

Personality Item Stability in the Era of COVID-19



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INTRODUCTION

- NYT claimed individuals learned to flex their Introversion and Neuroticism muscles due to social distancing and isolation (Brooks, 2021, April 1).
- Previous COVID-19 findings (Sutin et al., 2020):
 - Increased: Extraversion, Assertiveness, Energy Level, Productiveness
 - Decreased: Neuroticism, Anxiety, Depression, Dutifulness
 - Changes to item regarding going to work when sick.
- Research needs to consider the information contained at the item level (Condon et al., 2020; Möttus et al., 2017, Möttus et al., 2020; Revelle et al., 2021).
- **Aim of Study:** Examine changes in mean item responses across a large array of personality items from the years before 2020 (cohort 1) and from 2020 through 2021 (cohort 2).

METHODS

Database

- Synthetic Aperture Personality Assessment (SAPA) project
- Collected January 2013 - February 2021

Participants

- All U.S. participants (n= 380,050)
- Ages: 16 to 90 with a median age of 28 ($M = 33.77$; $SD = 16.24$)
- 65.3% female, 34.0% male, 0.1% other

Measures

- 135 item SAPA Personality Inventory (Condon, 2018)
 - 696 were planned, but not currently available
 - Big Five trait scores derived from scales of 14 items using two parameter IRT
- Demographics: Age, gender, education, parent education, marital status

Analyses

- 10-fold cross-validation was used to determine normal year to year variation across personality items and the stability of these differences.
- Process repeated on the differences between those that took SAPA before COVID-19 and during COVID-19.
- Personality items were selected if the differences observed between the cohorts exceeded the normal deviations between items.
- Cohen's D was calculated for the five traits and 31 personality items
- Profiles of the personality items and traits were compared across the 6 demographic variables for each cohort.
- All analyses completed in R (R Core Team, 2021) using the psych package (Revelle, 2021).

