

## Abstracts van WP2 Literatuur update #4 Februari

### Highlights

**Munzert et al. (2021). Tracking and promoting the usage of a COVID-19 contact tracing app.**

Digital contact tracing apps have been introduced globally as an instrument to contain the COVID-19 pandemic. Yet, privacy by design impedes both the evaluation of these tools and the deployment of evidence-based interventions to stimulate uptake. We combine an online panel survey with mobile tracking data to measure the actual usage of Germany's official contact tracing app and reveal higher uptake rates among respondents with an increased risk of severe illness, but lower rates among those with a heightened risk of exposure to COVID-19. Using a randomized intervention, we show that informative and motivational video messages have very limited effect on uptake. However, findings from a second intervention suggest that even small monetary incentives can strongly increase uptake and help make digital contact tracing a more effective tool.

**Viner, R. M., Russell, S., Saulle, R., Croker, H., Stansfield, C., Packer, J., ... & Minozzi, S. (2021). Impacts of school closures on physical and mental health of children and young people: a systematic review. medRxiv.**

**Background** The well-documented links between education and health mean that school closures during the COVID-19 pandemic are likely to be associated with significant health harms to children and young people (CYP). A systematic review of the evidence is needed to inform policy decisions around school closures and re-openings during the pandemic.

**Methods** We undertook a high-quality systematic review of observational quantitative studies (published or preprint) of the impacts of school closures (for any reason) on the health, wellbeing and educational outcomes of CYP, excluding impacts of closure on transmission of infection (PROSPERO CRD42020181658). We used a machine learning approach for screening articles, with decisions on inclusion and data extraction performed independently by 2 researchers. Quality was assessed for study type. A narrative synthesis of results was undertaken as data did not allow meta-analysis.

**Results** 16,817 records were screened, of which 151 were reviewed in full-text and 72 studies were included from 20 countries. 33% were cohort studies using historical control periods; 19% pre-post studies; and 46% cross-sectional studies which assessed change by comparison with population reference data. 63% were high-quality, 25% medium-quality and 13% low-quality. Cause of closure in all studies was the first COVID-19 pandemic wave with the exception of 5 influenza studies and 1 teacher strike.

27 studies concerning mental health identified considerable impacts across emotional, behavioural and restlessness/inattention problems; 18-60% of CYP scored above risk thresholds for distress, particularly anxiety and depressive symptoms. Two studies reported non-significant rises in suicide rates. Self-harm and psychiatric attendances were markedly reduced, indicating a rise in unmet mental health need. Child protection referrals fell 27-39%, with a halving of the expected number of referrals originating in schools.

19 studies concerning health service use showed marked reductions in emergency department (ED) presentations and hospital admissions, with evidence of delayed presentations and potential widening of inequalities in vaccination coverage. Data suggested marked rises in screen-time and social media use and reductions in physical activity however data on sleep and diet were inconclusive. Available data suggested likely higher harms in CYP from more deprived populations.

Conclusions School closures as part of broader social distancing measures are associated with considerable harms to CYP health and wellbeing. Available data are short-term and longer-term harms are likely to be magnified by further school closures. Data are urgently needed on longer-term impacts using strong research designs, particularly amongst vulnerable groups. These findings are important for policy-makers seeking to balance the risks of transmission through school-aged children with the harms of closing schools.

### **Independent SAGE: briefing note on use of punishments in the Covid response**

Blatant and visible violations of Covid-safe rules and guidance are relatively rare and probably less important in spreading infection than contacts that are within the current regulations (e.g. at workplaces). Punishment for blatant and visible violations may have a role in maintaining a sense of justice for the majority who are adhering, but evidence suggests that prioritizing punitive approaches can be ineffective or even counter-productive. Punitive approaches applied to the one area where adherence is low --self-isolation --also distract from the real causes of failure of adherence and the real solutions. Increasing public understanding about what self-isolation means and when it is required, plus providing adequate financial, material, practical and social support will be more effective in infection control than punishments.

## **Gepubliceerde literatuur**

### **Marteau et al. (2021). Changing behaviour: an essential component of tackling health inequalities**

Life expectancy in England is stalling, while at the same time health inequalities are widening. The 2020 Marmot review of health inequalities in England showed that between 2010 and 2018 the gap in life expectancy at birth between those living in the least and most deprived areas increased. For men the gap increased from 9.1 to 9.5 years and for women from 6.8 to 7.7 years.

