five factor structure. *Journal of Personality and Social Psychology, 59*(6), 1216–1229.  
<http://dx.doi.org/10.1037/0022-3514.59.6.1216>

- Hannay, M., & Newvine, T. (2006). Perceptions of distance learning: A comparison of online and traditional learning. *Journal of Online Learning and Teaching*, 2(1), 11.
- Judge, T. A., Higgins, C. A. (1999). The big five personality traits, general mental ability, and career success across the life span. *Personnel Psychology*, 52(3), 621–652.
- Keller, H., & Karau, S. J. (2013). The importance of personality in students' perceptions of the online learning experience. *Computers in Human Behavior*, 29(6), 2494–2500.  
<https://doi.org/10.1016/j.chb.2013.06.007>
- 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(1), 47–52. <https://doi.org/10.1016/j.lindif.2008.07.001>
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues*, 58(1), 49–74. <https://doi.org/10.1111/1540-4560.00248>
- Lee, J. (2014). An exploratory study of effective online learning: Assessing satisfaction levels of graduate students of mathematics education associated with human and design factors of an online course. *International Review of Research in Open and Distributed Learning*, 15(1), 111–132. <https://doi.org/10.19173/irrodl.v15i1.1638>
- McKissack, C. E. (1997). *A comparative study of grade point average (gpa) between the students in traditional classroom setting and the distance learning classroom setting in selected colleges and universities* [Tennessee State University].  
<https://search.proquest.com/docview/304406957?accountid=27065>

- Negru-Subtirica, O., Pop, E. I., Crocetti, E., & Meeus, W. (2019). Social comparison at school: Can gpa and personality mutually influence each other across time? *Journal of Personality*, 88, 555–567. <http://dx.doi.org/10.1111/jopy.12510>
- Oblender, T. E., & Glass, J. (2004). Five reasons to offer online courses. *Principal Leadership*, 5(2), 40–42.
- Ormrod, J. (2012). *Human Learning* (6th ed.). Pearson Education, Inc.
- Paunonen, S. V. (2003). Big five factors of personality and replicated predictions of behavior. *Journal of Personality and Social Psychology*, 84(2), 411–424. <http://dx.doi.org/10.1037/0022-3514.84.2.411>
- Pavalache-Ilie, M., & Cocorada, S. (2014). Interactions of students' personality in the online learning environment. *Procedia - Social and Behavioral Sciences*, 128, 117–122. <https://doi.org/10.1016/j.sbspro.2014.03.128>
- Richmond, V. P., Gorham, J. S., & Mccroskey, J. C. (1987). The relationship between selected immediacy behaviors and cognitive learning, *Instructional Communication* (pp. 574-590). Annals of the International Communication Association. <https://doi.org/10.1080/23808985.1987.11678663>
- Rovai, A. P., & Baker, J. D. (2005). Gender differences in online learning: Sense of community, perceived learning, and interpersonal interactions. *Quarterly Review of Distance Education*, 6(1), 31–44.
- Sutin, A. R., Luchetti, M., Aschwanden, D., Lee, J. H., Sesker, A. A., Strickhouser, J. E., Stephan, Y., & Terracciano, A. (2020). Change in five-factor model personality traits during the acute phase of the coronavirus pandemic. *PLoS One; San Francisco*, 15(8), 1–13. <http://dx.doi.org/10.1371/journal.pone.0237056>

- Trapmann, S., Hell, B., Hirn, J.-O. W., & Schuler, H. (2007). Meta-analysis of the relationship between the big five and academic success at university. *Zeitschrift Für Psychologie*, 215(2), 132–151. <https://doi.org/10.1027/0044-3409.215.2.132>
- Widiger, T. A. (2009). Neuroticism. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (p. 129–146). The Guilford Press.
- Zee, K. V. der, Thijs, M., & Schakel, L. (2002). The relationship of emotional intelligence with academic intelligence and the big five. *European Journal of Personality*, 16(2), 103–125. <https://doi.org/10.1002/per.434>

## **Appendix A**

### *Informed Consent*

#### **Informed Consent**

##### **Personality and Online Education Affected by COVID-19**

We are asking you to participate in a research study titled “*Personality and COVID-19*”. We will describe this study to you and answer any of your questions. This study is being led by Dareen Christabel, Hannah Fields, Sarah Krysl, and Fey Rodriguez from the Psychology Department. The faculty advisor for this study is Luralyn Helming from the Psychology Department.

#### **What the study is about**

The purpose of this research is to investigate participants’ personality traits, and the correlations to learning and perceived learning during the transition to online education due to the COVID-19 pandemic.

#### **What we will ask you to do**

We will ask you to complete an anonymous online survey that contains questions from the “Big Five” personality test. The survey also contains questions about your GPA, online school experience, and perceived learning. Completion of all questions is requested, aside from GPA which is optional. Duration of the study should take participants approximately 10 to 15 minutes.



**Risks and discomforts**

- Emotional risks (possible feelings of discomfort due to sharing personal information)

**Benefits**

Information from this study may benefit many educators, as well as students, now or in the future, in discovering how online learning can be improved or understanding what aspects of personalities are influencing academic achievement. The findings of the study may benefit researchers, now or in the future, by helping them understand the effects that the COVID-19 pandemic had on students.

**Compensation for participation**

With the permission of instructors, you may receive extra credit for participating in this study.

**Confidentiality**

To respect your privacy, you will not be asked to share your name; you will remain anonymous. Information that is gathered from you will not be shared and will be kept on online files. Only the researchers leading this study will have access to those files, and these files will not contain any identifying information with the data.

Please note that the survey is being collected online on “Microsoft Forms”, a company not affiliated with Dordt. You may find its privacy and security policies on its website. We anticipate that your participation in this survey presents no greater risk than the everyday use of the Internet.

