

Sussex Covid Research Networking Event: Monday 1st November 2021 1.00-3.30pm

Abstracts:

Speaker	School	Collaborators	Abstract title
Laia BECARES	ESW	<ul style="list-style-type: none"> Dylan Kneale, UCL 	Inequalities in mental health, self-rated health, and social support among LGBTQ+ young people in the UK during the COVID-19 pandemic: Analyses from the Millennium Cohort Study
Imogen BELLWOOD-HOWARD	IDS	<ul style="list-style-type: none"> Helen Dancer, LPS 	Power, politics and social difference in African agricultural value chains: the effects of COVID-19
Grace CARSWELL	GLOBAL	<ul style="list-style-type: none"> Nidhi Subramanyam, University of Toronto 	Getting Home During Lockdown: Circular migration and hyper-precarity in rural Tamil Nadu at the time of Covid-19
Jackie CASSELL	BSMS	<ul style="list-style-type: none"> Jo Middleton, BSMS Lavinia Bertini BSMS Leanne Bogen-Johnston, PSYCH Istvan Kiss, MPS John Drury, PSYCH Rebecca Sharp, Kent Surrey Sussex Academic Health Sciences Centre Wendy Wood, Research Design Service, University of Brighton Julien Forder, PSSRU, University of Kent Daniel de Araujo-Roland, PSSRU, University of Kent Patient and public representatives: Jennie Hawks and Joy Fletcher 	How can community-based care settings for individuals vulnerable to Covid-19 related mortality be supported in receiving returning or new clients? A mixed methods study.
Chirantan Chatterjee	USBS	<ul style="list-style-type: none"> Anindya Chakrabarti, Indian Institute of Management Ahmedabad (IIM) Aparna Hegde, Founder of Armman Sawan Rathi, IMM 	COVID-19 Lockdown & Technology Engagement: New Evidence from a Large-Scale m-Health Intervention in India.

Speaker	School	Collaborators	Abstract title
Peter DOLTON	USBS	•	The Statistical Challenges of Modelling COVID-19
Matthew EASTERBROOK	PSYCH	<ul style="list-style-type: none"> • Peter Harris, PSYCH • Lewis Doyle, PSYCH • Vladimir Grozev, PSYCH • Natasza Kosakowska-Berezecka, University of Gdansk • Karen Phalet, KU Leuven 	COVID-19, home-schooling, and educational inequalities
Natalie EDELMAN	University of Brighton	<ul style="list-style-type: none"> • Jackie Cassell, BSMS • Istvan Kiss, MPS 	Network analysis of England's single parent household COVID-19 control policies: a proof-of-concept study
Stefan ELBE	GLOBAL	<ul style="list-style-type: none"> • Anne Roemer Mahler , GLOBAL • Dagmar Rychnovská , GLOBAL • David Brenner, GLOBAL • Christopher Long, GLOBAL 	COVID-19 & Global Health Governance
Alex FAULKNER	GLOBAL	<ul style="list-style-type: none"> • Stuart Blume, University of Amsterdam Institute for Social Science Research 	Covid-19 vaccine side-effect reporting systems: public knowledge, attitudes, experience, and 'hesitancy' in 3 European countries
Elizabeth FORD	BSMS	<ul style="list-style-type: none"> • Harley Parfitt, MPS • Ian McCheyne, MPS • Istvan Kiss, MPS • Ruth Sellers, BSMS 	Risk factors and symptom clusters for Long Covid: A retrospective cohort study using data from the Covid symptom tracker app.
Catherine HALL	PSYCH	<ul style="list-style-type: none"> • Ed Wright, LIFESCI • Louise Serpell, LIFESCI • Luca Biasetti, PSYCH 	How does SARS CoV-2 infect blood vessels?
Bonnie HOLLIGAN	LPS	<ul style="list-style-type: none"> • Helena Howe, LPS 	Governing urban growing spaces for community resilience: lessons from Covid-19
Zahira JASER	USBS	<ul style="list-style-type: none"> • Dimitra Petrakaki, USBS 	AI-led job interviews' impact on social mobility for young job applicants
Evan KILLICK	GLOBAL	<ul style="list-style-type: none"> • Mary Menton, LIFESCI • Aoife Bennett, University of Oxford • Milagros Toala, UNIA 	COVID-19 as Camouflage for the Reduction of Public Access to Information, Participation and Socio-environmental Justice in Peruvian Amazonia

Speaker	School	Collaborators	Abstract title
Istvan KISS	MPS	<ul style="list-style-type: none"> • Francesco Di Lauro, MPS • Luc Berthouze, ENGINF • Matthew D. Dorey Department of Mathematics and Statistics, School of Engineering and Mathematical Sciences La Trobe University, Bundoora, Australia • Joel C. Miller, Public Health and Social Research Unit, West Sussex County Council 	The impact of network properties and mixing on control measures and disease-induced herd immunity in epidemic models: a mean-field model perspective
Ali LACEY	PSYCH	<ul style="list-style-type: none"> • Katharyn Lester, PSYCH • Robin Banerjee, PSYCH 	Impact of school closures on primary school aged children and their mothers: A longitudinal qualitative study
Bronte McDONALD	PSYCH	<ul style="list-style-type: none"> • Daniel Michelson, PSYCH • Kathryn Lester, PSYCH 	A qualitative exploration of school attendance problems in the context of the Covid-19 pandemic in the UK: parent and educational professionals' perspectives
Jo MIDDLETON	LIFESCI	<ul style="list-style-type: none"> • Richard Hazell, USBS • Jackie Cassell, BSMS • Alice Eldridge, MAH • Jessica A. Stockdale, MAH • Jules Winchester, MAH • James Fairhead, GLOBAL • Alan Stewart, LIFESCI • Francesca Dem, New Guinea Binatang Research Center, Madang, PNG • Vojtech Novotny Zoology, University of South Bohemia, České Budějovice, CZ.& New Guinea Binatang Research Center, Madang, PNG 	COVID-19 impacts on biodiversity conservation in Papua New Guinea
Emma NEWPORT	MAH	<ul style="list-style-type: none"> • Daniel Michelson, PSYCH • Maya Unnithan, GLOBAL • Clio Berry, BSMS / PSYCH 	COVID Recovery: Scoping an Online Intervention for Youth Mental Health Support in Kenya
Pierre NOUVELLET	LIFESCI		Understanding and forecasting COVID-19 spread and transmission