The time people spend in poor health has also increased across England since 2010, from 15.8 to 16.2 years for men, and 18.7 to 19.4 years for women. But these average figures mask an even steeper social gradient than that seen for life expectancy, meaning that those in more deprived areas spend a larger proportion of their already shorter lives in poor health.

The covid-19 pandemic is set to widen these inequalities yet further.<sup>2</sup> For example, the age standardised mortality rate associated with covid-19 in the most deprived areas in July 2020 was 3.1 deaths/100 000 population, more than double the rate in the least deprived areas (1.4 deaths/100 000 population).

Both the 2010 and 2020 Marmot reviews<sup>14</sup> outline actions in five priority areas for health equity: giving every child the best start in life; good education and lifelong learning to maximise capabilities; fair employment and good working conditions; healthy standard of living for all; and healthy and sustainable places and environments in which to live. However, the 2010 Marmot review included a sixth area—strengthening prevention of ill health—that was omitted from the 2020 review on the basis that it had received more policy focus over the past decade than the other areas. Preventing ill health requires a focus on the behaviours that follow the social gradient and contribute most to chronic disease, including smoking and unhealthy diets. How effective have the policies over the past decade been and how can we do better?

### **Loomba et al. (2021). Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA.**

Widespread acceptance of a vaccine for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) will be the next major step in fighting the coronavirus disease 2019 (COVID-19) pandemic, but achieving high uptake will be a challenge and may be impeded by online misinformation. To inform successful vaccination campaigns, we conducted a randomized controlled trial in the UK and the USA to quantify how exposure to

online misinformation around COVID-19 vaccines affects intent to vaccinate to protect oneself or others. Here we show that in both countries—as of September 2020—fewer people would ‘definitely’ take a vaccine than is likely required for herd immunity, and that, relative to factual information, recent misinformation induced a decline in intent of 6.2 percentage points (95th percentile interval 3.9 to 8.5) in the UK and 6.4 percentage points (95th percentile interval 4.0 to 8.8) in the USA among those who stated that they would definitely accept a vaccine. We also find that some sociodemographic groups are differentially impacted by exposure to misinformation. Finally, we show that scientific-sounding misinformation is more strongly associated with declines in vaccination intent.

**Schwarzinger et al. (2021). COVID-19 vaccine hesitancy in a representative working-age population in France: a survey experiment based on vaccine characteristics.**

**Background:** Opinion polls on vaccination intentions suggest that COVID-19 vaccine hesitancy is increasing worldwide; however, the usefulness of opinion polls to prepare mass vaccination campaigns for specific new vaccines and to estimate acceptance in a country's population is limited. We therefore aimed to assess the effects of vaccine characteristics, information on herd immunity, and general practitioner (GP) recommendation on vaccine hesitancy in a representative working-age population in France.

**Methods:** In this survey experiment, adults aged 18–64 years residing in France, with no history of SARS-CoV-2 infection, were randomly selected from an online survey research panel in July, 2020, stratified by gender, age, education, household size, and region and area of residence to be representative of the French population. Participants completed an online questionnaire on their background and vaccination behaviour-related variables (including past vaccine compliance, risk factors for severe COVID-19, and COVID-19 perceptions and experience), and were then randomly assigned according to a full factorial design to one of three groups to receive differing information on herd immunity (>50% of adults aged 18–64 years must be immunised [either by vaccination or infection]; >50% of adults must be immunised [either by vaccination or infection]; or no information on herd immunity) and to one of two groups regarding GP recommendation of vaccination (GP recommends vaccination or expresses no opinion). Participants then completed a series of eight discrete choice tasks designed to assess vaccine acceptance or refusal based on hypothetical vaccine characteristics (efficacy [50%, 80%, 90%, or 100%], risk of serious side-effects [1 in 10 000 or 1 in 100 000], location of manufacture [EU, USA, or China], and place of administration [GP practice, local pharmacy, or mass vaccination centre]). Responses were analysed with a two-part model to disentangle outright vaccine refusal (irrespective of vaccine characteristics, defined as opting for no vaccination in all eight tasks) from vaccine hesitancy (acceptance depending on vaccine characteristics).