Also, note that email communication is neither private nor secure. Though we are taking precautions to protect your privacy, you should be aware that information sent through e-mail could be read by a third party.

**Future use of Identifiable Data Collected in this Research**

Your information will not be used or distributed for future research studies.

**Taking part is voluntary**

Participation is voluntary. At any point during the study, you may refuse to participate. You can refuse to participate before the study begins, discontinue at any time, or skip any questions that may make you feel uncomfortable. There will be no penalty to you, and no effect on the compensation earned before withdrawing, or your academic standing, record, or relationship with the university or other organization or service that may be involved with the research.

Completion of all questions on the survey is requested, aside from GPA which is optional.

Participants can choose not to participate if they are uncomfortable with this condition.

**If you have questions**

If you have any questions, please email us, Dareen Christabel at [drnchrst@dordt.edu](mailto:drnchrst@dordt.edu), Hannah Fields at [hnnhfls@dordt.edu](mailto:hnnhfls@dordt.edu), Sarah Krysl at [srhkrysl@dordt.edu](mailto:srhkrysl@dordt.edu), Fey Rodriguez at [fyrdrgz@dordt.edu](mailto:fyrdrgz@dordt.edu). If you have additional questions about this study, feel free to email our faculty sponsor and Chair of the Institutional Review Board, Prof. Luralyn Helming at

luralyn.helming@dordt.edu. If you have any questions in general about your participation as a research participant in studies at Dordt College please contact the Acting Chair of the Institutional Review Board, Prof. Melanie Wynja, at melanie.wynja@dordt.edu.

**Clicking the “Next” button on the survey indicates that you have read this consent form and agree to participate in our study.**

**Appendix B***Personality and Online Learning Affected by COVID-19 Survey*

# Personality and Online Learning Affected by COVID-19

## Consent Statement

Please read the consent statement before starting this survey.

Link: [https://dordt.sharepoint.com/:w:/s/FantasticFour/EZA\\_pOa4\\_JpFnroawdu4-sB01GtHaPEUHFUyTbdua7g1g?e=ilqs39](https://dordt.sharepoint.com/:w:/s/FantasticFour/EZA_pOa4_JpFnroawdu4-sB01GtHaPEUHFUyTbdua7g1g?e=ilqs39)

[Next](#)Page 1 of 7 

## Personality and Online Learning Affected by COVID-19

\* Required

1. Were you a full-time student on-campus at Dordt during Fall 2019 and Spring 2020? \* 

☐ Yes

☐ No

[Back](#)[Next](#)Page 2 of 7 


## Personality and Online Learning Affected by COVID-19

...


\* Required

## Big-Five Factor Model

There are 50 statements that we would like to know your rating of, but they had to be divided into three sections because there was not enough space.

2. Based on your understanding of yourself, rate each statement on whether it is Very Inaccurate, Moderately Inaccurate, Neither Accurate nor Inaccurate, Moderately Accurate, or Very Accurate. (1/3) \* 

	Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
Am the life of the party.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel little concern for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am always prepared.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get stressed out easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a rich vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Don't talk a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am interested in people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leave my belongings around.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am relaxed most of the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have difficulty understanding abstract ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel comfortable around people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insult people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pay attention to details.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worry about things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a vivid imagination.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep in the background.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sympathize with others' feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a mess of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seldom feel blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am not interested in abstract ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Based on your understanding of yourself, rate each statement on whether it is Very Inaccurate, Moderately Inaccurate, Neither Accurate nor Inaccurate, Moderately Accurate, or Very Accurate. (2/3) \* 

	Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
Start conversations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am not interested in other people's problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get chores done right away.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am easily disturbed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have excellent ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have little to say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a soft heart.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Often forget to put things back in their proper place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get upset easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not have a good imagination.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talk to a lot of different people at parties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am not really interested in others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Like order.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change my mood a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am quick to understand things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Don't like to draw attention to myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take time out for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shirk my duties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have frequent mood swings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use difficult words.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Based on your understanding of yourself, rate each statement on whether it is Very Inaccurate, Moderately Inaccurate, Neither Accurate nor Inaccurate, Moderately Accurate, or Very Accurate. (3/3) \*

	Very Inaccurate	Moderately Inaccurate	Neither Accurate nor Inaccurate	Moderately Accurate	Very Accurate
Don't mind being the center of attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel others' emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Follow a schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get irritated easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spend time reflecting on things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am quiet around strangers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make people feel at ease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am exacting in my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Often feel blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am full of ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Back](#)
[Next](#)

 Page 4 of 7
 

## Personality and Online Learning Affected by COVID-19

...

### GPA

Please click on the link that will take you to a website where you can log in and view to your GPA.

Link: <https://selfserve.dordt.edu/Student/Student/Grades>

5. What was your GPA for the Fall 2019 semester?

6. What was your GPA for the Spring 2020 semester?

[Back](#)
[Next](#)

 Page 5 of 7

## Personality and Online Learning Affected by COVID-19

...

\* Required

## Prior Online Learning Participation

7. Have you ever participated in online learning prior to Dordt's Spring 2020 semester? \*

☐ Yes☐ No

Back

Next

Page 6 of 7

## Personality and Online Learning Affected by COVID-19

...

\* Required

## Perceived Learning

8. On a scale of 0 to 9, how much did you learn during the Spring 2020 semester, with 0 meaning you learned nothing and 9 meaning you learned more than during any other semester? \*

1	2	3	4	5	6	7	8	9
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. On a scale of 0 to 9, how much do you think you could have learned during the Spring 2020 semester if your classes were not moved to online learning due to COVID-19? \*

1	2	3	4	5	6	7	8	9
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Back

Submit

Page 7 of 7