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Relationship Between Big 5 Personality Traits and COVID-19 Health-Related Behaviors



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INTRODUCTION

- COVID-19 is an extremely contagious airborne virus which prompted the CDC to recommend the wearing of a mask in public spaces (CDC, 2020a). The CDC also suggested the avoidance of gatherings of 10 or more people and maintaining ≥ 6 feet apart from others in public settings (CDC, 2020b).
- The Big 5 personality traits are extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrae & John, 1991).
- Previous research found that higher scores in agreeableness, extraversion and conscientiousness would indicate more frequent mask use (Zajenkowski et al., 2020; Abdelrahman et al., 2020; Aschwanden et al., 2020).
- Research conversely indicated that higher extraversion and agreeableness is associated with less frequent social distancing (Carvalho et al., 2020; Abdelrahman et al., 2020)
- In addition, higher conscientiousness scores were associated with greater social distancing behavior (Achswanden et al., 2020).

HYPOTHESES

Research Question

- Is the frequency of COVID-19 preventive behavior related to the Big 5 personality traits?

Hypotheses

- Higher scores in agreeableness, extraversion, and conscientiousness would indicate more frequent mask use.
- Higher scores in agreeableness and extraversion would be associated with less frequent social distancing behavior.
- Higher scores in conscientiousness would be related to increased social distancing behavior.

METHOD

Measured Variables

- First Variable: Big 5 personality traits (agreeableness, extraversion, and conscientiousness)
- Second Variable: COVID-19 health-related behavior (mask use and social distancing)

Participants

- 110 undergraduate participants

• $M_{age} = 19.59$ years, $SD = 2.227$ years, age range: 17 – 38 years

References

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MATERIALS & PROCEDURE

Materials and Procedure

- Participants signed up via a university-managed experimentation website.
- Participants accessed a Google Form which consisted of 100 survey questions.
- The survey consisted of 3 sections: questions related to the Big 5 personality traits, questions assessing health-related behaviors including mask use and social distancing, and demographics.

Example Questions

Big 5 Personality Trait:

- I see myself as someone who generally trusts others?

- 1- totally disagree
- 2- disagree a little
- 3- neutral opinion
- 4- agree a little
- 5- totally agree

Mask Use:

- How often do you wear a face covering when out in public in an indoor space, such as in a grocery store?

- 1- never
- 2- rarely
- 3- sometimes
- 4- often
- 5- always

Social Distancing:

- How often do you keep ≥ 6 feet apart when attending restaurants/bars with 10 or more people?

- 1- never
- 2- rarely
- 3- sometimes
- 4- often
- 5- always

General Health-Related Behavior

- How often do you discuss health concerns with your doctor?

- 1- never
- 2- rarely
- 3- sometimes
- 4- often
- 5- always

RESULTS & DISCUSSION

Results

- We conducted Pearson's r analyses. All initial hypotheses were unsupported by the data with the exception of a significant, positive correlation between agreeableness ($M = 3.73$, $SD = 0.59$) and mask use ($M = 4.28$, $SD = 0.54$), $r(108) = .12$, $p = .045$.

Discussion

Potential flaws:

- The results largely contradicted previous research.
- This may be because participants were already adhering to strict guidelines regarding both mask use and social distancing due to official state and university mandates.
- This may also be because the study was conducted later in the pandemic and protocols have become less abnormal to adhere to.

Implications for future research:

- Our research did indicate significant, positive correlations for openness to experience and mask use, as well as social distancing. These associations should be explored further in future research.