**Findings:** Survey responses were collected from 1942 working-age adults, of whom 560 (28.8%) opted for no vaccination in all eight tasks (outright vaccine refusal) and 1382 (71.2%) did not. In our model, outright vaccine refusal and vaccine hesitancy were both significantly associated with female gender, age (with an inverted U-shaped relationship), lower educational level, poor compliance with recommended vaccinations in the past, and no report of specified chronic conditions (ie, no hypertension [for vaccine hesitancy] or no chronic conditions other than hypertension [for outright vaccine refusal]). Outright vaccine refusal was also associated with a lower perceived severity of COVID-19, whereas vaccine hesitancy was lower when herd immunity benefits were communicated and in working versus non-working individuals, and those with experience of COVID-19 (had symptoms or knew someone with COVID-19). For a mass vaccination campaign involving mass vaccination centres and communication of herd immunity benefits, our model predicted outright vaccine refusal in 29.4% (95% CI 28.6–30.2) of the French working-age population. Predicted hesitancy was highest for vaccines manufactured in China with 50% efficacy and a 1 in 10 000 risk of serious side-effects (vaccine acceptance 27.4% [26.8–28.0]), and lowest for a vaccine manufactured in the EU with 90% efficacy and a 1 in 100 000 risk of serious side-effects (vaccine acceptance 61.3% [60.5–62.1]).

Interpretation: COVID-19 vaccine acceptance depends on the characteristics of new vaccines and the national vaccination strategy, among various other factors, in the working-age population in France.

**Carter et al. (2021). What Factors Influence Symptom Reporting and Access to Healthcare During an Emerging Infectious Disease Outbreak? A Rapid Review of the Evidence**

During any emerging infectious disease outbreak, people with symptoms of the illness are asked to report to a health service immediately to facilitate contact tracing. Several factors may influence a person's willingness to report symptoms and their ability to access healthcare services. Understanding these factors has become urgent during the COVID-19 pandemic. To determine which factors influence symptom reporting during an emerging infectious disease outbreak, we conducted a rapid review of the evidence. Studies included in the review were based on primary research, published in a peer-reviewed journal, written in English, included factors associated with symptom reporting or accessing healthcare, and were related to a major public health incident involving an infectious disease outbreak. Five themes were identified as facilitators of symptom reporting or accessing healthcare: accurate and informative communication about the disease and the need to seek help, symptom severity, concern about disease exposure, ease of access to healthcare facilities, and relationship with the healthcare provider. Seven themes were identified as barriers to symptom reporting or accessing healthcare: lack of knowledge of the disease and its treatment, fear of the disease and fear of subsequent treatments or requirements, stigmatization attached to having a disease, invasion of privacy, low concern about symptoms, economic consequences of disease diagnosis, and challenges related to attending a healthcare facility. For contact tracing services to be effective, members of the public need to have the capability, opportunity, and motivation to use them. The themes identified should be used to evaluate information provided to the public to ensure as many people as possible with relevant symptoms report them to a healthcare provider.

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## Preprints

**Feitsma et al. (2021). Dynamics of Behavioural Expertise under COVID-19. Utrecht University Mark Whitehead, Aberystwyth University\*working paper**

Many government responses to the coronavirus-pandemic have been marked by attempts at expertization and scientization. Particularly, politico-epistemological authority is being given to the behavioural science community consulting government. This article critically scrutinizes this most recent wave of behavioural expertization. Taking developments in the UK and the Netherlands as our case-studies, we shed light on the disparate ways in which behavioural expertise is being (re)shaped during COVID-19. Some of these ways point at processes of behavioural expertise 'drift', in which the applicability and robustness of this knowledge source gets overstated. Other ways instead point at processes of behavioural

expertise 'thrift' or 'shift', where the knowledge is used only minimally or taken in wholly new and norm-breaking directions. Doing so, we seek to demonstrate the importance of institutional context in understanding how behavioural expertise is currently shaping public policy: underpinning institutional configurations determine whether the expertise is gauged and applied effectively

**Liebst, L. S., Ejbye-Ernst, P., de Bruin, M., Thomas, J., & Lindegaard, M. R. (2021, February 5). Mask-wearing and social distancing: Evidence from a video-observational and natural-experimental study of public space behavior during the COVID-19 pandemic.**

