Identity resilience, uncertainty, personal risk, fear, mistrust and ingroup power influences upon COVID-19 coping

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Abstract: A model of the relationships between social psychological factors that were influential in determining individual coping responses to the COVID-19 pandemic is presented here. The factors include identity resilience (as defined in identity process theory), uncertainty, perceived personal risk, fear, mistrust and ingroup power. These factors are significantly associated with each other. Higher identity resilience is associated with greater uncertainty, personal risk and fear, but with lower mistrust and ingroup power. Social representation and group identification processes also have important effects on individual coping, and are moderated by identity resilience. Implications of the model for developing future pandemic preparedness include the desirability of fostering greater identity resilience in those at risk and the value of ongoing targeting of information and social support to promote the development of more effective coping responses to fear, risk, uncertainty and mistrust.

Note on the author: Professor Dame Glynis Breakwell is a psychologist whose research focuses upon identity processes, social representations and the psychology of risk management, perception and communication. She has been an adviser to both public and private sector organisations on the use of psychological methods and theories, particularly concerning responses to public crises and major emergencies.

Introduction

Many factors influenced how individuals reacted in the COVID-19 pandemic. This article describes social psychological factors that have been shown to be particularly influential in determining individual coping responses during the pandemic. Uncertainty, fear, perceived personal risk (PPR) and mistrust each influence coping choices and their effectiveness. Identity resilience also has significant effects on coping both directly and indirectly, through its effects on fear, risk, uncertainty and mistrust. The expression of identity resilience in the pandemic was influenced by prevailing social representations of the crisis and by the individual's group identifications and beliefs about the power of those groups. Social representations, perceived group power and group identifications also had their own influence on the individual's uncertainty, risk, fear and mistrust levels. Figure 1 provides a schematic of these relationships. Subsequent articles in this special issue report empirical data that test some of the relationships between these factors. Each of the factors has its origin in fundamental intra-psychic, interpersonal, intergroup and societal processes. This article suggests how these processes interact to produce unique as well as common reactions to the pandemic. Each of the factors is described in some detail. These factors are chosen for particular examination here because, as will become evident from the studies cited later in this special issue, they have been individually shown to be capable of predicting variance in reactions to the COVID-19 pandemic. The original contribution of this article lies in bringing all of these factors together in a single model that predicts coping responses.

Figure 1 indicates that social representation processes, intergroup power differentials and group memberships achieve their influence upon coping responses through their effects on cognitive and conative processes in the individual. The figure presents uncertainty, risk, fear and mistrust in a single box. These are treated in the model as a set of interacting variables. All of them as individual variables may be influenced by social representations, ingroup power, group identification and identity resilience constructs. Additionally, the way they interact with each other (in a variety of combinations) may be affected by these influences. The single box in the figure and the paths to it subsume substantial social psychological activity. Notably, the variable labels in this box each represent the negative pole of the construct. This may reflect something of the preoccupation of researchers with explaining coping failures rather than successes.

Identity resilience also has an impact partly through its effects on the same areas of cognition and emotion, but it additionally has a direct effect on coping responses. This is because identity resilience is derived from the individual's own evaluation of their self-esteem, self-efficacy, positive distinctiveness and continuity. The individual

is motivated to optimise these four qualities of identity. In turn, these four qualities shape which coping responses the individual will consider appropriate or feasible choices. For example, low self-esteem or low self-efficacy may result in avoidance of coping tactics that assume confidence or acquisition of new skills (e.g., seeking to take on a leadership role in a crisis). These aspects of identity also motivate behaviour designed to protect the identity structure and evaluation. As a result, some coping responses will not be adopted in a pandemic because to do so might be expected to undermine some important element in identity (e.g., it might call for breaking the norms associated with a valued group membership).

Figure 1 introduces the constructs and relationships hypothesised in this article to be important in accounting for variance in pandemic coping responses. As it stands, Figure 1 does not capture the dynamic two-way flow of influence between all the constructs over time. Nor does it indicate how social representation, ingroup power and group identification interact with each other as well as with the other constructs. Those interactions are important, but are not central to the purpose of this article.

Social psychological consequences of the COVID-19 pandemic

Explanations for variations in how people coped during COVID-19 should be understood against the wide-ranging threat the pandemic represented to individuals and communities globally. Between March 2020 and December 2023 COVID-19 had resulted in 649,038,437 confirmed cases, including 6,645,812 deaths (WHO, 2022). It also caused societal and economic disruption, increasing poverty and inequalities at a global scale (UNDP, 2022, p. 1). In fact, the use of the past tense when talking about
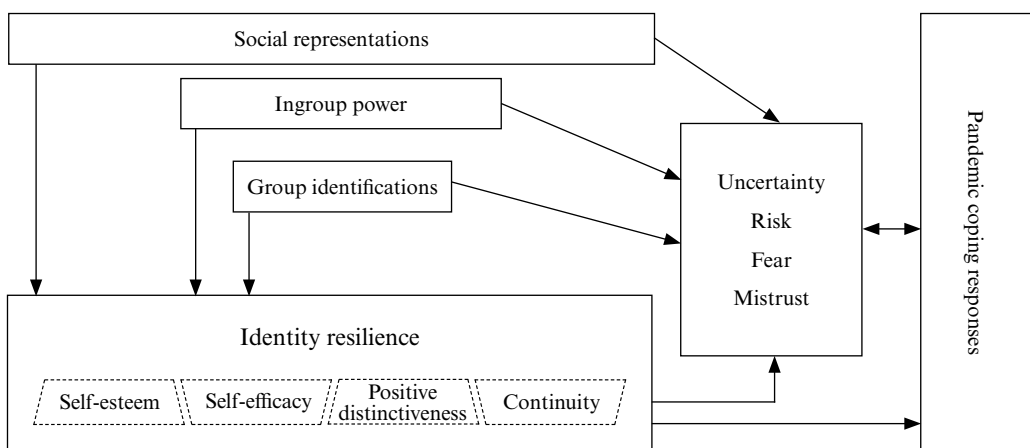

Figure 1. Model of influences on pandemic coping responses.

the impact of COVID-19 is actually inappropriate. The aftershocks of its primary, secondary and tertiary-level impacts continue, as do the infections, as new variants of the virus appear.

