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Health psychology, behavioural science, and Covid-19 disease prevention

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In March 2020 the president of the British Psychological Society (BPS) reached out to member networks to join forces on a BPS Covid-19 co-ordinating group. Members of this group were tasked to lead different work-streams highlighting psychology's role during the pandemic. One workstream focused on 'Behavioural Science and Disease Prevention'. It was clear that understanding behaviour and anticipating public responses to changes in policies, public messaging and guidelines would be key to improving health outcomes. This workstream focused on developing clear guidance to prevent the spread of Covid-19 and identifying psychological evidence to promote best practice in the design of sustainable behavioural interventions. This includes both immediate infection control behaviours aimed at reducing virus transmission, such as hand washing, physical-distancing and self-isolation, and behaviours that may have been influenced during the pandemic, such as physical activity, eating behaviour, substance use and healthcare use, which will have far reaching impacts on future health. This article provides an overview of the core guidance and practical examples of its application in a public health setting.

Psychology's role in behavioural science WE HAVE frequently been asked, 'Aren't behavioural science and health psychology the same thing?'. The short answer is: 'No'. Behavioural science is an umbrella term that covers disciplines that deal with human actions, including psychology, sociology, anthropology, epidemiology, biology, economics, and political science (Public Health England, 2018). Psychology focuses on understanding human behaviour and is fundamental to behavioural science.

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Health psychology training covers many behavioural science disciplines and enables the ability to understand, predict and change behaviour using psychological theory and modelling. Health psychology theories explain how thoughts, feelings and automatic processes, alongside the environment and physiological factors, influence behaviour. The development of UK health psychology was driven by a co-ordinated response to requests from other fields such as medicine, public health, pharmacy and biomedical science, to help understand behaviour to optimise health, reduce ill health and premature death, and enhance health care systems (Johnston et al., 2011; Quinn et al., 2020). Health psychology and Covid-19 The strength of health psychology can once again be seen, shining brightly during the Covid-19 pandemic with its ability to understand behaviour. As a discipline we have collectivised. Our collegiate nature, and already strong relationships with those in health and care sectors, has enabled us to offer rapid support to the pandemic response. Covid-19 came from a new virus, with many 'unknowns'. Yet our science has been consistent in offering solutions. Without a vaccine or cure, the focus to save lives must be on behaviour and disease prevention.

The virus itself does not move from place to place; the host moves. Therefore, the prevention of Covid-19 centres round behaviours which are both conscious:

- washing hands with soap and water;
- physical-distancing;
- carrying, using and disposing of tissues;
- self-isolation.

And unconscious, such as:

- touching the face.

We need to continue to bring to the attention of policy makers, public health teams and communicators to the things that they 'don't know they don't know' to help understand and adapt human behaviour. The science of health psychology can help to create a 'behavioural vaccine', with a set of behavioural rules and actions, such like the 'Green Cross Code' (e.g. think, stop, look and listen; wait, look and listen again, arrive alive). Creating such behavioural rules and actions can prevent transmission and support a zero Covid-19 strategy. The British Psychological Society's (BPS) Covid-19 Behavioural Science and Disease Prevention Psychological Guidance (Chater et al., 2020) highlighted nine points for consideration to optimise policies and communications:

1. Minimise the 'I' and emphasise the 'we'.
2. Deliver messages from a credible source in relatable terms to the target audience.
3. Create worry but not fear.
4. Identify what influences each preventive behaviour and ensure policies, messaging and interventions target all relevant drivers.
5. Clearly specify behaviours and their effectiveness.
6. Avoid unintended negative consequences.
7. Create clear channels of access for health literacy.
8. Use behavioural scientists and the psychological evidence base to support the Covid-19 response.
9. Make a pledge to work together, through a multidisciplinary approach.

Embedding behavioural science and health psychology into public health Public Health England's Improving People's Health: Applying behavioural and social sciences to improve population health

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Deviating from behavioural science principles can lead to chaos and confusion. A good example is the change in messaging from 'Stay home' (a behaviour), 'Protect the NHS', a reason for that behaviour, and 'Save lives' an outcome from that behaviour; to 'Stay alert', not a behaviour, 'Control the virus', this reason lacks clarity as the virus lacks sentience, and 'Save lives', it is not clear that staying alert will lead to saving lives.

Enabling access to behavioural science and health psychology

To support the knowledge transfer and mobilisation of health psychology during the acute phase of the Covid-19 response, members of the BPS Division of Health Psychology (DHP) and the Behavioural Science and Public Health Network formed a collaborative, named the Health Psychology Exchange (HPX). A link to volunteer psychologists within this collaborative was provided as part of the BPS Behavioural Science and Disease Prevention Psychological Guidance (point 8). This enabled those who could benefit from behavioural science expertise (such as local authorities and central government), access to health psychologists who could provide it. Some of the early requests were from health psychologists working in local authority, closely linked to Directors of Public Health, who were being asked how to implement Covid-19 disease prevention messaging in their regional areas. To support them and others, members of the BPS Behavioural Science and Disease Prevention taskforce, HPX and DHP (led by Whittaker, Lewis and Chater) held regular public health forums to assist the translation of the BPS guidance into public health practice. Below we unpack the psychology behind the guidance and examples of how those in public health have been using it.

