Your Spending Data May Reveal Aspects of Your Personality

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How you spend your money can signal aspects of your personality, according to research published in Psychological Science, a journal of the Association for Psychological Science. Analyses of over 2 million spending records from more than 2,000 individuals indicate that when people spend money in certain categories, this can be used to infer certain personality traits, such as how materialistic they are or how much self-control they tend to have.

“Now that most people spend their money electronically – with billions of payment cards in circulation worldwide – we can study these spending patterns at scale like never before,” says Joe Gladstone of University College London, who co-led the research. “Our findings demonstrate for the first time that it is possible to predict people’s personality from their spending.”

We all spendmoney on essential goods, such as food and housing, to fulfill basic needs –but we also spend money in ways that reflect aspects of who we are asindividuals. Gladstone and colleagues wondered whether the variety in people’sspending habits might correlate with other individual differences.

“Weexpected that these rich patterns of differences in peoples spending couldallow us to infer what kind of person they were,” says Sandra Matz, who co-ledthe project.

Incollaboration with a UK-based money management app, Gladstone and ColumbiaBusiness School researchers Sandra Matz and Alain Lemaire received consent and collecteddata from more than 2,000 account holders, resulting in a total of 2 millionspending records from credit cards and bank transactions.

Account holders also completed a brief personality survey that included questions measuring materialism, self-control, and the “Big Five” personality traits of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism.

Participants’spending data was organized into broad categories — including supermarkets,furniture stores, insurance policies, online retail stores, and coffee shops –and the researchers used a machine-learning technique to analyze whether participants’relative spending across categories was predictive of specific traits.

Overall, thecorrelations between the model predictions and participants’ personality traitscores were modest. However, predictive accuracy varied considerably acrossdifferent traits, with predictions that were more accurate for the narrowtraits (materialism and self-control) than for the broader traits (the BigFive).

Looking atspecific correlations between spending categories and traits, the researchersfound that people who were more open to experience tended to spend more onflights, those who were more extraverted tended to make more dining anddrinking purchases, those who were more agreeable donated more to charity,those who were more conscientious put more money into savings, and those whowere more materialistic spent more on jewelry and less on donations.

Theresearchers also found that those who reported greater self-control spent lesson bank charges and those who rated higher on neuroticism spent less onmortgage payments.

“It didn’tmatter whether a person was old or young, or whether they had a high or lowsalary, our predictions were broadly consistent,” says Matz. “The one exceptionis that people who lived in highly deprived areas were more difficult topredict. One possible explanation may be that deprived areas offer feweropportunities to spend money in a way that reflects psychological preferences.”

Viewed in thecontext of previous research that has attempted to use online behavior to predictpersonality, these results suggest that spending-based predictions of personalityare less accurate than predictions based on Facebook “likes” or status updates,which offer a more direct reflection of individual preferences and identity.However, spending-based predictions seem to be just as accurate as predictionsbased on music preferences and Flickr photos.

The findingshave clear applications in the banking and financial services industries, whichalso raises potential ethical challenges. For example, financial services firmscould use personality predictions to identify individuals with certain traits,such as low self-control, and then target those individuals across a variety ofdomains, from online advertising to direct mail.

“This meansthat as personality predictions become more accurate and ubiquitous, and asbehavior is recorded digitally at an increasing scale, there is an urgent needfor policymakers to ensure that individuals (and societies) are protectedagainst potential abuse of such technologies,” Gladstone, Matz, and Lemaire write.