The full social-psychological consequences of such widespread, rapid and unanticipated disruption are complex and it is not known how long some will last or how they will evolve. However, it is clear that the pandemic wreaked havoc on social life. The measures taken to limit the spread of the disease perforce changed patterns of social interaction (both at home and in public) by introducing, for instance, social distancing, face masks, self-isolation and greater dependence upon online communications. Social habits were disrupted (notably those associated with crowded venues). Personal social support systems were also disrupted, partially because maintaining contact became difficult but also due to bereavement and illness. Disruption was accompanied by conflicting accounts (including conspiracy theories) of the reasons for the disease, its longer-term consequences and the viability of treatments for it (Yelin *et al.* 2020; Douglas 2021). Measures for managing the disease (including vaccination) were challenged. Disparities in COVID-19 outcomes by age, race, ethnicity and socio-economic status raised questions of intergroup and intergenerational inclusivity and equity (see, e.g., Magesh *et al.* 2021; Bayati *et al.* 2022). The conditions were ripe for high levels of uncertainty, PPR, mistrust and fear. They also pointed to the bases for intergroup differentiation and divisiveness (e.g., based on healthcare or vaccination uptake or availability, economic impacts and nationalist sentiment; see Breakwell *et al.* 2022a; Jaspal & Breakwell 2022a). The social-psychological effects of these disruptions were evident from early in the pandemic, with growing incidence of mental illness and lower psychological well-being not just in those who contracted the disease (Robinson *et al.* 2022) and not only in adult members of the wider public (Samji *et al.* 2022) but also in health professionals (e.g., Aymerich *et al.* 2022). Some coping responses that were being used were clearly not providing the psychological protection that people needed (Taylor 2022).

Significance of uncertainty, PPR, fear, mistrust and ingroup power for coping responses

Age, gender, ethnicity, educational attainment, religious and political beliefs have all been shown to account for individual variation in reactions to some hazards, but none apply to every hazard, nor do they apply the same way across cultures (Breakwell 2014, reviews this literature). However, some individual cognitive and conative factors are influential across hazard types and cross-culturally in shaping behavioural and psychological reactions. As indicated in Figure 1, these are levels of uncertainty, PPR,

mistrust and fear. Perceived ingroup power has also been shown to influence coping responses (Breakwell *et al.* 2022b). Perceived ingroup power refers to the amount of power individuals attribute to a group to which they belong. It is an important influence on coping responses because identifying with a group believed to have power is likely to increase the range of coping options available.

Individuals characterised by greater uncertainty, PPR, mistrust or fear typically cope less effectively with a hazard. Those with less perceived ingroup power similarly cope less well. Essentially, failure to adopt appropriate or recommended coping strategies when responding to the hazard is likely to occur when people are uncertain about what they can or should do, or because they do not trust the advice they are given, or because they are too afraid, or feel too vulnerable, or feel they are not empowered to act by virtue of their group membership. In the COVID-19 pandemic, individuals were shown to have failed to adopt effective self-protection as a result of various combinations of these reasons (Breakwell *et al.* 2021a). They were also more likely to suffer detriment to their physical or psychological well-being (Breakwell & Jaspal 2021; O'Connor *et al.* 2021).

Uncertainty, PPR, fear, mistrust and perceived ingroup power have been found singly or in various combinations in many studies to be important socio-cognitive influences upon behavioural and psychological reactions during the COVID-19 pandemic. They account, in differing degrees, for variation in vaccination willingness (Troiano & Nardi 2021; Kumar *et al.* 2022; Romate *et al.* 2022) and compliance with guidance on other self-protection and prevention measures (Bottemanne & Friston 2021; Breakwell *et al.* 2021a). They have also predicted variation in anxiety and depressive reactions during COVID-19 to restrictions on social interaction and mobility (Bakioğlu *et al.* 2021).

In thinking about how to prepare for future pandemics, or similar public crises, it is useful to examine why these five factors are important and how they are defined. The issues of definition and measurement are important because there is little consistency across empirical studies in how they are operationalised. Furthermore, all five factors rarely appear in the same study. As a relatively recently introduced construct in this area of research, perceived ingroup power has not been frequently examined thus far. Table 1 summarises some of the various ways that the five factors are defined and the associations they have with coping responses. It emphasises why these factors are important in explaining individual variation in coping responses.

Further empirical exploration of the nature of the interactions among these five factors in Table 1 in accounting for coping responses in crises is needed. It is not clear, in the absence of longitudinal data or large-scale experimental evidence, whether there is a regular causal sequence between the five, or whether causal associations are dependent on specific forms of hazard or particular situations, or whether their

Table 1. Definitions of uncertainty, perceived personal risk, fear, mistrust and ingroup power.