Speaker	School	Collaborators	Abstract title
Filippo OSELLA	GLOBAL	<ul style="list-style-type: none"> Kate Howland, ENGINF 	Forecasting with fishers: co-producing knowledge for early warning of extreme weather events on the coast of South India
Rotem PERACH	PSYCH	<ul style="list-style-type: none"> Maliyana Limbu, PSYCH 	Can culture beat Covid-19? Evidence that exposure to facemasks with cultural symbols increase solidarity
Bernard REUS	ENGINF	<ul style="list-style-type: none"> Florian Kern, BSMS 	Developing and exploring a novel software application for understanding HLA-type-associated disease risk for COVID-19
Justyna ROBINSON	Justyna ROBINSON	<ul style="list-style-type: none"> Yasmine Auger, MAH Jilan Wei, MAH Lynne Murphy, MAH 	The impact of Covid19 on urban business culture
Justyna ROBINSON	Justyna ROBINSON	<ul style="list-style-type: none"> Julie Weeds, ENGINF Albertus Andito ENGINF Brendon Raw, Africa New Energies Harriet Nye, MAH Joe Thompson, MAH Rhys Sandow, MAH 	"I wore a face mask, and felt less of a criminal": Cognitive restructuring in the concept of CRIME during Covid-19 pandemic.
Madina TASH	USBS		Fiscal contributions of the lockdown "immune" businesses
John THOMPSON	IDS	<ul style="list-style-type: none"> Future Agricultures Consortium 	A Multi-Phase Assessment of the Impact of COVID-19 on Food Systems and Rural Livelihoods in Sub-Saharan Africa
Özden Melis ULUĞ	PSYCH	<ul style="list-style-type: none"> Maria Chayinska, Pontificia Universidad Católica de Chile, Chile Maria Paola Paladino, Trento University, Italy Jeroen Vaes, Trento University, Italy Davide Morselli, University of Lausanne, Switzerland Tymofii Brik, Kyiv School of Economics, Ukraine 	The relationship between conspiracy beliefs and intention to get vaccinated: The mediation roles of subjective mental distress and emotional climate of anxiety
Claire VELLA	PSYCH	<ul style="list-style-type: none"> David Fowler, PSYCH Leanne Bogen-Johnston, PSYCH 	DisCOVeRY: Recovery alongside social isolation: Research into the mental health impacts of COVID-19 for young people

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Ed WRIGHT	LIFESCI		Developing SARS-COV-2 assays and standards to enable studies of viral host range and vaccine development
Nicola YUILL	PSYCH	<ul style="list-style-type: none"> Zubeida Dasgupta, VIGFutures, Brighton & Hove, Devyn Glass, Psychology 	Zoom or Room and Covid-19: Effectiveness and Guidance for In-person versus Online Video Interaction Guidance (VIG) intervention sessions.
Shahaduz ZAMAN	BSMS	<ul style="list-style-type: none"> Geeta Hitch, LIFESCI 	A Comparison Of The Impact Of COVID-19 Pandemic On Students' Experiences From BAME And White Ethnic Groups In Higher Education In The: A Qualitative Exploration

Laia Becares: Inequalities in mental health, self-rated health, and social support among LGBTQ+ young people in the UK during the COVID-19 pandemic: Analyses from the Millennium Cohort Study

Lesbian, gay, bisexual, and queer (LGBTQ+) young people may have been particularly harmed by the consequences of lockdown, closure of educational institutions, and social distancing measures as they are likely to have been confined in households that may not be supportive of their sexual orientation.

This study compared the mental health, self-rated health, and social support of LGBTQ+ youth to that of their heterosexual peers. It analysed data from singletons who participated in waves 6, 7, and the wave 1 COVID-19 survey (n=2211) of the Millennium Cohort Study.

LGBTQ+ young adults had significantly lower levels of social support ($\beta=-0.38$, S.E: 0.08), poorer self-rated health (O.R.: 3.91, 95% C.I.: 2.41-6.34), and higher levels of psychological distress ($\beta=2.26$, S.E: 0.34), anxiety ($\beta=0.40$, S.E: 0.15), and loneliness ($\beta=0.66$, S.E: 0.18) when compared to heterosexual young adults.

LGBTQ+ young people in the UK have been detrimentally impacted by the coronavirus pandemic, experiencing inequalities in mental health, self-rated health, and social support when compared to heterosexual youth. Implications for policy and practice include a stronger provision of safe spaces in the community and in institutions, and policies that address marginalisation and harassment.

Imogen Bellwood-Howard: Power, politics and social difference in African agricultural value chains: the effects of COVID-19

African policymaking has turned to agricultural commercialisation as an engine of growth and the foundation for Africa's nutrition and food security. However, the effects have not been the same for everyone, entrenching long-term patterns of differentiation across intersecting social categories, including gender and kinship, citizenship and migrant status, wealth and age.

This paper draws upon the findings of the Agricultural Policy Research in Africa Programme (APRA), which began research activities in 2016 to study the consequences of different pathways to agricultural commercialisation across value chains in eight countries. In 2020 teams in Ethiopia, Ghana, Malawi, Nigeria, Tanzania, and Zimbabwe conducted further research which considered the impacts of COVID-19 on these value chains. To inform their analysis, the research teams drew upon political settlements approaches, which are concerned with the organisation and exercise of power, forged between elites, but also involving formal and informal institutions underpinning political systems.

This paper shows how political processes have tended to shape value chains to the disadvantage of smaller scale farm, processing and marketing businesses, which generally disadvantages women and migrants. Such enterprises tended to be less resilient to the shocks and stresses of COVID-19, which reinforces longer term, structural dimensions of social differentiation.

