A two-wave network analysis of COVID-19's impact on schizotypal traits and mental health

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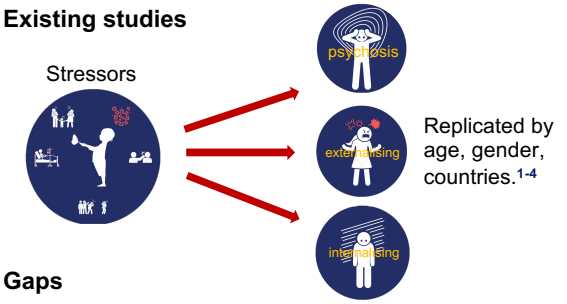
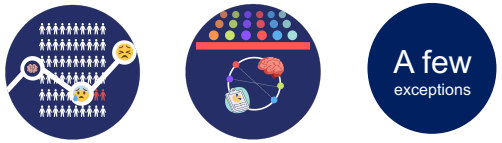
1 Background

The global coronavirus (COVID-19) pandemic can be seen as the perfect opportunity to understand how stress negatively impacts people's mental health and livelihood. Whether higher levels of paranoia/schizotypal traits are associated with poorer mental health during uncertainty.

Existing studies



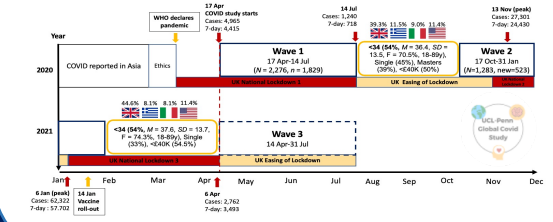
Gaps



Cross-sectional, prevalence rates[5] | Limited controls, comorbidity | **Network analysis**[6-8]

2 Methods

- Adults (18-89 years) self-reported on schizotypy (**F1**: cognitive-perceptual, **F2**: interpersonal, **F3**: disorganised), paranoia (**SMS**), anxiety (**GAD7**), depression (**PHQ9**), aggression (**RPQ**), loneliness (**Lone**), poor sleep (**Sleep**), stress (**Stress**), and demographics e.g., gender (F/M), age (young ≤ 34y, older 35+), country (UK vs. Italy, Greece, USA), lockdown (1 vs. 2).
- **Network analysis** (*R*; *bootnet*, *qgraph*, *NCT*) applied to complete data from Wave 1 (N = 2,276) and Wave 2 (N = 1,283).[9]



UCL-Penn Global COVID Study Timeline

GlobalCOVIDStudy.com

This study uses **network analysis (NA)** to understand the pandemic's impact on adult's levels of schizotypal traits, paranoia, and mental health (MH) over 6-months.

Study Questions:

1. Are schizotypal traits and paranoia positively related to **poorer** mental health during the COVID-19 pandemic?
2. Do network structures and connections of the above variables differ by **gender**, **age**, **country**, and over **time**?

3 Results

Hypothesis 1 Schizotypal traits and paranoia will be positively associated with poorer mental health across age, gender, and country during lockdown periods.

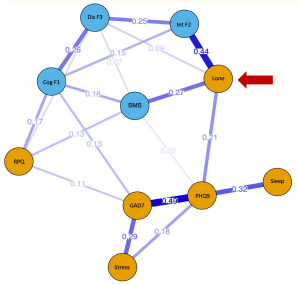
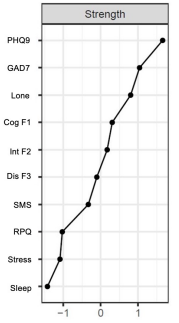


Fig 1. Network analysis of all study variables at Wave 1 (n_1 = 1,599) and Wave 2 (n_2 = 744).

1. Higher levels of paranoia / schizotypy (in blue) were associated with poorer mental health (in yellow), with **loneliness** being the most influential node in the network.



Hypothesis 2 Stronger networks will be found in younger than in older people and women, but weaker networks by lockdown 2.

2. No network variance for structure and global strength (S)

   BUT
   we found changes from T1→T2.

- ○ gender (M = .12, p = .45; S =.16, p = .20)
- ○ age (M = .12, p = .16; S = .15, p = .15)
- ○ country (M = .15, p = .17; S = .07, p = .61)
- ○ time (M = .11, p = .15; S = .02, p = .88)

- ✓ ⬆**stress:** T2 > T1*
- ✓ ⬆**poorer sleep**: t (886) = -4.74***
- ✓ ⬇**schizotypy**: F2: t (881) = 2.75**, F3: t (883) = 2.68**
- ✓ ⬇**aggression**: t (873) = 17.34***

*p < .05, **p < .01, ***p < .001

4 Discussion

- Schizotypy (interpersonal & disorganised features) and paranoia are associated with poorer MH **through loneliness** and aggression across Waves 1 and 2 → interventions for loneliness needed.
- **Network structure and global strength do not differ** by gender, age, country and lockdown periods → sustained effects for everyone; see if replicated.
- Fewer schizotypal traits and aggression, **but more stress and poorer sleep reported at Wave 2** → sustained stress & MH issues is itself problematic, tools to help ease stress and improve sleep needed.

- ○ Single-informant self-report (inflated relationships), convenience sampling (not representative), relationships may have existed prior to study, correlational (pending Wave 3).
- ✓ Large sample, 6-month follow-up, NA accounts for comorbidity across wide range of MH measures.

Why Network Analysis?

Mapping the comorbidity between paranoia / schizotypal traits and mental health symptoms during the pandemic helps us understanding…

How they're related and change.

Who's most vulnerable?

What interventions are needed and when.

References

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