Construct	Definition and associations with coping responses
Uncertainty	Defined variously as: being unsure about an event or set of events, or how to interpret or evaluate available information; being unsure about the appropriate action to take; and lacking conviction about one's thoughts or feelings. It arises where information is absent or ambiguous and also when one's objectives are unclear, conflicted or imperfectly understood. Uncertainty is multidimensional. Each dimension is open to measurement separately (e.g., information uncertainty, emotional uncertainty, motivational uncertainty etc.). Uncertainty can range from zero to total. Uncertainty is defined as aversive (people typically seek to avoid it). Being uncertain can undermine one's ability to plan towards goal achievement or to adapt to sudden changes or threat (Fergus & Rowatt 2014). Nevertheless, ill-informed certainty or certainty that is unresponsive to changed circumstances can also be maladaptive. Individuals differ in the extent to which uncertainty disrupts their coping capacity. The existence of the personality trait 'uncertainty intolerance' is reported to be associated with worry, anxiety and mood disorders (Shu et al. 2022). Uncertainty, as a state or a trait, is associated with suboptimal decision-making.
Perceived personal risk (PPR)	PPR refers to the individual's assessment of their own risk of harm (Jaspal et al. 2020). Risk is often loosely operationalised, the distinction between the likelihood of experiencing harm and the severity of harm if experienced is often not examined. The precise form that harm will take may also be unspecified or vaguely specified. For instance, in relation to the PPR of COVID-19, the harm risked could be of infection, complications from infection, death, financial loss, disrupted employment or education, etc. Despite occasional measurement inadequacies, PPR has been shown to be an important factor in mediating and moderating the effects of other influences upon socio-cognitive and behavioural reactions to COVID-19 (Marinthe et al. 2020). Cipolletta et al. (2022), following a systematic literature review, concluded that perceiving the risk of COVID-19 to be high predicts, in general, compliance with preventive behaviours and social distancing measures. Notably, PPR and independent objective assessment of an individual's risk can be uncorrelated.
Fear	Fear refers to an emotional reaction to the presence or threat of harm. Fear is both the emotion felt and the state it arouses. However, 'feeling afraid' and 'knowing fear' can be conceptually separated. The biochemical changes instigated in the presence or anticipation of danger are the platform for feeling afraid. Nevertheless, without marked biochemical changes or evident emotional arousal, people can 'know' their fears. They can recount what fears they have and how they do feel when faced with the objects of their fear. In relation to COVID-19, fear has been typically assessed through self-report and without any imminent danger present. Differences in levels of fear of COVID-19 have been found to account for variance in attitudinal and behavioural reactions during the pandemic but the patterns are complex. Fear can motivate rational and adaptive responses. Fear levels have been shown to relate positively to willingness to self-protect (e.g., through social distancing or vaccination; see Breakwell & Jaspal 2021). Fear can also motivate irrational and maladaptive responses. The role played in pandemic responses has depended on many other factors, particularly the experiences that foster fear and the specific form the fear takes (e.g., fear of exposure to the virus or fear of hospitalisation). Employment and education status play a role in moderating the effects of fear (see Labrague & de Los Santos 2021). Decisions about courses of action in response to fear also influence its impact. For instance, Fino et al. (2022) reported that the impact of fear of COVID-19 on mental health depended on the coping strategies people adopted.

Mistrust   Mistrust is defined as doubt regarding the honesty, competence, reliability, value or motives of someone or something. It is distinct from distrust since it does not involve total lack of trust. Mistrust can involve a spectrum of levels of doubt (Breakwell 2021a). Being mistrustful is a habitual bias in some people (Lee 2017) and is sometimes linked with borderline personality disorder. However, mistrust is most often targeted and selective. In the context of COVID-19, studies of mistrust have focused upon specific targets for mistrust, particularly science and scientists, political authorities and mass media. Mistrust in science and scientists has been found to be a significant predictor of unwillingness to accept self-protection measures (e.g., vaccination; see Breakwell 2021b; Adhikari et al. 2022; Kafadar et al. 2022). It has also been associated with lower fear of COVID-19 (Breakwell 2020). Mistrust of mass media has been associated with adherence to conspiracy theories regarding COVID-19 (Aupers 2020).

Ingroup power   Ingroup power is defined as the degree of control or influence that individuals perceive their own group to have (Breakwell 2023). The concept stems from social identity theory (e.g., Sachdev & Bourhis 1985) and is commonly treated as an aspect of ingroup identity (Dovidio et al. 2008). In measurements of ingroup power, people are asked to assess the power possessed by a group with which they identify. The measure can be made in relation to power in a specific domain (e.g., control of the mass media) or power across a range of domains. The form of power considered can range across the spectrum from informal influence to force majeure. The measure is a subjective estimate, it will vary in its relationship with any objective estimates of group power and is likely to be biased by the role that the group membership has for the individual's identity content and evaluation. Less ingroup power has been found to be associated with suboptimal coping strategies in reaction to COVID-19. More ingroup power is associated with more trust in science and scientists and greater likelihood of using self-protection against COVID-19 (Breakwell et al. 2023a; Wright 2023).

causal interactions may be iterative or recursive over time. It is also possible that all five are actually significantly shaped by the activity of some other more generic characteristics of the individual. One candidate for such a generic characteristic would be identity resilience (Breakwell 2021c). This article addresses the underlying role of identity resilience.

The calls for resilience in public crises

A common underlying theme in rhetoric deployed during a public crisis, irrespective of its nature, is the call for resilience. Resilience is generally defined as the capacity to deflect, withstand or to recover quickly from the impact of challenge. It is particularly associated with the capacity to adapt in order to mitigate the effects of sudden disturbing or unanticipated events. During and in the aftermath of public crises, encouraging resilience in individuals and institutions becomes a prime concern for policymakers and leaders at many different societal levels. For example, the UK House of Lords COVID-19 Committee (2022) called for improved resilience and preparedness for a volatile and uncertain future. They went on to propose that success in raising national resilience will require improving the well-being of every part of society. Clearly this is not a short-term project. Nor one that can afford to ignore how resilience is developed, maintained or undermined. Identity resilience is one aspect that needs to be understood.

