

## Longitudinal study

# Evidenced-based and targeted interventions are required to enhance compliance with COVID-19 public health measures

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## Implications for practice and research

- ▶ Developing targeted, evidence-based public health measures is necessary to increase compliance with COVID-19 public health measures
- ▶ Future research should focus on analysis of targeted interventions on mitigating non-compliance attitudes in high-risk populations.

## Context

Compliance with public health guidelines has become increased in global importance since the COVID-19 pandemic began. While a growing body of research on how personality and individual differences predict compliance with health guidelines during the pandemic,<sup>1</sup> Nivette and colleagues examined prior social and psychological factors linked to non-compliance in adolescents and young adults during the pandemic.

## Methods

Using a prospective-longitudinal cohort study with data before and during the pandemic in Switzerland, Nivette and colleagues aimed to describe patterns of non-compliance with COVID-19 public health measures in young adults and to identify which characteristics of adolescents and young adults increase risk for future and concurrent non-compliance. The pre-pandemic data came from a cohort study on the development of child and adolescent prosocial and problem behaviour.<sup>2</sup> Non-compliance with public health measures and concurrent correlates were measured at age 22. Antecedent sociodemographic, social and psychological factors were measured at ages 15–20 (n=737).<sup>2</sup>

## Findings

Non-compliance, especially with hygiene-related measures was more prevalent in males, and in individuals with higher education, higher socioeconomic status and a non-immigrant background.<sup>2</sup> Non-compliance was higher in young adults who had previously scored high on indicators of 'antisocial potential', including low acceptance of moral rules, pre-pandemic legal pessimism, low shame/guilt, low self-control, engagement with delinquent behaviours and associations with delinquent peers.<sup>2</sup>

## Commentary

The COVID-19 pandemic has transformed public health safety guidelines worldwide, drastically impacting public and private life. Adherence to these policies is lifesaving, and emerging research suggests older age, female

gender, lower education levels and ease of remote work may be associated with increased compliance.<sup>3,4</sup> The role of impulsivity and certain personality traits, such as egoism, amorality, psychopathy and psychological entitlement have also been shown to predict risk of non-compliance to current Center for Disease Control and Prevention recommendations.<sup>1</sup> These cross-sectional studies offer valuable insight into current challenges during the pandemic, but the reliance on self-reported surveys and inability to assess psychological traits and attitudes before the pandemic provide limitations in analysis and practical application of findings. Consequentially, the strength of the present study lies in its prospective-longitudinal cohort design where antecedent data were collected in real time for participants prior to the start of the pandemic.

In a recent study by Timmons and colleagues, survey prose was shown to affect participants' responses to compliance questionnaires, highlighting the importance of minimising bias in methodology. Nivette mentioned utilising subject interviews to supplement survey method, which if employed properly would have strengthened the conclusions drawn as compared with survey alone.<sup>2</sup> However, there is a lack of clarity regarding the structure of the interview sessions and survey prose, and including this information could have further supported the presented evidence.<sup>5</sup>

Future research should focus on analysis of targeted strategies that mitigate non-compliance behaviours using preintervention and postintervention assessments that are informed by the current study's findings. It is essential to educate the general public; however, some centralised initiatives may not equally appeal to all individuals and might even be counterproductive in specific populations or age groups, as emphasised by the current research. The development of targeted evidence-based campaign reform and educational interventions is essential for empowering youth and adults in following health guidelines during global health crises.

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## References

- 1 Blagov PS. Adaptive and dark personality in the COVID-19 pandemic: predicting health-behavior endorsement and the appeal of public-health messages. *Soc Psychol Personal Sci* 2020.
- 2 Nivette A, Ribeaud D, Murray A, *et al.* Non-Compliance with COVID-19-related public health measures among young adults in Switzerland: insights from a longitudinal cohort study. *Soc Sci Med* 2021;268:113370.
- 3 Coroiu A, Moran C, Campbell T, *et al.* Barriers and facilitators of adherence to social distancing recommendations during COVID-19 among a large international sample of adults. *PLoS One* 2020;15:e0239795.
- 4 Roma P, Monaro M, Muzi L, *et al.* How to improve compliance with protective health measures during the COVID-19 outbreak: testing a moderated mediation model and machine learning algorithms. *Int J Environ Res Public Health* 2020;17:7252.
- 5 Timmons S, McGinnity F, Belton C. It depends on how you ask: measuring bias in population surveys of compliance with COVID-19 public health guidance. *J Epidemiol Community Health* 2020. doi:10.1136/jech-2020-215256. [Epub ahead of print: 16 Oct 2020].