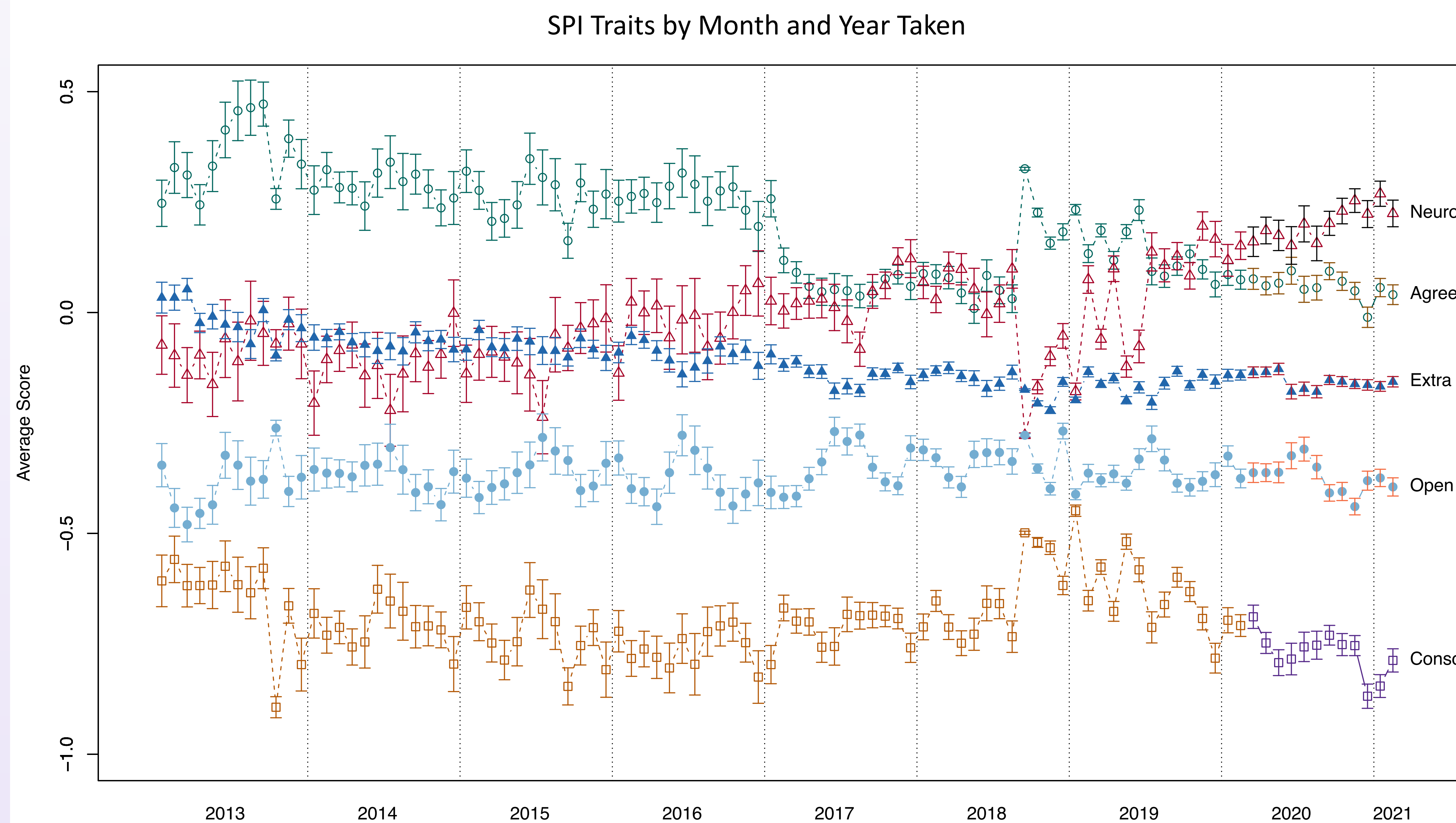


Figure 1. Average SPI Big 5 trait score by year and month taken and cohort. Neuroticism scores show an upward trend while Conscientiousness, Agreeableness, and Openness show varying downward trends. Extraversion appears to be relatively stable.

Effect Sizes and Confidence Intervals of Personality Traits Sensitive to COVID-19

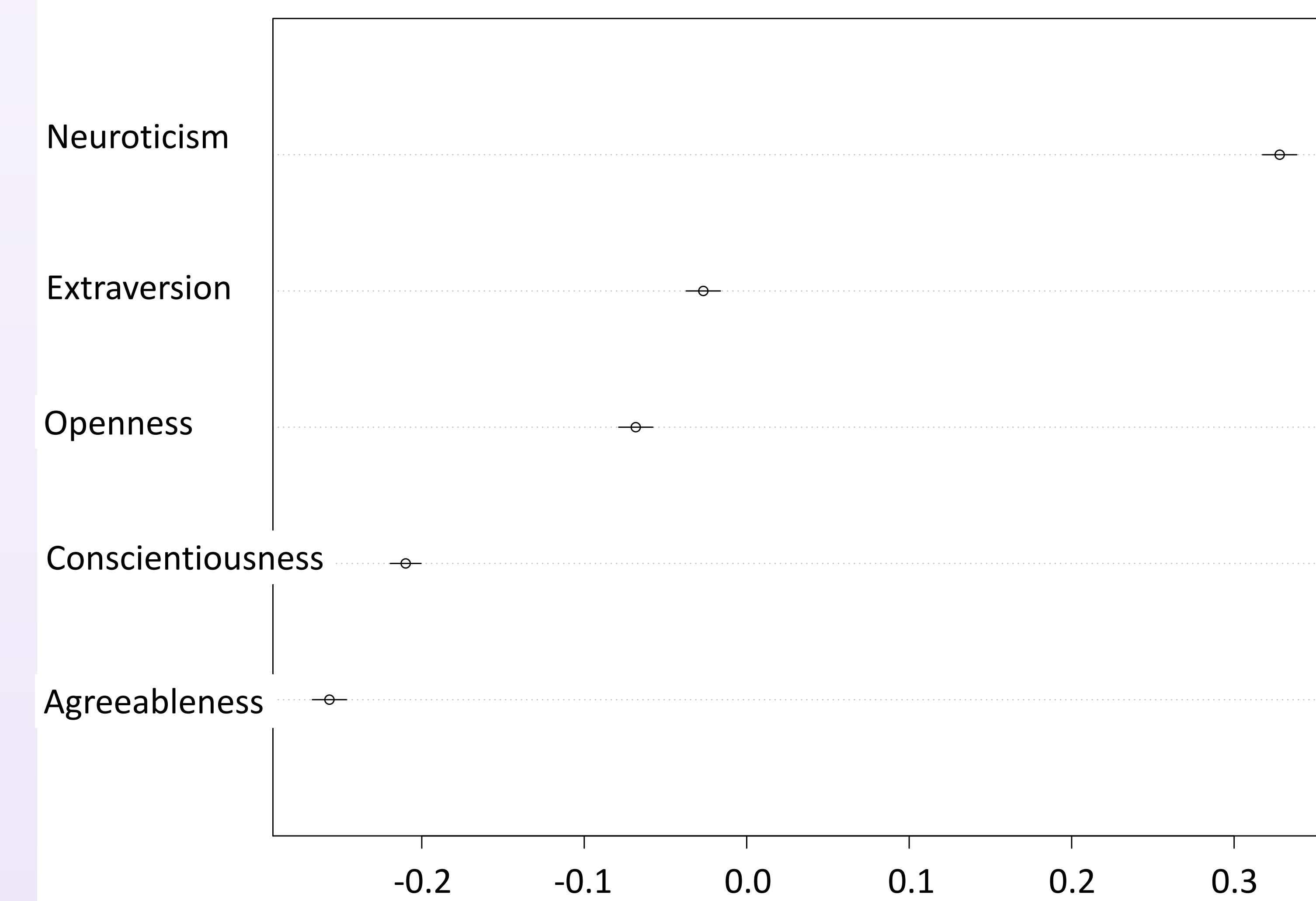


Figure 2. Effect sizes and confidence intervals of personality traits sensitive to COVID-19. Effect sizes ranged from $d = [-0.26, 0.33]$