Identity resilience

At the individual level, identity resilience is a key determiner of capacity to cope with the threats and hardships that public crises pose. Identity resilience is a construct derived from identity process theory (IPT) (Jaspal & Breakwell 2014; Breakwell 2015a) and is a central part of the theory's description of how individuals cope with threat and uncertainty (Breakwell 2021c, 2023). Identity resilience has two sorts of effect and both are part of its functional definition. Identity resilience refers to the ability of a person's existing identity structure to retain its stability and worth when experiencing threats that challenge its constitution or value (Breakwell 1988). At the same time, identity resilience refers to the effects that having such an identity structure and capacity can have on the individual's thoughts, feelings and actions when faced with other types of threat that are not specifically or immediately directed at identity itself. Thus, a resilient identity protects itself but also supports, more broadly, better adaptation to most sorts of threats or stressors (Breakwell 2021c).

Characteristics of identity resilience

While acknowledging that the level and expressions of identity resilience will change across the life span (Breakwell *et al.* in press), IPT treats identity resilience as a relatively stable characteristic of the individual that is determined by the extent to which the individual's identity possesses four characteristics: self-esteem, self-efficacy, positive distinctiveness and continuity. In IPT, these are referred to as 'principles' or 'motives'. They can be seen as both descriptions of aspects of the current state of an individual's identity and as goals for identity that the individual is motivated to achieve. Figure 2 represents these four interacting bases of the individual's identity.

Self-esteem is an individual's subjective evaluation of their own worth (Rosenberg 1965). It reflects the degree to which the components of a person's identity are perceived to be positive. Self-esteem affects many aspects of thought, feeling and action. For instance, self-esteem is generally positively correlated with mental health (e.g., low self-esteem is associated with depressive symptoms; see Sowislo & Orth 2013). It has been shown to influence causal attributions (e.g., concerning failure; see Fitch 1970) and to predict persistence in a task in the face of threat (e.g., Di Paula & Campbell 2002).

The second characteristic, self-efficacy, refers to the extent to which an individual feels competent enough and possessed of sufficient resources to achieve desired objectives despite obstacles (Bandura 1977). Self-efficacy is derived by learning from past
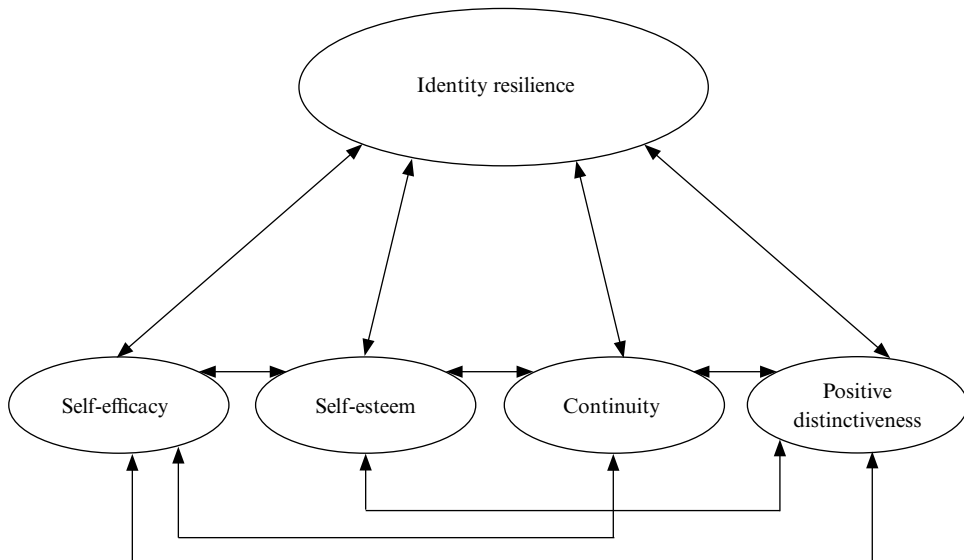

Figure 2. Bases of identity resilience

experience and from what others expect of us. People with high self-efficacy levels stay focused, are more determined to persist when faced with obstacles and infrequently attribute any failure to themselves. Low self-efficacy is associated with low psychological well-being, particularly with more depressive or anxious reactions (Bandura *et al.* 2003).

The third characteristic, positive distinctiveness, concerns the level of satisfaction the individual feels with how he or she differs from other people. Its roots are not mere distinctiveness but the right sort of distinctiveness. IPT asserts that any component of the identity structure is a potential basis for a distinctiveness claim (e.g., intellect, creativity, fearlessness, achievements or social category membership). The desire to achieve positive distinctiveness influences tactical and strategic choices when trying to cope with threat (e.g., choosing to exhibit less fear than others or persist longer in their efforts to cope).

The fourth characteristic, identity continuity, concerns the individual's perception of the continuity of his or her identity through time. Identity continuity is about feeling oneself to be the same person while seeing that there have been changes. Individuals are motivated to achieve this underlying quality of continuity for their identity. When societal change calls for modifications in their identity, they will seek to assimilate or accommodate the developments in such a way as to maintain continuity. Simultaneously, attribution processes will be established that explain any changes to identity in such a way as to make them appropriate and consistent with its previous structure. Many cognitive and behavioural strategies are involved in maintaining identity continuity. For example, reminiscences and narratives of the past are ways of maintaining the image of identities over time, especially when they are shared with others (Wildschut *et al.* 2010). Engaging in nostalgia can be used to retrofit the past identity structure to be consistent with a current identity (Vess *et al.* 2012). Nostalgia, a phenomenon prevalent cross-culturally (Sedikides & Wildschut 2018), allows new shades of meaning to be attributed to past identity components, but it also contextualises speculations about potential, but not yet assimilated, identity components.