Grace Carswell: Getting Home During Lockdown: Circular migration and hyper-precarity in rural Tamil Nadu at the time of Covid-19

This research unpacks the fate of Indian circular labour migrants at the time of the Covid-19 pandemic. Based on detailed interviews with inter-state migrant workers employed in the textile industry of Tamil Nadu, we present their narratives of being stuck at work at the start of lockdown, their subsequent struggles to get home, and finally their plans to return to Tamil Nadu later in 2020. These accounts reveal the particular labour control regime that enhanced their hyper-precarity during the crisis. Employers activated various strategies – withholding wages, deducting food expenses, and promising future wage settlements and pay rises – to first prevent migrant workers from leaving, then dispose of them when they were no longer needed, and ultimately lure them back to restart production post-lockdown. Enabled by the spatio-temporal separation of migrant workers from their home-based kin networks and their lack of social support at destination, this labour control regime drew on the simultaneous disposability *and* unfreedom of migrant workers to produce unprecedented levels of labour exploitation. Drawing on critical literature on labour control regimes, hyper-precarity, and the separation of productive and reproductive labour, we contribute to an understanding of how migrants' hyper-precarity became further entrenched and reinforced during the Covid-19 crisis.

Jackie Cassell: How can community-based care settings for individuals vulnerable to Covid-19 related mortality be supported in receiving returning or new clients? A mixed methods study.

A team of clinical, mathematical, social science researchers and public representatives undertook a programmatic implementation research study. The project was aimed at supporting staff in social care for older people during the COVID19 pandemic. It was jointly funded by NIHR Applied Research Collaboration Kent Surrey Sussex (ARCKSS), the University of Sussex, and the Kent Surrey and Sussex Clinical Research Network (CRN).

We used an interdisciplinary range of methods to explore the working lives and practices of care workers in community settings, in order to understanding the challenges and concerns they experience in the context of COVID-19. The study focused on paid social care for residential and domiciliary care for older adults.

We undertook four integrated workpackages, to be jointly presented:

- Workpackage 1: Qualitative and ethnographic study exploring the working lives and practices of social care staff working in care homes and domiciliary care.
- Workpackage 2: Describing the context of social care for older people using quantitative social care and demographic data.
- Workpackage 3: Mathematical modelling: what are the dynamics of COVID-19 transmission in domiciliary care, and what are the implications for prevention and support of the services?
- Workpackage 4: Implementation and dissemination within and beyond the lifetime of the study.

Chirantan Chatterjee: COVID-19 Lockdown & Technology Engagement: New Evidence from a Large-Scale m-Health Intervention in India.

Information provision for social welfare via cheap technological media is now a widely available tool used by policy makers. Often, however, an ample supply of information does not translate into high consumption for information due to various frictions in demand, possibly stemming from pecuniary and non-pecuniary cost of engagement, along with institutional factors. We test this hypothesis in the Indian context using a unique dataset comprising two million call records of enrolled users of NGO ARMMAN that sends timely informational calls to mobile phones of underprivileged pregnant women. The strict lockdown induced by COVID-19 in India was an unexpected shock on the opportunity cost of engagement with m-Health technology, both in terms of reductions of market wages and increased time availability at home. Using a difference-in-differences design on unique calls tracked at user-time level with fine-grained time-stamps on calls, we find that during the lockdown period, the call durations increased by 1.53 percentage points. However, technology engagement behavior exhibited demographic heterogeneity increasing relatively after the lockdown for women who had to borrow the phones vis-à-vis phone-owners, for those enrolled by direct outreach programs vis-à-vis self-registered women, and for those who belonged to the low-income group vis-à-vis high-income group. Our results have policy relevance around demand-side frictions for technology engagement in developing economies and gender implications herein.

Peter Dolton: The Statistical Challenges of Modelling COVID-19

In 2020-21 the world has been gripped by a pandemic the like of which no living person has known. The coronavirus pandemic is undoubtedly the greatest challenge the world has faced in over a generation. The imperative of statistical modelling is to manage the short run crisis for the health services, but also to explain the pandemic's course and establish the effectiveness of different policies, both nonpharmaceutical and with vaccines. This difficult task has been undertaken by epidemiologists and others in the face of measurement data problems, behavioural complications, and endogeneity issues. This paper proposes a simple taxonomy of the alternative different models and suggests how they may be used together to overcome limitations. This perspective may have important implications for how policy makers cope with future waves or strains in the current pandemic, or future pandemics.

Matthew Easterbrook: COVID-19, home-schooling, and educational inequalities

In 2020, in the wake of the coronavirus pandemic, many governments attempted to slow the rate of transmission of the virus by closing schools or allowing them to remain open only for certain pupils. In many countries therefore pupils were not able to attend school but were still expected to make educational progress. Pupils had to continue their learning at home, parents were suddenly expected to supervise their children's learning, and schools were tasked with rapidly providing remote educational support. There was inevitably huge variation in the ability of pupils, parents, and schools to conduct these tasks effectively.

We conducted a survey of over 3,000 parents of school-aged children, and 2,000 teachers, asking about the provisions schools offered to support home learning, pupils' engagement with home learning, and the factors that made home learning more challenging, including aspects of the home environment, supervision, and technology. Our results strongly suggest that social class inequalities in educational outcomes will increase because of the school closures. Analyses indicate a vast

variation in the support schools offered, with higher quality support provided by private schools. Pupils from lower socioeconomic families spent less time learning from home and were less engaged in learning, partly because they were working in cramped and noisy environments with insufficient internet and technology. Parents from lower socioeconomic families struggled to supervise their children's learning because they lacked the confidence, knowledge, and/or motivation to, whereas parents from higher socioeconomic families struggled to find the time to balance their own working commitments. Our results suggest the pandemic particularly disrupted the education of those who were already struggling and most vulnerable.

Natalie Edelman: Network analysis of England's single parent household COVID-19 control policies: a proof-of-concept study

During England's 2020-2021 lockdowns, children of single parent households (SPHs) were permitted to move between parental homes. From September 2020 each SPH was also permitted to form a support bubble with another SPH or other household type; ONS data indicates that 43% of women and 33% of men did so. This network modelling study aimed to explore the putative combined impact of these approaches on Covid-19 household transmission dynamics.

