Who uses what? Personality predicts how college students use their smartphone

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BACKGROUND

The present study sought to address the gap in the literature, by examining the impact of HEXACO personality traits on application category use overall.

Smartphone Use

- 90% of Americans own a smartphone[1]
- 46% of online respondents reported that they could not live without their phone[2]
- Higher usage has positively correlated with high neuroticism/emotionality and low conscientiousness. Lower usage has been moderately associated with honesty-humility, agreeableness, and openness[3]

Personality

- HEXACO Model[4]
- Honesty-humility was associated with higher self-control and lower self-posting behaviors[5]
- Emotionality was found to be positively correlated with social media application use as compared to in-person interaction[6]
- Extraversion was most often associated with communication app usage and social behaviors, making longer calls, sending more texts, and utilizing social media more[7,8]
- Agreeableness has shown a negative correlation with smartphone use, predicting hardly any app usage[9]
- Higher conscientiousness has shown a positive relationship with work engagement and job performance[10]
- Openness to experience, associated with creative and imaginative qualities, was associated with video/audio/music apps[9]

METHOD

- First assessment of a longitudinal, four-part study
- Participants were excluded if they failed attention checks during Part 1 (n = 47)
- Out of 461 participants, a majority of the sample were undergraduate freshmen, Hispanic, and females with an average age of 19.

Table 1. *Sociodemographic Characteristics of Participants*

Demographic	*n*	%
Sex at Birth		
Female	337	73.1
Male	122	26.5
Missing	2	0.4
Race		
White	74	16.1
Hispanic	185	40.1
Asian	105	22.8
Black	67	14.5
Multiracial	28	6.1
Missing	2	0.4
Academic Year		
Freshman	331	71.8
Advanced	129	28.0
Missing	1	0.2
Socioeconomic Status		
Not Difficult	291	63.1
Difficult	154	33.4
Missing	16	3.5

Note. N = 461. Participants were on average 19.1 years old (SD = 3.18).

Self-Reports Utilized:

- 24-Item Brief HEXACO Inventory[11]
- Modified Version of the Facebook Intensity Scale[12]

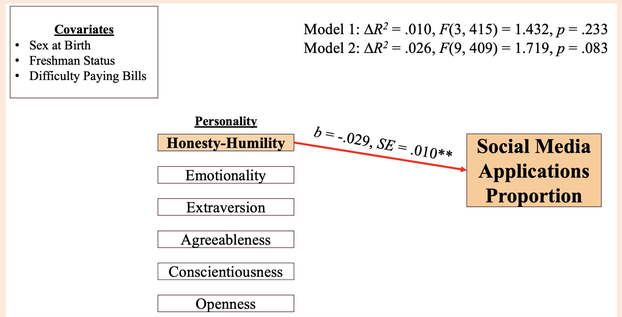
Analyses:

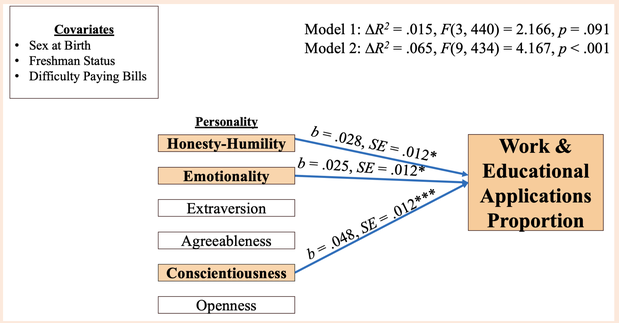
- Partial correlations: Hypothesis 1
- Hierarchical multiple regressions: Hypothesis 4
  - Model 1 included covariates and Model 2 was composed of all six HEXACO personality traits

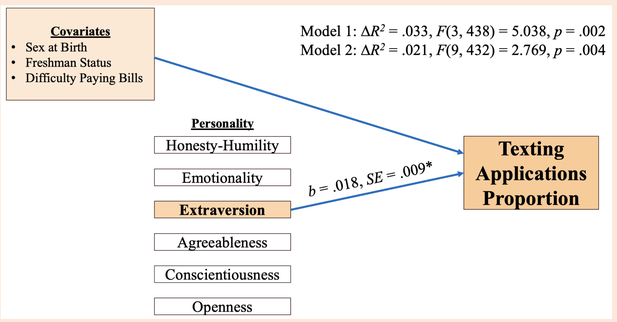
Table 2. *Partial Correlations of Personality and Smartphone Application Category Use*