While these four characteristics influence psychological and behavioural responses to threat in different ways, together they constitute an individual's overall level of identity resilience. The four identity characteristics are used in combination in assessing identity resilience in IPT because, while they are each conceptually distinct constructs, taken together they represent the amalgam of key factors motivating identity processes. It is recognised that they have somewhat different aetiologies and have been shown empirically to predict behaviour, thought and affect differentially. Yet, they do overlap. Significant correlations between self-esteem and self-efficacy are regularly found (Gardner & Pierce 1998; Lane *et al.* 2004), and both correlate with continuity

and positive distinctiveness (Wang & Xu 2015). Introducing the identity resilience construct makes it possible to capitalise on the synergies of the four in predicting responses to threat or stressors. Identity resilience is regarded as a superordinate construct that incorporates the four characteristics.

Explaining the development of identity resilience

Breakwell (2021b) argues that given the definition of identity resilience used in IPT, all of the theories that explain each of the four identity characteristics might have a role to play in describing how an individual comes to develop a resilient identity. Bandura (2005), in summarising the evolution of his social cognitive theory, provides a description of the processes that allow self-efficacy to be developed. This encompasses a model of social learning that adopts a perspective towards self-development, adaptation and change that emphasises that the individual has agency. Models of self-esteem that stem back to Rosenberg (1965) incorporate the notion that self-esteem is a product of social support, which includes social reinforcement and recognition. The sources of optimal distinctiveness are more often focused upon symbolic interactions (interpersonal, intragroup and intergroup) that influence how individuals know what constitutes approved distinctiveness, and how they learn to express their own distinctiveness (Leonardelli *et al.* 2010). The origins of continuity of identity also lie in different levels of social engagement, but its maintenance is fundamentally dependent upon the capacity of, and interactions between, individual and collective memory (Licata 2022).

These general explanations of the way self-esteem, self-efficacy, distinctiveness and continuity arise and are maintained share many common features. All, in their own way, explain why people will inevitably differ in the extent to which they have these four characteristics. Since they share some of their sources, it is not surprising that the four identity characteristics tend to be correlated, even though they are distinguishable in their effects. The origins of identity resilience may be found in the sources of the four identity characteristics. However, though there has been wide-ranging research on the precursors of psychological resilience in aversive conditions (see, for a review, Atkinson *et al.* 2009), there is limited data on the particular constellation of factors that would result specifically in the development of identity resilience. There is need for empirical research that maps the development of identity resilience across the lifespan. Equally, there is a need for studies of how identity resilience that may have been relatively stable for many years can decline precipitously. Work on the effects of identity resilience in ageing and dementia is particularly needed (Cosco *et al.* 2017; Hayman *et al.* 2017).

Measuring identity resilience

The Identity Resilience Index (IRI) has been developed to measure the construct (Breakwell *et al.* 2022b). It includes subscales measuring self-esteem, self-efficacy, positive distinctiveness and continuity. The psychometric properties of this measure are considered in detail in another article in this special issue: 'Methodological considerations and assumptions in social science survey research' by Daniel B. Wright. IRI measures the 'general' identity resilience of an individual. It incorporates what Rosenberg *et al.* (1995) considered global self-esteem and Bandura (1977) termed general self-efficacy. The IRI is not directed at measuring resilience that is specific to particular types of threat or uncertainty but rather at general identity resilience.

Coping and identity resilience

In IPT, identity resilience is treated as being embodied in an identity structure that facilitates adaptive coping, one that absorbs change while retaining its subjective meaning and value, and that rejects or minimises the potentially damaging effects of threats and of having to cope with them. People reporting higher identity resilience respond more favourably to, and cope more effectively with, events and situations that question or threaten their identity (e.g., Breakwell & Jaspal 2021. This is hardly surprising since the four identity characteristics that are the foundations for identity resilience have been shown individually to be instrumental in facilitating favourable coping responses to stressors (e.g., Brewer 1991; Dumont & Provost 1999; Sadeh & Karniol 2012). The four characteristics each play a different part in establishing coping capacity against threat, offering specific types of psychological resource. Fundamentally, self-esteem offers assurance based on current personal worth and respect; self-efficacy offers assurance of problem-solving competency bred of past learning; positive distinctiveness offers assurance of uniqueness and ability to stand apart from others; and continuity offers assurance from an ongoing self-narrative that provides personal meaningfulness and predictability. These resources will vary in the role they play across different types of threat. They will be prioritised differently over time and across circumstances (Breakwell 2015a). The coping responses they motivate are not always compatible. Their effects will interact, mostly to heighten coping success by improving the variety and flexibility of responses to threat but also, sometimes, to introduce complexity and ambivalence.

   The form and effectiveness of coping strategies used during threat depend on the overall level of identity resilience and the differential prioritisation of the four identity characteristics (and the psychological resources that they represent). Coping will also depend on the way identity resilience interacts with other components of identity.

The individual's value system certainly interacts with identity resilience to shape decisions. Bardi *et al.* (2014) report how an individual's values influence how important any identity component is felt to be. Value systems may channel identity resilience so it is manifested preferentially in certain types of coping. For instance, if individuals attach great value to caring for others, having high identity resilience might grow in salience during a pandemic as it motivates them to feel capable of acting to support others, though simultaneously putting themselves at greater risk. Higher identity resilience is not necessarily associated with narrowly defined self-interest.