Background: Face masks have been widely employed as a personal protective measure during the COVID-19 pandemic. However, concerns remain that masks create a false sense of security that reduces adherence to other public health measures, including social distancing. Purpose: This paper tested whether mask-wearing was negatively associated with social distancing compliance. Methods: In two studies, we combined video-observational records of public mask-wearing in two Dutch cities with a natural-experimental approach to evaluate the effect of an area-based mask mandate. Results: We found no observational evidence of an association between mask-wearing and social distancing (Study 1:  $p = .398$ ; Study 2:  $p = .511$ ), but found a positive link between crowding and social distancing violations (Study 1:  $p < .001$ ; Study 2:  $p < .001$ ). Our natural-experimental analysis showed that an area-based mask mandate did not significantly affect social distancing or crowding levels (Study 2:  $p = .781$  and  $p = .126$ , respectively). Conclusions: Our results alleviate the concern that mask use reduces social distancing compliance or increases crowding levels. On the other hand, crowding reduction may be a viable strategy to mitigate social distancing violations.

**Brown, M., Young, S., & Sacco, D. F. (2021, February 13). Competing Motives in a Pandemic: Affiliative and Pathogen-Avoidance Motives Predict (Non)Compliance with Social Distancing Guidelines.**

During the COVID-19 pandemic, individuals were advised to adhere to various social distancing guidelines to limit physical interpersonal contact. Humans have a suite of adaptations to effectively satisfy belonging needs while avoiding diseased conspecifics, and competition between these motivational systems may explain adherence and resistance to contemporary social distancing guidelines. The current study is a preregistered analysis of data collected during the pandemic investigating how individual differences in affiliative and pathogen-avoidant motives differentially predict interest in physical interactions ( $N=2,409$ ). Heightened germ aversion was predictably associated with less interest in physical interactions during the pandemic with chronic need to belong conversely predicting more interest. Additional analyses revealed utilization of technology satisfied belonging motives that further reduced interest in physical contact. We frame results through a framework of competing fundamental social motives and how this knowledge could inform work on future pandemics.

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**Bieleke, M., Martarelli, C., & Wolff, W. (2020, June 25). If-then planning, self-control, and boredom as predictors of adherence to social distancing guidelines: Evidence from a two-wave longitudinal study with a behavioral intervention.**

Objectives: In the wake of the Coronavirus Disease 2019 (COVID-19), social distancing is instrumental for containing the pandemic. To maximize its effectiveness, it is paramount to investigate psychological factors that predict adherence to social distancing guidelines and examine corresponding interventions. We focused on individual differences in if-then planning, self-control, and boredom, and tested an intervention based on if-then planning. Design: We conducted a two-wave longitudinal study combining observational and experimental methods. Methods: Participants (N = 574, 35.7% female, age: M = 37.5 years, SD = 10.8) reported their adherence to social distancing guidelines and the perceived difficulty of adherence at T<sub>1</sub>, along with trait measures of if-then planning, self-control, and boredom. Afterwards, they were randomly assigned to an if-then planning intervention to increase adherence, or to a control intervention. One week later at T<sub>2</sub>, participants again reported their adherence and the perceived difficulty of adhering. Multiple regression and structural equation modeling were used to establish whether trait if-then planning, self-control, and boredom predicted adherence, and to examine the effects of the if-then planning intervention. Results: Trait if-then planning, self-control, and boredom were associated with T<sub>1</sub> adherence, while only if-then planning and boredom predicted T<sub>2</sub> adherence. No overall treatment effect of the if-then planning intervention emerged; however, participants who complied with the intervention (75.6%) maintained higher levels of adherence over time than control participants. Conclusions: Individual differences in if-then planning, self-control, and boredom predict adherence to social distancing guidelines. If-then planning interventions are promising but require further steps to ascertain compliance.

## Opvallende onderwerpen

### **Stack et al. (2021). Social distancing predicts suicide rates: Analysis of the 1918 flu pandemic in 43 large cities, research note.**

Social distancing (e.g., school and business closings) has been emphasized in current sociopolitical efforts in controlling COVID-19. Such policies are assumed to increase suicide risk through lowering social integration. While two studies have linked the presence of a pandemic to suicide rates, no study has assessed the degree of social distancing on suicide rates during a pandemic. The present study fills this gap with data on the extent of social distancing during the Spanish flu epidemic in 43 large cities. The results find that increasing social distancing increases suicide rates independent of the influenza mortality rate.