We applied percolation theory to a base model of SPHs constructed with population survey estimates of SPH family size, parentage combinations and frequency of parent contact. To explore putative impact, varying estimates were applied regarding extent of bubbling and proportion of Different-parentage SPHs (DSPHs) (in which children do not share both the same parents/other primary care givers).

Results indicate the formation of giant components (in which Covid-19 household transmission accelerates) are more contingent on DSPHs than on formation of bubbles between SPHs; and that bubbling with another SPH will accelerate giant component formation where one or both are DSPHs.

Public health guidance should include supportive measures that mitigate against the increased transmission risk afforded by support bubbling among DSPHs. Future network, mathematical and epidemiological studies should consider both independent and combined impact of policies.

Stefan Elbe: COVID-19 & Global Health Governance

Members of the Centre for Global Health Policy (CGHP) are working on several COVID-19 social science projects about global health governance and the management of global health emergencies. These projects span:

1. the role of unconventional and heterodox global health actors in responding to COVID-19, including rebel groups, vigilante movements, and maverick organizations;
2. the strategies of major international organizations in responding to COVID-19, including the Africa Centres for Disease Control and Prevention (ACDC);
3. the role of data-sharing platforms and bioinformational diplomacy in responding to COVID-19, particularly the rise of GISAID as a new mechanisms of sharing pathogen genetic sequence data about SARS-CoV-2;
4. the role of economic, racial and scientific global inequalities in the development of distribution of new medicines and vaccines for COVID-19;

5. the international rise and proliferation of public health emergency operations centres (EOCs) as new sites for managing and coordinating international response to global health emergencies.

Our members have broad social science expertise in the international politics of health, the international political economy of health, global health security, global health diplomacy, the role of science and technology in managing global health emergencies, the development of medical countermeasures, and infrastructures of global health.

Alex Faulkner: Covid-19 vaccine side-effect reporting systems: public knowledge, attitudes, experience, and 'hesitancy' in 3 European countries

Public views and shared experience about vaccine side-effects play a part in social patterns of and rates of uptake and non-uptake of vaccines ('hesitancy'). Citizens engage in 'practical reasoning' about vaccination acceptance and the different vaccines made available. The processes by which reports of side-effects of medicines and vaccines are collected and analysed ('pharmacovigilance') and published by authorities are little known and opaque, though Covid-19 has highlighted them.

We (team of three) are undertaking a preliminary study of pharmacovigilance systems and publics' knowledge/ experience of them in the UK, Netherlands and Italy. We are collecting qualitative data from mass media and social media portraying a range of public views, reasoning and decision-making, together with health policy and regulatory authority documents about side-effect data systems, analyses and policy updating. A small number of interviews with pharmacovigilance experts/regulators are planned.

We propose an initial overview focusing primarily on the UK, where the regulator MHRA and its 'Yellow Card' reporting scheme are central. We draw on perspectives from medical sociology and Science & Technology Studies (STS). To our knowledge, no social science research on this specific topic has been undertaken to date. The research has ethics approval from Sussex C-REC.

Elizabeth Ford: Risk factors and symptom clusters for Long Covid: A retrospective cohort study using data from the Covid symptom tracker app.

Background: Long Covid (characterised by symptoms after Covid-19 infection which persist for longer than 12-weeks) will become an important societal and economic problem. As Long Covid is novel, there is debate regarding its aetiology and whether it is one, or multiple, syndromes. This study assessed risk factors associated with Long Covid and examined symptom clusters that might indicate sub-types.

Methods: 4,040 participants reporting for >4 months in the Covid Symptom Study App were included. Multivariate logistic regression was undertaken to identify risk factors associated with Long Covid. Cluster analysis (K-modes and hierarchical agglomerative clustering) and factor analysis were undertaken to investigate symptom clusters.

Results: Long Covid affected 13.6% of participants. Significant risk factors included being female ($P < 0.01$), pre-existing poor health ($P < 0.01$), and worse symptoms in the initial illness. A model incorporating sociodemographics, comorbidities, and health status predicted Long Covid with an accuracy (AUROC) of 76%. No consistent cluster or factor pattern emerged from the clustering approaches.

Conclusions: Our model of risk factors may help clinicians predict patients at higher risk of Long Covid, so these patients can rest more, or receive treatments, reducing the burden of this long-term and debilitating condition. No consistent subtypes were identified.

Catherine Hall: How does SARS CoV-2 infect blood vessels?

COVID19 affects the heart, brain and other organs as well as the lungs, which are likely infected via the vasculature. However it is unclear which vascular cells are targeted by SARS CoV-2: Endothelial dysfunction is a feature of SARS CoV-2 pathology, but pericytes may be the only cells to express ACE2 – the protein that allows viral entry into the cell. Understanding which vascular cells become infected with SARS CoV-2 will be critical for targeting COVID19 interventions and understanding its short- and long-term effects.

Using a pseudotyped SARS-CoV2 virus (PV), which undergoes only a single round of infection and expresses a reporter protein in target cells, we have firstly shown that cells expressing mouse ACE2 can be infected with the B.1.1.7 variant of SARS CoV-2, but not the original Wuhan variant. B.1.1.7 is also able to infect both cultured human pericytes and endothelial cells, with higher infection levels in pericytes. To test how different tissues are affected, we have begun injecting the B.1.1.7 PV intravenously into mice and tracking patterns of infection across different tissues. PV infection is found in brain, heart and cardiac tissue of mice of expressing the $\epsilon 4$ allele of apolipoprotein E (APOE), a gene associated with increased severity of COVID19 disease. Future experiments will test whether expression patterns are altered in mice expressing the control APOE $\epsilon 3$ allele or in mice exposed to prior infection.