Identity resilience influence on uncertainty, PPR, fear and mistrust

IPT proposes that the nature and extent of uncertainty, PPR, fear or mistrust that individuals feel in the presence of a specific hazard will be influenced by that individual's established levels of identity resilience (Breakwell *et al.* 2023b). This is likely to be the case because the level of a person's identity resilience affects how they search for and interpret information about the hazard and about its implications for themselves, and the coping skills that they feel competent to use (particularly those associated with self-protection) (e.g., Karademas *et al.* 2007). In addition, people with higher identity resilience are likely to have had a stronger network of social support in the past and are more likely to have one that they can still call upon (Jaspal & Breakwell 2022b). Higher identity resilience is linked to more purposive information collection that can support adaptation and coping in threatening situations. It can be instrumental in achieving more realistic estimates of personal risk. Notably, it is not necessarily linked to lower levels of PPR because a realistic estimate may be a higher estimate. Also, having such information does not inevitably reduce uncertainty, but if uncertainty continues it is related to an evidence base rather than simple ignorance or confusion (Breakwell & Jaspal 2021). Indeed, it might be regarded as rational or reasoned uncertainty. Higher identity resilience is found to be correlated with lower fear in relation to COVID-19. It may be that having a greater sense of personal worth and continuity enhances confidence in one's coping ability and consequently limits fear reactions. It is also possible that, at very high levels, identity resilience initiates self-serving cognitive biases that diminish willingness to acknowledge fear and simultaneously increases belief in one's own ability to cope with the danger.

Overall, higher identity resilience is predicted to be associated with lower levels of uncertainty, perceived risk and fear in response to COVID-19, more confidence in coping capacity and greater adherence to behavioural guidelines for self-protection against the disease. However, the effects of identity resilience upon the factors that influence attitudinal and behavioural reactions to COVID-19 (and other hazards) will depend upon the specifics of the hazard itself and the context in which it is located.

The impact of identity resilience will depend on a complex mosaic of social processes at work around it, especially on social representation and group identification processes. The ways mistrust and ingroup power relate to identity resilience, particularly, have to be modelled in relation to these social processes.

Identity resilience influences coping not just through its effects on fear, risk, uncertainty and mistrust, but also through emphasising personal worth and perseverance over time. This suggests that coping responses that are deployed will have feedback for identity resilience. Success and failure in coping over time will alter identity resilience. The path in Figure 1 between identity resilience and coping responses might easily have merited a two-way arrow if the model was trying to capture iterative change.

Social representation processes during public crises

In a public crisis, like a pandemic, those involved often encounter a threat they have never experienced before, that is evolving rapidly and likely full of unexpected dangers. Yet they each carry into it a nexus of emotions, knowledge, beliefs, values, interpersonal relationships, group identifications, desires and memories of experiences and dreams that embody their personal history and reflect the content and valuation of their identity.

The precise content and evaluation of anyone's identity is unique. However, this unique configuration is forged through many interactions with other people during a lifetime, and with societal structures and influence processes. An identity is not solely a personal product, it is the outcome of a shared enterprise between the individual and society over time (e.g., Cooley 1902; Mead & Schubert 1934; Allport 1955; Rosenberg 2015). The shared enterprise of identity construction continues irrespective of pandemics or other crises. In fact, in changing or unexpected situations the societal processes that affect identity become even more evident. Social representation is one such process. It focuses upon constructing explanations for novel phenomena.

Moscovici (1988, 2001), in the theory of social representations, described how people give meaning to new phenomena by negotiating, through their interactions with others, shared understandings. Moscovici described how usually this involves 'anchoring' and 'objectification'. Anchoring links a new phenomenon to pre-extant understandings and objectification gives it substance by associating it with familiar exemplars. For instance, initially policymakers and the media used the parallels between COVID-19 and other infectious fatal diseases (notably the 1918 influenza pandemic, H1N1, MERS-CoV, SARS, Ebola, measles, smallpox and tuberculosis) to, in some way, make the new disease explicable. Given the complexity and scale of uncertainties that COVID-19 constituted, it was inevitable that alternative, conflicting

social representations would soon emerge (e.g., conspiracy theories claiming that the virus was deliberately manufactured or that vaccines were more dangerous than the disease they were supposed to cure).

The way social representations develop during a public crisis, such as a pandemic, can have marked direct effects on the way individuals respond. For instance, the social representations can serve to emphasise the risk or promote fear or magnify uncertainties or prompt intergroup hostilities or arouse mistrust of individuals or of whole institutions. The context in which the individual's awareness of uncertainties, risk, fear, mistrust or ingroup power develops is constructed by the interface between social representation, social structure and the physical environment. However, the individual is an active participant in the construction process.

Breakwell (2010, 2015b) described how individuals can be agentic in their dealings with social representations. Individuals may differ in their awareness, understanding, acceptance and assimilation of a particular social representation and the prominence they attribute to it. There is scope for the individuals to resist social representations that are, in some way, threatening (Breakwell 2010; Duveen 2013). Existing characteristics of the individual may precipitate resistance against a social representation. This is possibly more feasible when several social representations of the same object exist and are incompatible. In the COVID-19 situation, preference given to one social representation of the disease or its treatments over others could significantly modify an individual's levels of uncertainty, PPR, fear, mistrust and ingroup power.

Individual resistance to social representations, once they are elaborated and established, is difficult, primarily because such representations are woven into intergroup power differentials when they are identified as the product of particular groups or supported by them. This suggests two things: individual resistance to a social representation that is potentially personally damaging will be strongly influenced by that person's existing group identifications and those groups' links to the social representation, and by the level of the individual's identity resilience. Being willing and able to resist a threatening social representation is more likely to occur if someone has higher identity resilience.

Group identification and ingroup power effects upon coping responses

In addition to the factors already considered, Figure 1 indicated that social representations, group identification and ingroup power influence pandemic coping responses. Once group identification is introduced into the model, ingroup power emerges as a more significant factor in explaining pandemic reactions. As defined earlier, ingroup

power depends on how the social position of a group is understood and evaluated by an individual who identifies with the group.

