

Personality and coping: The best personality trait predictors of coping strategies

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BACKGROUND

- Previous research on coping focused on the Big Five/Five Factor Models or the HEXACO model.
 - Neuroticism positively associated with distraction, seeking emotional support, and substance use (Carver & Connor-Smith, 2010).
 - Several types of coping strategies are particularly salient with low emotional stability (Afshar, et al., 2015; Bourchard, 2003; Carver & Connor-Smith, 2010; Vollrath & Torgersen, 2000).
 - Conscientiousness, Openness, & Extraversion positively associated with problem solving and cognitive restructuring (Carver & Connor-Smith, 2010; Vollrath & Torgersen, 2000).
 - Agreeableness positively related to seeking social support and cognitive restructuring (Carver & Connor-Smith, 2010).
- Research is robust in examining broader coping strategies
 - Problem verses emotion focused
 - Engagement verses disengagement; Passive verses active
 - Avoidance coping; Meaning-focused coping.

RESEARCH OBJECTIVES

- Examine which specific personality traits are associated with coping behaviors.
- Use the Big Five and narrower personality traits while examining coping behaviors.

TABLE 1. Cross Validation

	Derivation Mean	Derivation SD	Validation Mean	Validation SD
Spiritual Practice	0.14	0.0063	0.14	0.0068
Ignoring Stress	0.15	0.0106	0.15	0.0104
Eating	0.15	0.0058	0.15	0.0110
Meditation/Mindfulness	0.17	0.0101	0.17	0.0100
Substance Use	0.22	0.0090	0.21	0.0092
Exercise	0.22	0.0056	0.22	0.0072
Sleeping	NA	NA	NA	NA
Distraction from Stress	NA	NA	NA	NA
Other	NA	NA	NA	NA

Table 1. Cross validation information for coping behaviors in correlation to 35 personality items.

TABLE 2. Spiritual Practice

	Mean r	SD r
Conservatism	0.14	0.00

Table 2. The personality traits most highly correlated with the primary coping behavior of spiritual practice. Results that replicated under 900 iterations have been removed.

TABLE 3. Ignoring Stress

	Mean r	SD r
Emotional Expressiveness	-0.12	0.01
Emotional Stability	0.12	0.01
Compassion	-0.11	0.01

Table 3. The personality traits most highly correlated with the primary coping behavior of ignoring stress. Results that replicated under 900 iterations have been removed.

TABLE 4. Eating

	Mean r	SD r
Self Control	-0.18	0.01
Neuroticism	0.11	0.01

Table 4. The personality traits most highly correlated with the primary coping behavior of eating. Results that replicated under 900 iterations have been removed.

METHODS

- Database
 - Synthetic Aperture Personality Assessment (SAPA) project (Condon, 2017)
 - Collected February 2017 - November 2017
- Participants
 - N=26,770
 - Age Ranged from 11 to 86 with a median age of 22 ($M=25.79$; $SD=11.1$)
 - 62.0% female
- Measures
 - Coping behaviors
 - "How do you most often cope with stress?"
 - Split into nine dichotomous variables
 - Big Five traits
 - 27 SAPA Personality Inventory trait scales (Condon, 2017)
 - >6,000 additional public-domain personality items
- Cross validation of scored personality traits and coping behaviors was completed using both bagging and k-fold.
 - Bagging was repeated 1000 times using basic bootstrap aggregation techniques.
 - K-fold was completed using a hold out of 10% (10 folds)
- Cross validation of >6,000 and coping behaviors was completed using both bagging and k-fold.
 - Bagging was repeated 100 times
 - K-fold was completed using a hold out of 10%
- All analyses are done in R (R Core Team, 2017) using the psych package (Revelle, 2018).

TABLE 5. Meditation/Mindfulness

	Mean r	SD r
Introspection	0.12	0.01
Openness	0.12	0.00

Table 5. The personality traits most highly correlated with the primary coping behavior of meditation/mindfulness. Results that replicated under 900 iterations have been removed.

TABLE 6. Substance Use

	Mean r	SD r
Authoritarianism	-0.18	0.01
Self Control	-0.18	0.01
Conscientiousness	-0.13	0.01
Well Being	-0.13	0.01
Impulsivity	0.12	0.01

Table 6. The personality traits most highly correlated with the primary coping behavior of substance use (smoking, alcohol, etc.). Results that replicated under 900 iterations have been removed.

TABLE 7. Exercise

	Mean r	SD r
Industry	0.17	0.01
Easy Goingness	-0.17	0.01
Neuroticism	-0.17	0.01
Conscientiousness	0.15	0.01
Well Being	0.15	0.00
Anxiety	-0.14	0.01
Emotional Stability	0.12	0.01
Charisma	0.11	0.01
Order	0.11	0.01

Table 7. The personality traits most highly correlated with the primary coping behavior of exercise. Results that replicated under 900 iterations have been removed.

RESULTS & CONCLUSION

- Only three of the Big Five traits were found to be fully replicable across 1000 iterations for the included coping behaviors (Table 5-7).
 - No difference was found with k-fold cross validation.
 - The traits of Neuroticism, Conscientiousness, and Openness could indicate that coping behavior is much more reliant on stability than plasticity.
- 8 of the 27 SPI trait scales were found to be fully replicable across 1000 iterations (Table 2, Tables 4-7)
 - 14 of the 27 SPI trait scales replicated over 900 iterations (Tables 2-7).
 - Using k-fold cross validation, 16 of the 27 SPI trait scales fully replicated.
 - Sleeping, Distraction, & Other did not correlate with personality traits.
- At the item level the only item to replicate 100 times was "How often do you smoke?" in correlation to the coping behavior Substance Use ($r=0.43$, $SD=0.01$)
 - Using k-fold cross validation, 18 items were found to replicate across the 10 folds (Table 8).
 - Other and Meditation/Mindfulness did not replicate across the item correlations.
- Results suggest that while some coping behaviors can be predicted by multiple or single personality traits, other coping mechanisms are more complicated and better predicted with item level analyses.

TABLE 8. Item Analysis

Coping Behavior	Item	Mean r	SD r
Eating	Am logical.	-0.36	0.02
Eating	Have been told I'm not listening when others are speaking to me.	0.33	0.02
Exercise	Do not exercise on a regular basis.	-0.46	0.02
Exercise	Enjoy physical exercise.	0.40	0.01
Exercise	I am someone who is less active than other people.	-0.37	0.01
Exercise	How often do you exercise	0.36	0.00
Exercise	Am active.	0.32	0.00
Sleeping	Public understanding of science does not contribute to progress.	0.30	0.02
Sleeping	Get out of control.	0.28	0.03
Spiritual Practice	Read the Bible or other sacred text.	0.34	0.01
Spiritual Practice	Want to participate in religious activities.	0.33	0.02
Substance Use	Smoked, vaped or otherwise consumed marijuana	0.45	0.02
Substance Use	Smoked tobacco	0.45	0.02
Substance Use	How often do you smoke?	0.43	0.00
Substance Use	Drank alcohol or used other drugs to make myself feel better	0.41	0.01
Distraction	I actually freeze when I am very scared.	0.30	0.02
Ignoring Stress	Cant stand impolite people.	-0.35	0.02
Ignoring Stress	Think that being in touch with emotions is essential.	-0.30	0.02

Table 8. The items most highly correlated with the primary coping behaviors. Results that replicated under 10 folds have been removed.

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 Review our research: <http://personality-project.org/sapa>
 Partially supported by a grant from the National Science Foundation: SMA-1419324