Bonnie Holligan: Governing urban growing spaces for community resilience: lessons from Covid-19

Our paper reports on pilot research examining how different ways of owning, organising and managing urban growing sites in Brighton, UK, affected experiences during the Covid-19 pandemic. We are interested in how property and land-use rules can contribute to community resilience, with a particular focus on the experiences of vulnerable and marginalised groups.

Our initial findings reinforce the importance of security of tenure and robust institutional structures in maximising the potential benefits from urban growing sites. Diversity of ownership and management arrangements (ranging from individual/private spaces to public access community sites) allowed different sites to meet the needs of different groups at different times. Informal/extra-legal arrangements and relationships were critical in ensuring that sites operated successfully but could also lead to precarity and insecurity. There were tensions around land-use decision making

and access to urban growing sites: existing inequality of access was exacerbated during the pandemic. This limited the resilience benefits accessible to the most vulnerable communities.

Our work indicates that further research on how property and planning laws and policies intersect with the experiences of marginalised groups would be valuable. We also plan to investigate management issues arising on communal/public growing sites of various types.

Zahira Jaser: AI-led job interviews' impact on social mobility for young job applicants

During COVID organizations have largely shifted their hiring process online, with 87% of interviews now happening online, of these an expected 32% are Artificial Intelligence-led (CV Library, 2020). The latest consist of an **Artificial Intelligence (AI) software interviewing candidate by collecting verbal information (language and content) but also visual (smiles, hand movement, gaze direction)**. These Assisted Video Interviews (AVIs), can contain AI software then produces hiring recommendations based on the data collected, or even decides to select or dismiss a candidate. So far there has been no research on the impact that AI-Led interviews have on the social mobility of young job seekers (e.g. are people from underprivileged backgrounds discriminated by this form of interview?). Since May we have interviewed 19 Students from different background and analysed archival sources from employees and hiring platforms. Reflecting on their experiences of AVIs the students expressed discomfort compared to when they were interviewed by people. Four core themes emerged:

- *Feelings of diminished humanity*
- *Lack of understanding*
- *Glorification of AI technology*
- *Feeling emotionally and cognitively exhausted*

Out of this research we have already produced three Knowledge Exchange Outcomes (KEF):

1 – POLICY BRIEF

2 – VIDEO ANIMATION TO INFORM YOUNG JOB SEEKERS: Video/Animation Explaining the process to young job seekers.

3 – EMPLOYERS TOOLKIT: Designed for HR Departments of Businesses in Partnership with the Institute of Employment Studies and to be distributed through [IES HR Network](#)

Evan Killick: COVID-19 as Camouflage for the Reduction of Public Access to Information, Participation and Socio-environmental Justice in Peruvian Amazonia

Based on fieldwork conducted during the COVID-19 pandemic in Peru's Amazonian region this paper looks at the social and political issues caused by the pandemic and the Peruvian government's response to it. Beyond the immediate dangers of COVID itself the paper notes that official responses and policies have, at times, increased risks for Peru's Amazonian population while also undermining ongoing efforts to protect the region's environment. Poorly conceived interventions, including monetary assistance dependent on access to physical banks in urban centres and lockdowns that

prevented vital economic activities for everyday subsistence, increased the risks of infection and impacted wider well-being. Meanwhile the withdrawal of the state physically from rural areas as well as political changes in the Ministry of the Environment undermined the government's stated aim to move to more inclusive and transparent environmental policies, a change that may endure even after the pandemic. In contrast to the institutional failings in the region, the paper concludes by exploring indigenous peoples' own responses to the pandemic in a manner that strengthened local identities and forms of solidarity.

Istvan Kiss: The impact of network properties and mixing on control measures

Whether herd-immunity can be induced by a first wave of infection is highly contentious. Simple models predict that once a fraction $1-1/R_0$ has been infected, the residual susceptible population can no longer sustain an epidemic. However, with heterogeneity in contacts, this is no longer the case because the disease acts like a targeted vaccine, preferentially immunizing higher-risk individuals who play a greater role in transmission. Here, we systematically analyse a number of well-known mean-field models to shed further light on this problem. When modelling interventions as changes in transmission rates, we confirm that in populations with significant contact heterogeneity, the first wave of the epidemic confers herd-immunity with significantly fewer infections than equivalent models with less or no contact heterogeneity. However, if the intervention involves a change in contact structure, this effect can become much more subtle. We strengthen this finding by using an age-structured compartmental model parameterised with real data and comparing lockdown periods implemented either as a global scaling of the mixing matrix or age-specific structural changes. Overall, we find that results regarding (disease-induced) herd immunity levels are strongly dependent on the model, the duration of the lockdown and how the lockdown is implemented in the model.

Ali Lacey: Impact of school closures on primary school aged children and their mothers: A longitudinal qualitative study

Twenty-one children (7-11 years old) and their mothers took part in two semi-structured interviews about the impact of school closures and home learning on their social and emotional well-being. The first interview was conducted in July 2020, four months after schools had closed to most children. The second interview was conducted in January 2021, as schools closed for a second time. Participants were asked to reflect on their experiences and feelings of lockdown at both timepoints. At time 2, participants were also asked to reflect on their experiences during the previous Autumn school term.

Using a combination of deductive and inductive thematic analysis (Holland et al. 2006), this presentation focuses on how families adapted over time, exploring key narrative arcs, and through a consideration of important moments in families' experiences.

The impact of school closures on children and parents has been profound but not always predictable. Studies suggest that the pandemic has presented opportunities as well as challenges (Lacey, 2020), which are not always evident from traditional quantitative questionnaires. This research provides important insights about the nuanced ways in which families have responded to

the pandemic and provides practical recommendations for schools and policy makers to support children's emotional wellbeing.

Bronte McDonald: A qualitative exploration of school attendance problems in the context of the Covid-19 pandemic in the UK: parent and educational professionals' perspectives

In the UK, the government attempted to curb the spread of Covid-19 by closing schools to most pupils. Schools fully re-opened from March 2021, but attendance rates in primary schools remain considerably lower than in previous years with Autumn 2020 having an overall absence rate of 11.3% (compared to 4.9% in Autumn 2019) (DfE, 2021). We qualitatively explored school attendance problems (SAP) within the context of the Covid-19 pandemic, with a focus on more disadvantaged areas of Sussex, in order to understand the presentation of SAP, and identify contributory factors and opportunities for intervention. Firstly, for this two-part study, twenty-nine parents of primary-school children experiencing SAP, and nineteen educational professionals from Sussex, UK, completed a qualitative survey. These results informed our semi-structured interviews which were conducted with a further ten parents and twelve educational professionals.