Social identity theory (Tajfel 1978; Abrams & Hogg 1990) refers to belonging to groups as 'social identification'. It is associated with the adoption of beliefs and attitudes that characterise other members, and with conformity with the social norms of behaviour prevalent in members. Once having socially identified with the group or category, the individual is hypothesised to be under pressure to comply with the expectations of membership and be motivated to further the interests of the group or category. This would include accepting and using the social representations that the group promulgated or supported. It would also include mistrusting the people or things that the group judged untrustworthy or dubious (a judgement that might itself be presented as part of more wide-ranging or elaborated social representations). Orchestrating and then using social representations are important ways of inculcating compliance and unity in members. They provide useful ways for articulating the boundaries of group membership.

IPT refers to 'belonging' to a group as group identification. IPT treats group identification as the point at which the group or category membership is assimilated into the person's identity structure. This is the start of a process of integrating the group membership into the wholistic identity structure. With every new element that is incorporated, the identity structure will need to change, to a greater or lesser extent, to accommodate it. The accommodation process may occur quickly or only over a long period of time. IPT does not conceptualise group identification as a one-off decision that, once taken, is irretrievable. Satisfaction with group identification may reduce (e.g., due to the group or category changing, or to other more attractive but mutually exclusive options opening up, or because other modifications in the individual's life result in alternative priorities). It may not be possible for the individual to exit the group or category, but identification with it may wane significantly or be lost. Changes to the holistic identity structure would follow, along with changes in patterns of group-related action, thought and feelings.

Identification with one group is relatively simple to conceptualise, even when it encompasses dimensions that cut across beliefs, values, feelings and actions. It becomes more difficult to build a picture of group identification when tracking this across multiple group memberships that may intersect and may involve groups that are in conflict. IPT (Breakwell 2023, ch. 7) proposes that group identifications will be developed in ways that contribute to one or more of the major objectives of the identity processes – self-esteem, self-efficacy, positive distinctiveness or continuity. As memberships multiply, the relative contribution that identification with each of them can make towards these objectives will change. Choices about which group identifications to adopt, retain or reject will be made against the backdrop of this complex

matrix of evaluations of their value to the holistic identity structure. This proposition is inevitably subject to the proviso that some group memberships are not under the individual's control. Some social categorisations are problematic to eliminate (e.g., age group). Nevertheless, identification with them can be resisted.

In relation to perceived ingroup power, group identification has two important connections. First, people will be more likely to identify with groups that they rate as having greater power (assuming membership is open). Second, people who are identified with a group are motivated (biased) to perceive it positively (Castano *et al.* 2002). They are likely to see it as more powerful than non-members would (Kershaw *et al.* 2021). They are also more likely to promote its power where feasible or downplay the relative significance of evident power deficits. For group identifications that are important to an individual's identity structure (and not all will be), ingroup power differentials are something that individuals monitor. People who perceive their ingroup power to be higher are more likely to report higher self-esteem, self-efficacy and positive distinctiveness. Ingroup power is therefore a key source and support for identity resilience. There is synergy between ingroup power and identity resilience. A group that is itself characterised by resilience is more likely to be perceived as having ingroup power. Those who identify with it are more likely to believe themselves to have identity resilience and to behave in ways that exhibit that resilience. Identity resilience in a group's members is then likely to further enhance group resilience and again raise perceived ingroup power. However, this 'virtuous circle' is clearly not a closed system and the symbiosis can be disrupted, particularly by unforeseen public crises that change the context in which the group operates. Nonetheless, IPT proposes that the significance of the interaction between ingroup power and identity resilience remains. A public crisis raises the importance of ingroup power differentials because power differentials influence coping options.

Forms of coping

Figure 1 does not specify the types of pandemic coping responses that are involved. The box in the figure could extend from intra-psychic, through individual, interpersonal and intragroup, to intergroup or societal-level coping responses (behavioural or psychological). It is possible to assume that different response types will be associated with different configurations of prior or contemporaneous influences. For instance, greater identity resilience would be more often associated with coping responses that involved specific goal-oriented action (e.g., vaccination) and less often with passive or fatalistic responses.

A comprehensive qualitative catalogue of the forms that coping has taken in the COVID-19 pandemic is not available. There is a rich collection of studies of the

psychiatric and psychological problems that have manifested during the COVID-19 period (especially ones associated with behavioural restrictions during the pandemic) (e.g., Krishnamoorthy *et al.* 2020; O'Connor *et al.* 2021; Sun *et al.* 2021). Other research has particularly focused on describing coping that was compliant with the health policies introduced to curtail the pandemic (e.g., self-isolation, quarantine, social distancing, self-testing, vaccination, masking, working from home, home education, handwashing). The model in Figure 1 has been shown to be effective in accounting for variance in 'compliance' coping responses (e.g., accepting vaccination). Other types of coping response are less well researched but, when they have been, the model has proven applicable. For instance, creativity in coping has rarely been examined, however, Breakwell & Jaspal (2022) examined how a community came together to respond during COVID-19. Their study reports the efforts of a male voice choir to continue their musical practices and performances during lockdown. It is a good example of how group identification (with a choir and with the local rugby club), moderated fear and risk and potentiated an active and creative coping response. Other forms of group identification (e.g., religious affiliation; see Lee *et al.* 2022) have also been found to engender alternative effective coping strategies.

The general model of influences on pandemic coping responses can probably be elaborated to be applied to most specific forms of coping. Nevertheless, a more systematic examination of more unusual forms of coping and their relative effectiveness for the individuals deploying them is needed. It is notable that many studies have been conducted on the factors accounting for coping responses but very few have included an appraisal of the after-effects of such coping or their feedback effects on subsequent coping. Since some types of coping response (e.g., vaccination, COVID-19 testing) require repetition, the longevity of a coping response pattern and the factors influencing it are interesting and may have practical significance.

