

Predicting Dark Triad Personality Traits from Twitter



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Traits of Personality

Big Five :

- Introversion/extroversion
- Openness
- Conscientiousness
- Agreeableness
- Neuroticism

Dark Triad :

- Narcissism
- Machiavellianism
- Psychopathy

Data Collection

- Participants were initially recruited through Tweets sent out by the Online Privacy Foundation (@The_OPF)
- A Twitter application was developed to collect self-reported ratings on the Short Dark Triad (SD3) questionnaire
- Tweet history, friends, followers, number of Tweets and the frequency of pre-defined words for each individual was also collected

Prediction Process

Classification task - The goal was to identify individuals with particularly high or low values of a trait according to some predetermined cut-off.

1. Support Vector Machine (SVM)
2. Random Forest
3. J48, an implementation of the C4.5 decision tree algorithm.
4. Naïve Bayes (NB) classifier

Findings

Narcissistic traits :

- Positively correlated with @ and # characters and words associated with sex.
- More followers and friends and a greater numbers of followers per friend

Machiavellian traits:

- Positively correlated with swear words , anger and negative emotions
- Negatively correlated with positive emotion and the use of the word “we”

Findings

Psychopathic traits:

Positively correlated with swear words , anger , death, negative emotions and filler words

Caveat : Correlation doesn't mean causation !!

Findings

- Classification accuracy - 2 out of the top 10% of scorers on the SD3 psychopathy scale
- Twitter alone for personality prediction is likely to be both insufficient and error prone
- Suitable for trend analysis across geography or time

Thank you !