Overall use of the guidance

Public health teams have been using the guidance as a regular reference point and ensuring that all team members are aware of it.

The guidance is included in both the public health and corporate Covid-19 communications plan, meaning that all members of staff who have responsibility for communications across our council have had access to the guidance, and we have discussed how we can use it to make our communications more likely to change behaviour. Our communications staff have found the guidance invaluable and welcomed the way that it was accessible, easy to follow, and 'not too academic'. (North Yorkshire County Council)

1. Minimise the 'I' and emphasise the 'we'

Social psychology research (Reicher & Drury, 2020) highlights the need to collectivise rather than personalise. Evidence on past emergencies (Drurt et al., 2019) shows that when people think in terms of 'we' rather than 'I', reflecting a sense of shared social identity, they are motivated to give support to others. This is important during a pandemic such as Covid-19, when individual self-sacrifice (such as self-isolation) benefits others. Emphasising a collective approach can facilitate adherence to shared and accepted norms of behaviour, and evoke collective self-regulation around such social norms (e.g. hand hygiene, physical distancing). Messaging should highlight how we can

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2. Deliver messages from a credible source in relatable terms to the target audience

Credibility of the source of a message can influence whether the message is received, and its intended consequence (e.g. changes in behaviour) achieved (Ghio et al., 2020). Much of this is harnessed on trust, and the messenger needs to be deemed credible. Trust declined in both the UK government (April 67 per cent; May 48 per cent) and news organisations (April 57 per cent; May 46 per cent) during the Covid-19 lockdown (Fletcher et al., 2020a). Evidence suggests that those who do not trust the government are less likely to act on advice – such as from the test and trace service to self-isolate (92 per cent who trust versus 83 per cent who do not trust the government would self-isolate if called; Fletcher, Kalogeropoulos & Nielsen, 2020b). Local authorities using our guidance have used senior leaders in the local area, and the local community, including school-children as credible sources to share the message in relatable terms to their target audiences.

A number of senior leaders (Chief Executive, Director of Health and Adult Services, Assistant Directors, Public Health Consultants) in our council have provided videos to reinforce key messages or update our residents on progress or our current work. All of these direct people to a single point of contact if they require further information. We also let primary school children explain social distancing and how it might work in schools with a 'two metre check' video. (North Yorkshire County Council)

Other local authorities, along with clinical commissioning groups (CCGs), have used celebrities such as athlete Paula Radcliffe to send a message in areas where localised infection rates are higher than the national average (e.g. Bedfordshire). This helps to take the national message and instil it at a local level. Luton Borough Council and Luton CCG have used a local Bedfordshire General Practitioner to speak directly to the black, Asian and minority ethnic (BAME) communities through social media.

3. Create worry but not fear

Lessons have been learnt (Bish & Michie, 2010; Rubin et al., 2010) from the public response to previous pandemics such as swine flu (H1N1) and SARS (severe acute respiratory syndrome). Past research has shown that during these types of pandemics, uptake of protective 'mitigating' behaviours such as hand washing; carrying, using and disposing of tissues; buying hand sanitiser; and avoiding using public transport, were low and linked to a relative lack of public worry (Rubin, et al., 2010). Generating higher levels of public worry may therefore be needed to promote behaviour. However, a delicate balance is needed, as too much worry can lead to anxiety and fear, causing a 'fight or flight' response. Fear can lead to denial and avoidance behaviours unless supportive communication is given (Chater, 2018).

Threat appraisals (linked to perceived vulnerability to a threat and its severity) and coping appraisals (linked to beliefs of whether behaviour change will lead to a better outcome (response efficacy) and confidence in the ability to engage in said behaviour (self-efficacy) are common features in psychological models such as Protection Motivation Theory (Rogers, 1975) and the Health Action Process Approach (Schwartz et al., 2003). While worry caused by a threat to health is important to

Originally published as Chater A, Whittaker E, Lewis L, Arden M, Byrne-Davis L, Chadwick P, Drury J, Epton T, Hart J, Kamal A, McBride E, O'Connor D, Shorter GW, Swanson V & Armitage C (2020) Health psychology, behavioural science, and COVID-19 disease prevention. *Health Psychology Update*, 29:3-10. <https://shop.bps.org.uk/health-psychology-update-vol-29-special-issue-2020> consider the need to change behaviour, to facilitate behaviour change, people need to believe that what they do will be beneficial and is within their control to do so.