### **Holland et al. (2021). "More Attention than Usual": A Thematic Analysis of Dog Ownership Experiences in the UK during the First COVID-19 Lockdown.**

On 23 March 2020, the UK Government imposed a nationwide lockdown as part of efforts to mitigate the impact of COVID-19. This study aimed to explore how the experience of dog ownership in the UK was impacted during this lockdown. Data for this research came from open-ended survey questions and an electronic diary completed by members of the general public and participants involved in "Generation Pup", an ongoing longitudinal cohort study of dogs. A total of 10,510 freetext entries were analysed. Three major themes emerged: spending time at home with dog(s), walking practices, and behaviour and training. Owners valued having more time than usual with their dog(s) but also recognised that spending extra time with their dog(s) may negatively impact on the dog's future ability to cope when left alone. However, very few owners provided alone time for their dog(s) during the lockdown. The opportunity to walk their dog(s) as part of their permitted daily exercise was regarded positively, but walks under the lockdown guidelines were not always felt to be adequate with respect to providing sufficient exercise and opportunities for interaction with other dogs. Owners reported observing new undesirable behaviours in their dog(s) during the lockdown, including barking and dogs being "clingy" or vocalising when briefly left alone. Based on these findings, we suggest intervention strategies to best support dog welfare that include helping dog owners to teach dogs to cope with being alone, even if owners do not need to leave their dogs alone.

### **Han. (2021, preprint). Exploring the association between compliance with measures to prevent the spread of COVID-19 and big five traits with bayesian generalized linear model.**

Research has examined the association between people's compliance with measures to prevent the spread of COVID-19 and personality traits. However, previous studies were conducted with relatively small-size datasets and employed frequentist analysis that does not allow data-driven model exploration. To address the limitations, a large-scale international dataset, COVIDiSTRESS Global Survey dataset, was explored with Bayesian generalized linear model that enables identification of the best regression model. The best regression models predicting participants' compliance with Big Five traits were explored. The findings demonstrated first, all Big Five traits, except extroversion, were positively associated with compliance with general measures and distancing. Second, neuroticism, extroversion, and agreeableness were positively associated with the perceived cost of complying with the measures while conscientiousness showed negative association. The findings and the implications of the present study were discussed.

## Rapporten

### **Independent SAGE: briefing note on use of punishments in the Covid response**

Blatant and visible violations of Covid-safe rules and guidance are relatively rare and probably less important in spreading infection than contacts that are within the current regulations (e.g. at workplaces). Punishment for blatant and visible violations may have a role in maintaining a sense of justice for the majority who are adhering, but evidence suggests that prioritizing punitive approaches can be ineffective or even counter-productive. Punitive approaches applied to the one area where adherence is low --self-isolation --also distract from the real causes of failure of adherence and the real solutions. Increasing public understanding about what self-isolation means and when it is required, plus providing adequate financial, material, practical and social support will be more effective in infection control than punishments.

### **Behavioural Insights research to support the response to COVID-19: a survey of implementation in the EU/EEA**

This Technical Report presents evidence about the current status of Behavioural Insights (BI) research being conducted in the ten EU/EEA Member States that responded to an ECDC survey, within the context of the COVID-19 pandemic. The focus is on identifying experiences, challenges, and key lessons learned in translating the findings from BI research into effective strategies for pandemic response, and for optimising risk communication activities. The work has been undertaken in the context of concern about sub-optimal compliance in some Member States to the non-pharmaceutical measures that are in place to reduce the spread of the SARS-CoV-2, and also with regards to the need to support the implementation of national COVID-19 vaccination programmes.

### **Strategies for Building Confidence in the COVID-19 Vaccines**

Ensuring strong demand for and promoting acceptance of the COVID-19 vaccines is critical to achieving herd immunity, protecting the most vulnerable populations, and reopening social and economic life. People who are hesitant, reluctant, distrusting, or otherwise not motivated with respect to being vaccinated need resources, information, and support for making the vaccination decision that is right for them. Public engagement and effective communication through clear, transparent messaging will play a central role in building confidence in the COVID-19 vaccines. This rapid expert consultation describes a variety of public engagement and communication strategies that can be implemented at the national, state, and local levels to change patterns of interaction with the public, address hesitancy about the vaccines, and build trust.

This rapid expert consultation was produced through the Societal Experts Action Network (SEAN), an activity of the National Academies of Sciences, Engineering, and Medicine that is sponsored by the National Science Foundation. SEAN links researchers in the social, behavioral, and economic sciences with decision makers to respond to policy questions arising from the COVID-19 pandemic. This project is affiliated with the National Academies' Standing Committee on Emerging Infectious Diseases and 21st Century Health Threats.