TABLES & FIGURES

Table 1

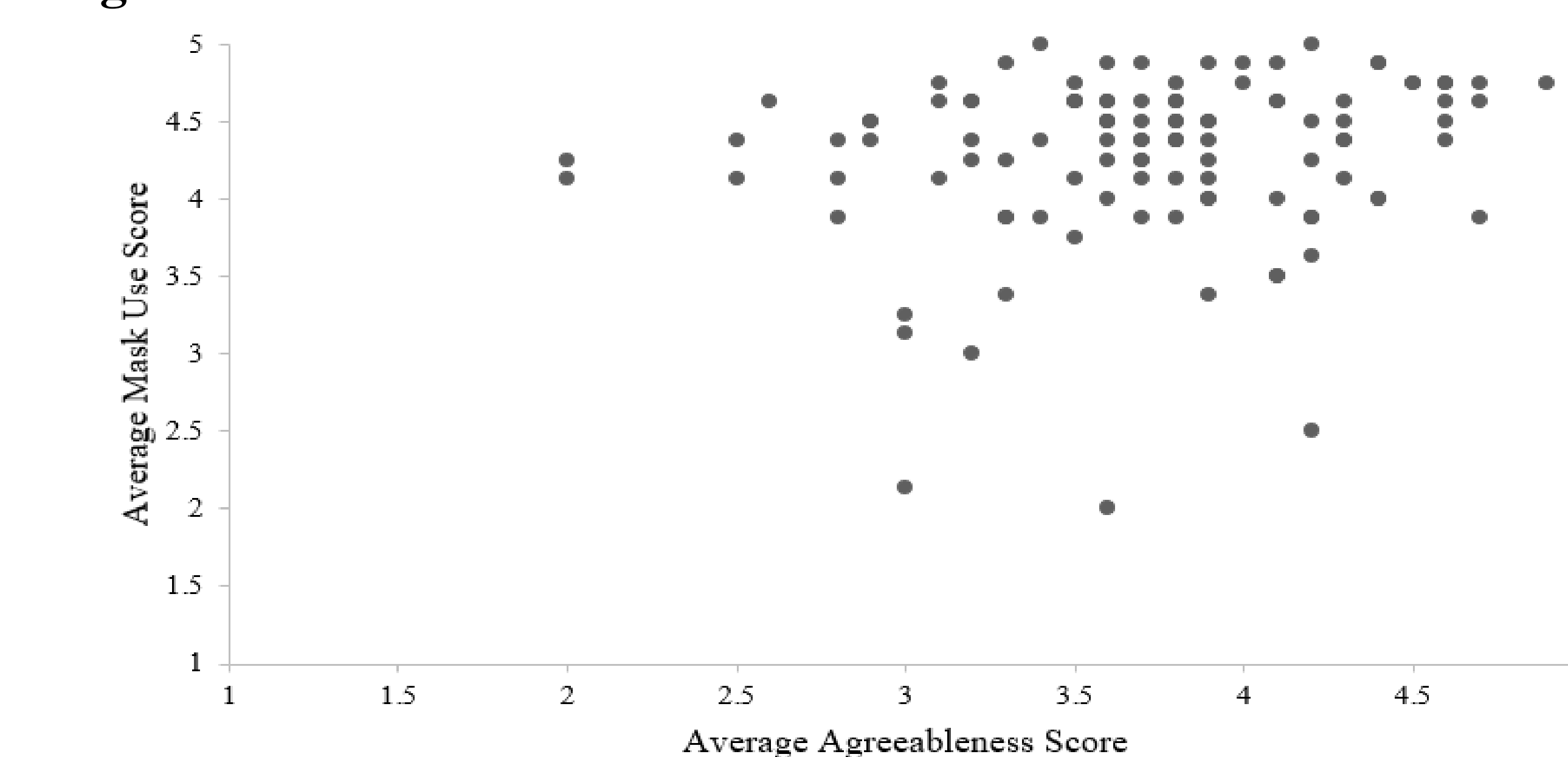
Descriptive Statistics and Correlations for Study Variables

Variable	M	SD	1	2	3	4	5	6	7
1. Mask Use	4.28	.54	--	.721**	.056	.298**	.192*	.103	.037
2. Social Distancing	3.63	.78	.721**	--	.005	.273**	.162	.176	.062
3. Extraversion	3.44	.72	.056	.005	--				
4. Openness to Experience	3.72	.65	.298**	.273**		--			
5. Agreeableness	3.73	.59	.192*	.162			--		
6. Conscientiousness	3.57	.69	.103	.176				--	
7. Neuroticism	3.49	.83	.037	.062					--

Note. The results of various bivariate Pearson's r correlations are shown above.

* $p < .05$. ** $p < .01$.

Figure 1



Note. Each dot represents an individual participant. Scores for both average agreeableness and mask use were obtained using Likert-type scales. Higher levels of agreeableness were found to be significantly associated with higher frequencies of mask use.