Support for and barriers against coping responses

The model described in this article, derived from IPT, was used to inform the design of the data collection for the study that our team (Barnett, Breakwell, Jaspal and Wright) conducted as part of the British Academy's research programme on future pandemic preparedness.[1] The model was deemed relevant for that research because it focused on the effects of ethnicity upon pandemic coping responses in the United Kingdom and the United States. The examination of group identification and ingroup power

related to ethnicity effects was considered particularly important. However, analysing the complex implications of ethnicity during the pandemic across two countries served to emphasise that this model, while useful, ignores at least two important factors that also play a vital role in accounting for pandemic coping responses. These are social support and discrimination. Other articles in this special issue describe relevant empirical results from this work. However, additional research is needed to test how social support and discrimination interact with the constructs presented in the model before attempting to integrate them into the model. This is particularly important because both are complex constructs. It would be wrong to have ignored them in this article because what we have found so far does align with the model presented here.

Social support is an amorphous concept. Virtually any sort of interaction that involves the transfer of something useful (material or psychosocial) between people can be designated social support. People differ in the amount of social support that they perceive they have available to them and the conditions under which they receive it. Feeling socially supported is associated with using more adaptive coping responses in acute or chronic threat situations (e.g., Ferber *et al.* 2022; Zysberg & Zisberg 2022). Feeling socially supported is also usually positively correlated with identity resilience.

Discrimination, at its simplest, entails being treated unfairly because of who you are or because you have certain characteristics. Discrimination takes many forms, and how it is perceived, and thus its effects, is a product of long-term social psychological processes. In any public crisis, and especially longer-run crises such as pandemics, discrimination will influence coping responses, both of those who discriminate and those discriminated against. At the most basic level, discrimination will affect access to resources. The perception of discrimination, and the fear or antipathy it engenders, will also directly affect willingness to adopt prescribed coping responses. A simple example of this comes from the unwillingness of young black men in some US cities to wear masks on the street because, they explained, they were more likely to be challenged by the police if they did (Christiani *et al.* 2022; Hearne & Niño 2022).

Having or lacking material or social resources affects both coping response preferences and their execution. Depending upon their precise nature, both the absence of social support and presence of discrimination typically result in material and/or social resource deficits that will then affect coping. Jaspal & Breakwell (2022b) report how socio-economic inequalities in social networks and loneliness were related to mental health problems during the COVID-19 pandemic. Jaspal & Breakwell (2023a, 2023b) also describe how social support and ethnic discrimination moderate the effects of social representations of vaccination, mistrust of science, ingroup power and identity resilience upon COVID-19 vaccine hesitancy. The effects of social support and discrimination upon coping intentions and behaviour operate at many levels, particularly through their differential impacts upon the development and opportunities for

expression of identity resilience. The degrees of social support and discrimination experienced throughout a lifetime are major determiners of identity structure and of identity resilience. Identity resilience then, to some degree, influences every aspect of an individual's thoughts, feelings and actions. When we try to understand an individual's response during a pandemic, we are actually trying to explain the very tip of an iceberg of consequences of psychological and social processes across that individual's lifetime, including those operative at the point in time that the response occurs. Every model available is, as a result, inevitably only capable of representing a shard of the whole nexus of processes.

Identity resilience: some implications for pandemic preparedness

To return briefly to the calls for resilience that are so common during public crises, typically individuals are asked to show resilience. The House of Lords Select Committee report, referenced earlier in this article, emphasised that national resilience can only be achieved through long-term improvements in the well-being of every part of society, underpinned by fostering strong connections within and between diverse communities and by greater social and economic equity. Work on identity resilience could contribute to underpinning this approach. Social conditions that allow individuals to develop greater self-esteem, self-efficacy, positive distinctiveness and continuity will predispose the growth of greater identity resilience. Social and economic conditions that provide more social support and discourage discrimination will facilitate the growth of identity resilience. Supporting individuals who are a part of the community to achieve greater identity resilience contributes to the possibility of the whole community gaining greater resilience. This is, however, a possible rather than an inevitable outcome. It is yet to be proven that individuals who have high identity resilience will actually collaborate within a community or organisation so as to imbue it with high resilience. Intragroup dynamics (e.g., interpersonal competitiveness) may interfere with that.

Fostering identity resilience over time, either in individuals or across communities, is an important way to raise coping capacity. However, simply raising identity resilience is not enough in itself to ensure we are better prepared for future global pandemics (or other long-lived public crises). Identity resilience, once established, has to be appropriately channelled. Part of preparedness is planning how identity resilience effects can be optimised. High identity resilience will not inevitably result in the most constructive coping responses. For instance, it might result in ignoring public health priorities while being confident in one's alternative coping route. Research on the effects that identity resilience has on uncertainty, fear, risk and mistrust should support this planning. However, if identity resilience is to be used systematically in

response to crises in the future, it will need to be monitored in the meantime so as to provide a practical understanding of baseline levels of identity resilience and the coping capacity associated with these. Optimising the value of identity resilience is likely to rely upon targeted communication, appropriate messaging and authentic leadership based on valid information.

Based on the model presented here, one important proposal for developing pandemic preparedness should be emphasised. In addition to ongoing societal efforts to foster greater identity resilience, it is sensible to have measures in place to mitigate the known effects of lower identity resilience as they manifest in the specific situation. The established connection between lower resilience and greater uncertainty and mistrust would point to the need for focusing upon promoting the forms of certainty and trust most relevant to the particular crisis that is emerging. Linking this to clear instructions about which coping responses should be used, by whom and when, may interrupt the negative feedback loops between PPR and fear in those with lower identity resilience. This all revolves around targeting messaging to resonate differentially across identity resilience levels in order to achieve a shared goal: effective coping responses. It would help if more people were aware of the effects that their own identity resilience has upon how they think, feel and behave.

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