Inductive thematic analysis identified three preliminary higher-order themes 'Presentation of SAP', 'Contributors to SAP' and 'Support for SAP'. Emotionally based school avoidance was common while children with SEND also faced significant challenges with SAP. Heightened child and parent anxiety since Covid-19 as well as other wider systemic factors were identified as important contributory factors. Some effective support for SAP was identified and was often characterised by school and home working closely together. However, many parents reported receiving no support and uncertainty about how to access help for their child.

Our preliminary findings provide important insights into contributory factors for SAP in the aftermath of the Covid-19 pandemic and highlight a need for better support for families. Findings will be used to inform the development of a co-produced intervention for families of primary school children.

Jo Middleton: COVID-19 impacts on biodiversity conservation in Papua New Guinea

Background Papua New Guinea (PNG) harbours earth's third largest remaining rainforest. Sussex has been working with PNG and Czech partners for >20y to support indigenous communities protecting their forest from logging corporations, and to a lesser extent agricultural expansion [1–4]. As of 28th September 2021 PNG (population = 9 million) has had 19,703 confirmed COVID-19 cases and 227 deaths. Sporadic local lockdowns and major restrictions on international travel have been in place. In this context we aimed to determine how the pandemic has impacted biodiversity conservation.

Method Internet-based questionnaires were completed by representatives of indigenous conservation communities, as well as NGOs, universities and research institutes (both PNG-based and those from overseas undertaking research in-country).

Results 25 organisations responded, 16 from PNG and 9 from overseas. Conservation-related income for PNG-based organisations and communities broadly decreased during the pandemic. Several organisations reported redundancies and logistical difficulties. Community attitudes towards conservation were not reported to have been negatively affected, with some more supportive than before. However, at some sites as income from conservation dwindled there has been increases in

subsistence agriculture with implications for forest loss. Project data is aiding us to anticipate long-term effects and develop mitigation plans.

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Emma Newport; COVID Recovery: Scoping an Online Intervention for Youth Mental Health Support in Kenya

Young people are disproportionately affected by secondary impacts of the COVID-19 pandemic, with serious consequences for mental health and well-being. Youth in low-and-middle-income countries are especially vulnerable to economic hardship and disrupted education, and least likely to receive adequate psychosocial care.

Partnering with The Youth Café, a pan-African NGO, our project focuses on formulating a contextually appropriate psychosocial intervention model online through co-creation activities to improve youth mental health and promote social inclusion. Mental-health disorders are leading causes of disability worldwide, yet only 9 mental-health providers are available per 100,000 people globally; 1.7 million mental health workers are needed in LMICs alone (Murray, 2018; Wang, 2007). Dedicated youth-oriented mental health services are rare, despite 75% of mental health disorders occur before the age of 18. Untreated, these conditions have serious effects on youth developmental progress, family life and educational achievement, with long-term risks for poor health, social marginalisation and unemployment in adulthood.

COVID-19 has intensified these challenges, exacerbating pre-existing global inequalities in care access and require solutions to achieve post-COVID recovery. This paper will discuss our methodology developed especially for running co-creation workshops online with young people in Kenya, as well as the discoveries made in these digital scoping exercises. See also [here](#).

Pierre Nouvellet: Understanding and forecasting COVID-19 spread and transmission

While not the first pandemic affecting human populations, the scale of the response to COVID-19 has been unprecedented. Equally unprecedented is the scale and timeliness at which data have been released. Ultimately, it has demonstrated the power of data, and scientific methods, to inform and guide timely implementation of control measures. However, it has also illustrated the challenges in understanding and interpreting the figures released.

As Part of the COVID-19 team at Imperial College London, Pierre Nouvellet has been working on COVID-19 since March 2020. In this presentation, he will explore some of the available data and try to make sense of some signals to 1) predict short-term incidence of COVID-19 deaths, 2) understand and characterise transmission level (in particular, in relation to mobility and transmission advantage of variants of concern), 3) interpret figures related to testing.

Filippo Osella: Forecasting with fishers: co-producing knowledge for early warning of extreme weather events on the coast of South India

In our paper we explore the consequences of covid-19 interventions on coastal communities in south Kerala (India), and the complex responses of the local population to the latter. In particular, we map out the events which led to spontaneous protests in a number of fishing villages during the second phase of the epidemic in July 2020. We will show that whilst during the first phase of the epidemic coastal communities remained supportive of government intervention—regardless of constraints imposed on fishing and the selling of fish, as well as on everyday sociality—such an initial support begun to wane as the epidemic unfolded over time and became more aggressive and widespread. We argue that such a shift in fishing communities’ attitudes were a response not only to the consequences of a more forceful policy of containment of the epidemic, but also to a sudden identification of coastal communities as the main locus of contagion in the district. We will suggest that the consequent restrictive measures enforced on coastal communities—from renewed bans on fishing and restrictions on fish selling, to the deployment of police commandoes to enforce the lockdown—were driven as much by epidemiological concerns as by a media-driven social panic built upon widespread negative stereotypes that have historically worked to marginalize, and even criminalize coastal communities in Kerala. We deploy the notion of bio-moral marginality to reveal ways through which the attribution of specific—and largely stereotyped and negative—physical attributes and moral dispositions to the bodies and behaviour of people belonging to fishing coastal communities constituted the ground upon which a social panic concerning the spread of the covid-19 virus unfolded in south Kerala, and for fishers’ militant response.