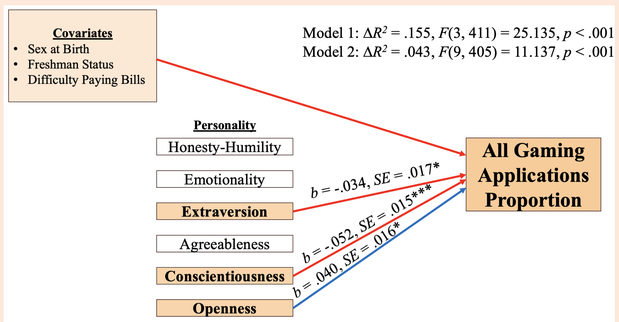
	Honesty-Humility	Emotionality	Extraversion	Agreeableness	Conscientiousness	Openness	Total Smartphone Use	Social Media Apps	Texting Apps	Calling Apps	Work & Educational Apps	All Gaming Apps	Entertainment Apps
Honesty-Humility	1.000	-0.079	-0.021	0.225***	0.258***	-0.003	-0.139**	-0.126 *	0.023	-0.025	0.154**	-0.045	-0.039
Emotionality	-0.079	1.000	-0.157**	-0.054	-0.083	-0.032	0.043	-0.043	-0.016	0.006	0.060	0.106 *	-0.068
Extraversion	-0.021	-0.157**	1.000	0.091	0.102 *	0.262***	-0.009	-0.020	0.083	0.189***	0.071	-0.056	0.013
Agreeableness	0.225***	-0.054	0.091	1.000	0.154 **	0.175***	-0.049	-0.030	0.056	0.004	0.023	0.016	-0.125*
Conscientiousness	0.258***	-0.083	0.102*	0.154 **	1.000	0.083	-0.073	-0.052	0.114*	-0.007	0.191***	-0.169**	0.043
Openness	-0.003	-0.032	0.262***	0.175***	0.083	1.000	0.052	-0.047	0.018	0.002	0.002	0.080	0.003
Total Smartphone Use	-0.139**	0.043	-0.009	-0.049	-0.073	0.052	1.000	-0.084	0.080	0.092	0.115**	0.148**	0.017
Social Media Apps	-0.126 *	-0.043	-0.020	-0.030	-0.052	-0.047	-0.084	1.000	-0.162**	-0.258***	-0.398***	-0.073	-0.360***
Texting Apps	0.023	-0.016	0.083	0.056	0.114 *	0.018	0.080	-0.162**	1.000	0.200***	-0.040	-0.085	-0.141 **
Calling Apps	-0.025	0.006	0.189***	0.004	-0.007	0.002	0.092	-0.258***	0.200***	1.000	-0.069	-0.107*	0.034
Work & Educational Apps	0.154**	0.060	0.071	0.023	0.191***	0.002	0.115 *	-0.398***	-0.040	-0.069	1.000	-0.152**	0.039
All Gaming Apps	-0.045	0.106*	-0.056	0.016	-0.169**	0.080	0.148**	-0.073	-0.085	-0.107 *	-0.152**	1.000	-0.137**
Entertainment Apps	-0.039	-0.068	0.013	-0.125 *	0.043	0.003	0.017	-0.360***	-0.141 **	0.034	0.039	-0.137**	1.000

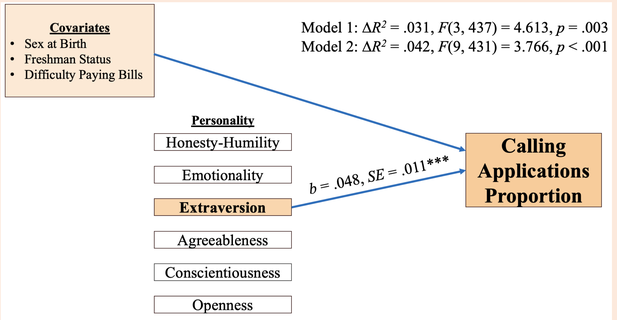
Figures 1-6. *HEXACO Personality Traits Predict Smartphone Application Category Use*

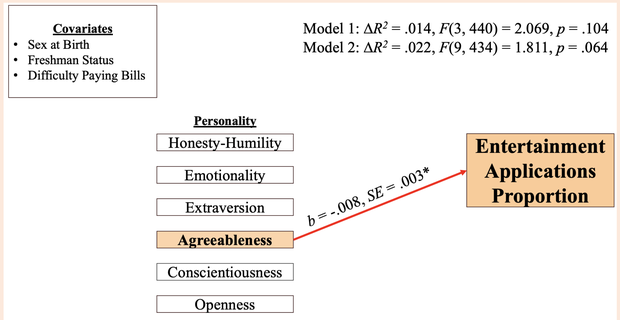












HYPOTHESES

H1: Personality traits would correlate with smartphone use.
- Honesty-humility would be negatively correlated with total smartphone use.

H2: ↑ extraversion, emotionality, and openness to experience and ↓ honesty-humility would be related to ↑ social media usage.

H3: ↑ extraversion would predict ↑ social communication use (e.g., texting & calling)

H4: ↑ conscientiousness would predict increased work/educational application usage.

H5: ↓ extraversion and ↑ openness to experience would predict ↑ gaming usage.

H6: No hypothesized relationships between personality and entertainment application usage.

DISCUSSION

Findings underscore personality's role in shaping app engagement beyond demographics alone, suggesting potential for personality-targeted interventions to foster healthier digital habits.

- Honesty-humility, often associated with higher self-control[13], was the only significant predictor of smartphone use.
- Higher honesty-humility predicted lower social media usage, suggesting a lower use of admiration seeking and self-presentation[5], partially supporting hypothesis 2
- Consistent with previous research[8], extraversion predicted higher levels of communication application use, supporting hypothesis 3
- Conscientiousness, related to goal-orientation and work motivation[10], predicted increased work/educational application use, supporting hypothesis 4
- Higher extraversion and conscientiousness predicted the amount of gaming application use, supporting hypothesis 5 and previous research[8]
- Higher agreeableness was associated with decreased entertainment application use, potentially suggesting a higher ability to cope with negative emotions outside of app usage[9]

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