RESULTS & CONCLUSION

- There were changes at both the trait level and item level between the two cohorts
 - Neuroticism increased ($d = 0.33$)
 - Agreeableness ($d = -0.26$), and Conscientiousness ($d = -0.21$) decreased.
- 31 personality items showed noticeable differences ranging from $|d| = [.19, .37]$
 - 1 Extraversion item (1 decreased)
 - 8 Neuroticism items (1 decreased, 7 increased)
 - 2 Openness items (2 decreased)
 - 3 Agreeableness items (2 decreased, 1 increased)
 - 7 Conscientiousness items (4 decreased, 3 increased)
 - 10 other items that are not part of the Big 5 from the SPI-135 (7 decreased, 3 increased)
- Profiles did not differ across cohorts for the sensitive personality items.
- 2020/2021 were volatile. Observed results could be confounded by events outside of Stay at Home orders in the United States (i.e. political and world events, race and social justice events, natural disasters, mass unemployment, stock market crash).

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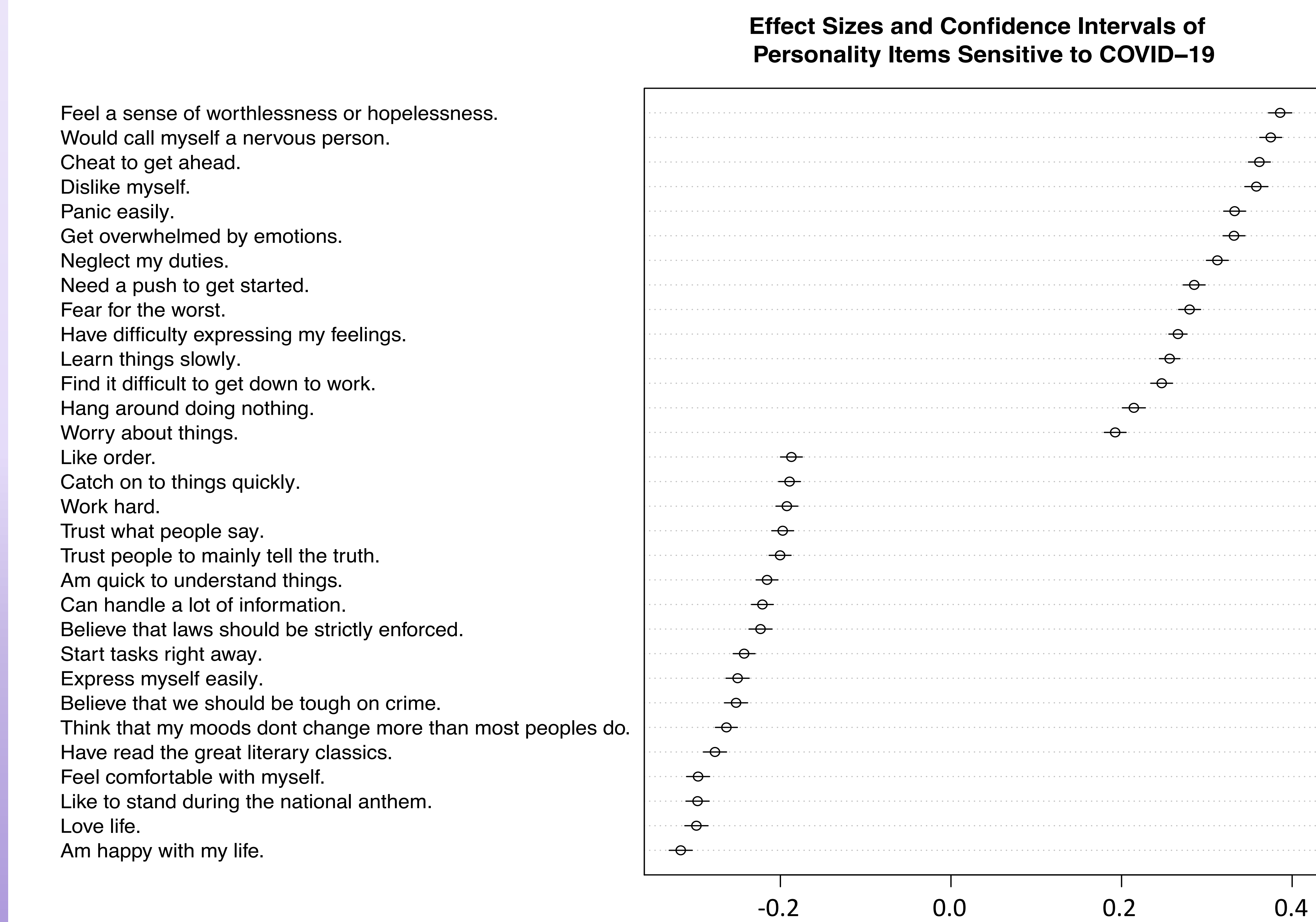


Figure 3. Effect sizes and confidence intervals of personality items sensitive to COVID-19. Effect sizes ranged from $d = [-0.32, 0.39]$