Rotem Perach: Can culture beat Covid-19? Evidence that exposure to facemasks with cultural symbols increase solidarity

Facemasks have become integral to everyday life, and facemask use is recommended to suppress Covid-19 transmission. We propose that exposure to facemasks with a solidarity-related cultural symbol can activate cultural values such as mutual trust and increase corresponding social perceptions, thereby enhancing collective resilience in the Covid-19 pandemic. In three (two of which preregistered) studies, we examined whether exposure to facemasks with a solidarity-related cultural symbol predicts positive social perceptions, and whether this depends on death awareness. Across studies, exposure to facemasks with a cultural symbol (either pride flag or National Health Service) increased positive social perceptions in people for whom this symbol represents a meaningful social identity. This was found whether participants were reminded of death, a neutral experience, or a negative experience. Importantly, in one study, cultural (vs. surgical) facemasks led to greater increases in positive social perceptions when death awareness was high. Together, our findings suggest that wearing facemasks with a cultural symbol that relates to solidarity can be a vehicle for shaping people’s psychological perceptions. Applied directions for the activation of

people's social identities via facemask exposure to promote collective resilience in the Covid-19 pandemic are discussed.

Bernard Reus: Developing and exploring a novel software application for understanding HLA-type-associated disease risk for COVID-19

Genetically encoded HLA-molecules present 'self' and 'foreign' peptides to T-lymphocytes, an important immune cell subset. This may result in protective but also self-destructive (auto)immunity explaining some HLA-disease associations. If an HLA-gene variant ('allele') is present in many people, it is easy to analyse its potential link to a given disease, but this is difficult for HLA alleles that are rare and in particular if several rare alleles are linked to the same disease. As a consequence, links between rare alleles and diseases are often overlooked.

Our suggested approach groups HLA alleles according to the sequence similarity of the proteins they code for. This will create groups of HLA alleles that can be more easily linked to a disease, independently of the frequency of the individuals' HLA alleles in the population.

We will implement our new method and test it using UK Biobank data. We hope to find novel, statistically relevant associations between HLA alleles and COVID-19 (incidence, severity, and outcome). We will use Python to process and filter data, compute statistical models, and search for associations.

Justyna Robinson: The impact of Covid19 on urban business culture

This research explores changes in urban business culture through the analysis of signage used by businesses during Covid19 pandemic. Business signage is one of the most fundamental materialisations of company culture. It is rooted in the relationship businesses have or want to have with their customers; it draws on the explicit as well as assumed meanings expressed by language, logos, colours, sign placement, and other modalities.

In this research, we discover how different types of businesses, i.e. local or chain, in different urban areas responded to the government guidelines with regards to mandatory face covering in public spaces. We explore how the shared beliefs cultivated by business-customer relationship were reframed in the context of this top-down instruction.

Based on 318 signs asking public to wear masks collected in the three distinct areas of Brighton and Hove from November 2020 to February 2021, we discover how linguistic strategies (e.g. polite expressions, modality, or a sentence type) and non-linguistic modalities (e.g. colour scheme or sign position) were exploited by local and chain businesses in response to the government guidelines for the public crisis communication.

We present statistical models of culture in chain and local businesses and how these differed in three distinct areas of Brighton and Hove. For example, chain businesses tended to be slightly more polite and authoritative in regulating wearing of face coverings than local ones. These businesses referred to the government guidance (including the use of *mandatory* and *law*), include their logos in the signage, used *thank you* at the end of the signage, and presented this information typically on laminated paper or printer paper.

Justyna Robinson: "I wore a face mask, and felt less of a criminal": Cognitive restructuring in the concept of CRIME during Covid-19 pandemic.

Our research developed new information extraction and visualisation techniques, including geo-mapping, to identify salient patterns of thinking across different sections of society at different phases of the pandemic in the UK as well as before pandemic. Concepts for analysis are established on the basis of the WordNet concept classification (Princeton University 2010) of disambiguated uses of words (Papandrea et al. 2017). Significant 'jumps' in measures of pointwise mutual information are used to identify changes in the use of concepts between given periods.

The data used for this research come from the Mass Observation Project (MOP)

(<http://www.massobs.org.uk/>). Since 2020 three of the MOP data collection phases have specifically focused on Covid-19. We are currently working on a dataset from 2006-2021 containing of c.9,250 documents of an average length of c.1,250 words, totalling c.11.5 million words.

In this case study we investigate the concept of CRIME and highlight how this concept has changed throughout the pandemic and how it manifests differently across regions and socio-demographic groups, demonstrating the distributed cognition of CRIMINAL ACTIVITIES and the disparate experiences of crime in the UK.

Madina Tash: Fiscal contributions of the lockdown "immune" businesses

Throughout the outbreak, a range of businesses across the UK was supported through furlough programmes that enabled their solvency. Whilst the level of extra sovereign debt has gone up through the roof to maintain that massive rise, it is evident that industries not only maintained solvency but found a way to thrive in the adverse conditions of lockdown. This study aims to draw a comparative analysis between the Covid 19 associated changes in the fiscal revenue of specific market segments and industries against such changes during the 2008 recession. The purpose of the study is to identify specific industries that were "immune" to the conditions of the lockdown and continued contributing to the national fiscal revenue. The study also aims to identify in consultation with the industry the "assistance package" that the government could have provided to alleviate some of the pressure facing the "immune" businesses to enable them to improve their profitability and efficiency further and contribute more to the national budget.

John Thompson: A Multi-Phase Assessment of the Impact of COVID-19 on Food Systems and Rural Livelihoods in Sub-Saharan Africa

Even before the COVID-19 pandemic struck, the United Nations was reporting that more than 250 million people in Sub-Saharan Africa faced severe food insecurity, incomes for farmers were lower in real terms than anywhere else in the world and more than 30 percent of children were stunted, partly due to poverty and poor diets. Since then, the World Food Programme and other agencies have warned that COVID-19 could cause one of the worst global food crises since World War II and predicted a doubling of the number of people going hungry over the next year – more than half of them in Africa. Since the beginning of the crisis, the Agricultural Policy Research in Africa (APRA) Programme of the Future Agricultures Consortium (FAC), a partnership of over 100 African and UK researchers working on agricultural policy issues, has been conducting a number of comparative studies to assess how COVID-19 measures and restrictions are affecting local food systems, rural livelihoods and value chains across the region. This presentation will share new findings from a three-round, mixed methods study of the effects of COVID-19 on over 800 farming households in 8 countries in Sub-Saharan Africa, highlighting differential outcomes in agriculture and care activities, food and nutrition security, and household well-being.

