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Correspondence

Correlation of temperament and character to adherence with mandatory facemask use in the general population during the COVID-19 lockdown: A hypothesis based on data



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Sir

Recently a study measured compliance with mandatory facemask wearing in 120,000 passers-by reported large differences between males and females and among age groups (Fountoulakis et al., 2022).

From recently published studies, the mean scores are available for specific age-by-gender groups concerning three major temperament, character and personality instruments, that is the TEMPS-A, the TCI and the NEO-PI-3 (Fountoulakis et al., 2015; Fountoulakis et al., 2014a, 2014b) and for indices from a novel temperament model (Fountoulakis and Gonda, 2019, 2022).

At the population level, Pearson Correlation coefficients (Table 1; significance at $p < 0.05$) in each age-by-gender group showed that

Table 1

correlations among the rates of types of adherence to facemasks (correct, nose out, jaw, not at all) and temperament and personality variables. Only findings for variables with significant results (bold underlined) are shown (at $p < 0.05$).

	Correct	Nose out	Jaw	Not at all	Jaw plus none
TEMPS-Depr	<u>0.86</u>	<u>-0.85</u>	<u>-0.87</u>	-0.67	<u>-0.85</u>
TEMPS-Cycl	<u>0.88</u>	<u>-0.90</u>	<u>-0.90</u>	-0.61	<u>-0.85</u>
TEMPS-Hyper	<u>-0.82</u>	<u>0.84</u>	<u>0.82</u>	0.60	<u>0.79</u>
TEMPS-Anx	<u>0.89</u>	<u>-0.88</u>	<u>-0.91</u>	-0.67	<u>-0.88</u>
NEO-PI-3-N	<u>0.90</u>	<u>-0.92</u>	<u>-0.89</u>	-0.65	<u>-0.86</u>
TCI-HA	<u>0.92</u>	<u>-0.93</u>	<u>-0.92</u>	-0.68	<u>-0.89</u>
ER	<u>-0.91</u>	<u>0.91</u>	<u>0.92</u>	0.68	<u>0.89</u>
EM	<u>-0.74</u>	<u>0.79</u>	<u>0.76</u>	0.44	0.70
ECC	<u>-0.93</u>	<u>0.94</u>	<u>0.94</u>	0.64	<u>0.90</u>
SEI	<u>-0.82</u>	<u>0.88</u>	<u>0.82</u>	0.48	<u>0.76</u>

TEMPS-Depr: Depressive temperament according to the TEMPS.

TEMPS-Cycl: Cyclothymic temperament according to the TEMPS.

TEMPS-Hyper: Hyperthymic temperament according to the TEMPS.

TEMPS-Anx: Anxious temperament according to the TEMPS.

NEO-PI-3-N: Neurotism according to NEO-PI-3.

TCI-HA: Harm avoidance according to TCI.

ER: Ego Resilience.

EM: Emotional Motivation.

ECC: Emotional and Cognitive Control.

SEI: Self-Environment Interaction.

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facemask compliance rates correlated with higher scores in Depressive, Cyclothymic, and Anxious temperaments and lower Hyperthymic temperament as assessed by the TEMPS. From the NEO-PI-3, there was a positive correlation only with Neurotism (N), which is related to the intensity of affects and stress management, it reflects the variability of the levels of negative affects, including fear, worry, guilt or grief and it is a powerful prognostic factor of psychiatric morbidity, and especially of depression. From the TCI there was again a positive correlation only with Harm Avoidance (HA) which reflects excessive worrying, pessimism, shyness, being fearful, doubtful, and easily fatigued. Interestingly, the change in the sign of correlation occurs at the lower level of adherence (nose out).

Concerning the more novel indices, adherence is positively correlated with Ego Resiliency (ER) which shares common elements with HA, negatively with Emotional Motivation (EM) which overlaps with the Novelty Seeking (NS) of the TCI, negatively with Emotional and Cognitive Control (ECC) which refers to the general (lack of) ability for the control of behavior and impulsivity through affective as well as cognitive mechanisms, and again negative correlation with the Self-Environment Interaction (SEI) which concerns the (lack of) existence and application of moral rules on social behavior, with emotional contribution and support.

The results of the current study give a preliminary insight on the reasons behind differences in adherence to health measures during the pandemic as these were observed during the COVID-19 pandemic. According to them, adherence to measures is related with harm avoidance and neurotism and the accompanied worry, anxiety and depression. Lack of adherence is related to hyperthymic temperament, impulsivity, lack of social collaboration and egoistic tendencies. These findings could constitute the basis for future planning of health policies.

CRedit authorship contribution statement

KNF, conceived and designed the study, analyzed the data and wrote the first draft of the paper. NKF and PT interpreted the data and reviewed the manuscript and especially its final form.

Conflict of interest

None.

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