Our messages do not create fear as our communications umbrella phrase of 'Stay Safe, Be Kind' acts as a way of balancing the messages. (City of Wolverhampton Council)

4. Identify what influences each preventive behaviour and ensure policies, messaging and interventions target all relevant drivers (COM-B)

The COM-B model at the hub of the Behaviour Change Wheel (Michie et al., 2011; Michie et al., 2014) suggests that for behaviour to occur the target population must have three things:

- capability to enact the behaviour that relies on both psychological (e.g. knowledge and skill) and physical (e.g. ability and strength) capability factors;
- opportunity to enable the behaviour that considers both social (e.g. norms, support) and physical (e.g. resources, environment) opportunity facilitators; and
- motivation to perform the behaviour that involves both reflective (e.g. attitudes, confidence, intentions) and automatic (e.g. emotion, habit, identity) motivational processes.

Accordingly, the capability, opportunity and motivation of public health teams to use the COM-B model (Michie et al., 2011; Michie et al., 2014) may differ. Reaching out to academic partners and local psychologists has helped.

There are good links between the local authority, health care providers and health psychologists/ academics at the university in Bedfordshire enabling public health strategies and services to be co-developed, delivered and evaluated using behavioural science. (Luton Borough Council/Total Wellbeing Luton/University of Bedfordshire collaboration)

5. Clearly specify behaviours and their effectiveness

The Behaviour Change Wheel (Michie et al., 2011; Michie et al., 2014) stipulates in its first of three stages the importance of:

- defining the problem in behavioural terms;
- specifying the behaviour; and
- identifying what needs to change (COM-B diagnosis).

When considering the problem – for example, premature death from Covid-19 – there is a need to specify the behaviours that can go towards mitigating risk (e.g. handwashing; physical distancing; self-isolation, avoiding touching face, and using and disposing of tissues appropriately). Simply telling people what to do will not be enough for effective behaviour change. They need to know why certain behaviours are important, how they lead to optimal outcomes and guidance on how, when and where to perform them. They may also require environmental support. To maintain trust and clarity, and to avoid confusion, when official messages need to change over time, it is important to provide a clear rationale for this change, and a new set of actions that relate to and are achievable by the target population. These should also be clearly linked to effective outcomes (Ghio et al., 2020; Bish & Michie, 2010).

We are ensuring that our initial communications, which are very much focused on preparing the public for the launch of contact tracing, provide clear behavioural actions and their related outcomes. One example of this is asking people to answer phone calls they receive

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6. Avoid un-intended negative consequences

Reviewing past responses to a number of viral respiratory infections (Bish & Michie, 2010) research showed a need to consider demographic differences when communicating the level of perceived threat during any future pandemic, with a focus on enhancing the belief in the efficacy of protective measures suggested by health officials. Policies, information and messaging may have un-intended consequences, such as increased anxiety, widening social deprivation, inequality and exclusion. It is important to acknowledge that while we are all in the same storm, we are not in the same boat. In fact, some may not have a boat.

Public Health Wales' 'How are you doing?' campaign targets groups who are digitally excluded or have not received Covid-related information from usual channels by developing a range of resources in Welsh and English that are easy-read and easy share. The campaign is focused on maintaining good health behaviours during lockdown and overcoming social isolation. (Public Health Wales)

7. Create clear channels of access for health literacy

Information from multiple channels can be overwhelming, and even more so when feeling anxious, experiencing social isolation or unable to access usual places for health messages. There are many who are digitally excluded from online sources of information due to digital poverty. Others, such as those with visual or hearing disabilities, cognitive difficulties or language barriers, may be excluded due to a lack of consideration given in the channels used to provide information. Clear channels of access to health information must be a priority for the whole population. Co-creation with members from different groups can facilitate this.

Our messages are clear and brief to support health literacy and we offer communication in British Sign Language, easy read versions and our website can easily be translated in other languages and has a read aloud function. We have also developed a local monthly newsletter to be circulated within our food parcels. We are now in our second edition of the newsletter and have been working with our regional newspaper through a collective approach. (City of Wolverhampton Council)

8. Use behavioural scientists and the psychological evidence base to support the Covid-19 response

We've identified throughout the importance of accessing and using behavioural science and psychological evidence. There has been good representation of behavioural science in informing government, local authorities, organisations, and in the media. However, deterring from the science could lead to a lack of clarity and transparency, which may have a negative impact on population level trust. While scientists are not (usually) politicians, it is recognised that science is only one slice of the pie when decisions are made and messages are communicated. However, our science is needed to optimise outcomes.

I was asked to contribute behavioural science expertise to inform the local communication strategy for Covid-19. I worked alongside members of the public health and communications

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9. Make a pledge to work together, through a multidisciplinary approach to #COMBATCOVID19TOGETHER

The engagement with the guidance and public health forums facilitated by the BPS Behavioural Science and Disease Prevention taskforce, HPX and BPS DHP has been excellent. We hope the practical examples provided can support organisations to draw from behavioural science to work together towards a zero Covid-19 strategy.

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