Özden Melis ULUĞ: The relationship between conspiracy beliefs and intention to get vaccinated: The mediation roles of subjective mental distress and emotional climate of anxiety

Since the identification of SARS-CoV-2 in December 2019, the virus has exacted a devastating toll on human lives, causing over 4 million reported fatalities in the world as of September 1, 2021 (WHO, 2021). Therefore, the invention of the COVID-19 vaccine became a remedy for the extremely contagious virus. However, public acceptance of the vaccine is essential for getting the current pandemic under control (e.g., Lazarus et al., 2021; Kaplan & Milstein, 2021). While there is a strong scientific consensus that the pandemic-related conspiracy beliefs predict increased vaccine hesitancy, little is known about how a) subjective mental distress and b) emotional climate of anxiety mediate this relationship. Across two studies conducted before the start of the COVID-19 vaccination campaign (Study 1, a population-based survey, N = 1,865) and following the vaccine rollout (Study 2, a time series analysis of Twitter data, N = 153,483 tweets) in Italy, we found that conspiracy beliefs largely predicted vaccine hesitancy, but that the type of anxiety played a distinct mediating role. While higher levels of subjective pandemic-related mental distress were negatively associated with vaccine hesitancy among the public (Study 1), anxiety climates as a by-product of anti-vaccine online discussions led to the increase in vaccine hesitancy (Study 2).

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WHO. (2021). Global Situation. Retrieved from <https://covid19.who.int/>

Claire Vella: DisCOVeRY: Recovery alongside social isolation: Research into the mental health impacts of COVID-19 for young people

The beneficial role of social factors and hope in preventing and alleviating mental health difficulties in young people is a key research interest. It is particularly significant within the context of the COVID-19 pandemic following concerns that the mental health of vulnerable young people will be disproportionately impacted by restrictions.

DisCOVeRY is a longitudinal mixed-methods study, exploring the social and mental health impacts of the COVID-19 pandemic on vulnerable young people.

Initial findings from the baseline survey data suggest that social group membership continuity was significantly related to lower symptoms of depression, anxiety and psychotic-like experiences, with hope and social connectedness as significant mediators.

Initial qualitative findings from a sub-group of NEET participants imply that although they considered lockdown as a continuation of their normal life experiences, the impact on social connectedness affected mental well-being.

Findings not only offer insight into the relationship between group memberships, social connectedness, hope and mental health outcomes for vulnerable young people during the pandemic, but also support the role of social factors and hope as protective factors in adverse life events and as potential targets for mental health interventions.

Ed Wright: Developing SARS-CoV-2 assays and standards to enable studies of viral host range and vaccine development

SARS-CoV-2 has highlighted that global health infrastructure is not equipped to deal with highly transmissible, pathogenic, emerging viruses and more needs to be done to improve our pandemic preparedness against this group of pathogens. Such activities would include the development of platform technologies for vaccines, medicines and diagnostic assays that could be rapidly applied at the start of the next pandemic. To address this unmet need we applied our expertise in viral pseudotyping to generate SARS-CoV-2 pseudotypes, viruses that closely mimic the authentic virus but have been engineered to be safe to handle in low containment laboratories. In collaboration with NIBSC and WHO we have used these viruses to establish serological standards that currently enable direct comparison of vaccine potencies. We have also studied the host range of SARS-CoV-2 to identify potential unknown animal reservoirs that may be a threat to public health and also used the pseudotypes for vaccine development.

Nicola Yuill: Zoom or Room and Covid-19: Effectiveness and Guidance for In-person versus Online Video Interaction Guidance (VIG) intervention sessions.

Covid-19 restrictions meant changes, virtually overnight, from in-person to online meetings across therapeutic interventions affecting clients receiving a whole range of psychological therapies and assessments. Mainstream media warned, generally evidence-free, of resultant disconnection and communication impairment in online meetings, potentially affecting intervention quality.

This project used the theoretical approach of Video Interaction Guidance (VIG) to assess differences in connectedness between these two modalities, using three methods: fine analysis of videotaped VIG sessions online vs in-person, in-depth interviewing of 13 practitioners and a survey of 66 practitioners across education and mental health. VIG employs Trevarthen's concept of 'attuned interaction' to understand how connectedness is achieved in such interactions. Attunement derives from behaviours such as bodily mimicry and fine-tuned timing of speech and movement.

Video analysis suggested online work maintained good quality connections, despite minor reductions in warmth and connectedness compared to in-person interactions. The interviews identified specific adaptations to practice to maintain attunement, through constructing treatment plans together with clients. The survey found most practitioners adapted their communication in ways they judged to be adequate. Some practices, and some client groups, were judged to pose greater risks requiring further support. We summarise implications for actions required of policymakers, employers, clients and practitioners.

Shahaduz Zaman: A Comparison Of The Impact Of COVID-19 Pandemic On Students' Experiences From BAME And White Ethnic Groups In Higher Education In The: A Qualitative Exploration

A qualitative study with 35 BAME and White students from various universities was conducted about their experiences of life prior to and during the pandemic explore if BAME students had different experiences compared to White students. Results showed that BAME females were found to suffer the most from mental health illnesses compared to White students especially when living at home. They felt a greater loss of student identity probably because of a lack of personal space in their family homes. They were also more concerned about passing the virus on to their extended families and spent more time using social media than any other group. BAME males tended to experience anxiety the most out of all the groups.

Whilst many BAME students had a routine of a job, White females experienced a reduction in personal hygiene as they felt they had nothing to get out of bed for.

Students reported that communication from their host institution and government lacked clarity. BAME students felt very strongly about not being able to celebrate cultural festivals with their families. Universities need better preparation for online education. Mental health services need to be streamlined for the specific needs of BAME female students and BAME students.