APA Citation:

Rosenfeld, D. L., Balcetis, E., Bastian, B., Berkman, E. T., Bosson, J. K., Brannon, T. N., Burrow, A. L., Cameron, C. D., Chen, S., Cook, J. E., Crandall, C., Davidai, S., Dhont, K., Eastwick, P. W., Gaither, S. E., Gangestad, S. W., Gilovich, T., Gray, K. J., Haines, E. L., . . . Tomiyama, A. J. (2020). *Conducting social psychological research in the wake of COVID-19*. Manuscript submitted for publication.

Conducting Social Psychological Research in the Wake of COVID-19

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This article integrates perspectives from 53 authors, each of whom offers a unique set of experiences and viewpoints. Accordingly, we note while every author consents to their authorship of this article, not every author endorses every idea herein.

The authors thank Wiebke Bleidorn, Chris Hopwood, and Michael Kraus for their feedback on a previous version of this manuscript. The authors thank Sonja Kobayashi for administrative support.

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Abstract

The emergence of COVID-19 has changed the state of psychological science: The foreseeable future of how psychologists will conduct research, and on what topics, is unclear. The current article provides a comprehensive perspective on how social psychologists can optimize their research in the wake of the COVID-19 pandemic. Specifically, we (a) highlight psychological phenomena that are most likely to change during the wake of COVID-19; (b) discuss theoretical, methodological, and practical considerations of conducting research on these phenomena; and (c) outline promising directions for key programs of research. We conclude with meta-scientific considerations and critical evaluations of scientific reproducibility. By many projections, society will remain altered by the COVID-19 pandemic permanently, such that a "new normal" will emerge with regards to social norms and perceptions underlying the basic processes psychologists have studied for decades. Such shifts can, in turn, blur the lines between findings that denote failures to replicate and findings that reflect previously absent environmental influences on cognition and behavior. These considerations will be important for how psychologists evaluate theory, consider social-contextual boundary conditions of effects, and conceptualize what it means for science to be truly reproducible.

Keywords: COVID-19, social psychology, meta-science, large-scale collaboration

Conducting Social Psychological Research in the Wake of COVID-19

The COVID-19 pandemic has changed the landscape of psychological science, making the foreseeable future of how psychologists will conduct research, and on what topics, unclear. The threat of COVID-19—the disease caused by the novel coronavirus SARS-CoV-2—may affect the conduct of research for both structural and psychological reasons, which will ultimately: (a) necessitate changes in methodological practices; (b) alter participants' psychological states at baseline, exaggerating phenomena in some domains while dampening phenomena in others; and (c) increase the extents to which particular programs of research now offer critical insights into ongoing real-world issues. The current paper addresses these pressing concerns through a comprehensive perspective on how to optimize social psychological research in the wake of COVID-19.

Social psychology—the study of how people think, feel, and behave within their social worlds—offers rich perspectives and tools for conceptualizing and investigating an altered human experience in the wake of a pandemic. The emergence and spread of COVID-19 has situated human psychology within a turbulent and uncertain sociocultural environment—an environment plagued by unemployment spikes, economic uncertainty, stay-at-home orders, school and university closures, overwhelming of the healthcare system, and widespread social distancing, among other hardships. The pandemic has also been a breeding ground for direct psychological consequences, throwing many individuals suddenly into daily lives filled with health threats, existential anxiety, and generalized stress.

The landscape of social psychological research has changed rapidly and profoundly, leaving theoretical, methodological, and practical questions unaddressed. For example, in what specific ways will the wake of COVID-19 amplify effects for some psychological phenomena

but dampen effects for others? What types of research questions will be harder to answer in the wake of COVID-19? What questions will be easier to answer? And what questions may now be of particularly high scientific and practical importance for psychologists to address, in order to describe and explain psychological phenomena as they unfold in the world around us?

While reflecting on these questions, psychologists should also be attentive to matters of scientific reproducibility. If COVID-19 leaves a lasting mark on the way individuals interact with one another and with social systems, then there is potential to observe changes in the very processes psychologists have studied for decades. In the wake of COVID-19, unprecedented environmental influences on cognition and behavior may reduce the degree to which previously documented effects replicate. Carefully considering the broader contexts in which psychological processes unfold can have important implications for how psychologists evaluate theory and identify boundary conditions of effects. At the same time, we must acknowledge the fundamental ambiguity blurring the lines between failed replications that reflect new psychological norms and failed replications that reveal previously misestimated effects; we ought to be diligent not to claim the former without noting the possibility of the latter.

Aims and Outline of the Current Paper

In this paper, we provide perspectives on the conduct of research across social psychology in the wake of COVID-19. In order to outline all major subfields of social psychology within this paper (see Table 1), we reviewed recent conference programs from the Society for Personality and Social Psychology, consulted the *Handbook of Social Psychology* (Fiske, Gilbert, & Lindzey, 2010), and discussed content areas thoroughly amongst ourselves and with external colleagues.

The current paper concludes with meta-scientific considerations and critical evaluations of scientific reproducibility, which offer relevance across the field of psychological science at large. These areas are particularly important now, as the assumptions psychologists make about their participants' baseline psychological states may shift in the wake of COVID-19. When conducting research in the times ahead, psychologists may more often grapple with the increasingly complex meaning of "failure to replicate."

For readers interested in other field-level psychological discussions of COVID-19, we refer to a recent paper by Van Bavel and colleagues (2020). Although the current paper resembles Van Bavel and colleagues' paper in its large-scale collaborative nature and its focus on COVID-19, we note that these two papers encompass complementary aims that can together provide a richer perspective on the relevance of COVID-19 for psychological science. Whereas Van Bavel and colleagues discuss how to use psychological science to inform responses to COVID-19 (i.e., applying established research to address real-world issues), the current paper evaluates the converse matter: *the effect of COVID-19 on psychological research* (i.e., applying real-world issues to inform the creation of new research).

Throughout the current paper, we address three aims: (1) to highlight psychological phenomena that are most likely to change during the wake of the COVID-19 pandemic; (2) to evaluate theoretical, methodological, and practical considerations of conducting research on these phenomena; and (3) to outline specific promising directions for current and future research.

We begin with a brief psychological perspective on pathogen threat, which offers relevance for much of the subsequent content reviewed. Next, we provide focused perspectives on each major subfield across social psychology. To enable readers to easily locate topics of interest, this core part of our paper is organized by subfield (see Table 1). Lastly, we turn to

meta-scientific considerations and critical evaluations of scientific reproducibility, before concluding remarks.

Subfields Reviewed in the Current Paper
Stress and Coping
Intergroup Relations
Political Psychology
Moral Psychology
Motivation
Shared Experiences
Close Relationships
Social Comparison
Self and Identity
Gender
Social Inequality
Evolutionary Psychology
Existential Psychology
Psychology and Law
Eating Behavior
Environmental Psychology
Social Neuroscience
Person-Environment Interaction
Meta-Scientific Considerations

Table 1: Subfields reviewed in the current paper, organized sequentially in order of appearance.

The Psychology of Pathogen Threat

Infectious disease has posed one of the largest threats to human survival and welfare throughout both deep and recent history (Inhorn & Brown, 1990; Wolfe, Dunavon, and Diamond, 2007), and thus unsurprisingly has been of great interest throughout the biological sciences. Beyond its clear effects on the workings of society, why should social psychologists care about a disease like COVID-19 in our day-to-day research? The logic is straightforward: In addition to our immune systems, another disease-management strategy is to simply avoid disease-causing objects (and people) whenever possible—a type of "behavioral" immune system

(e.g., Ackerman, Hill, & Murray, 2018; Murray & Schaller, 2016). A fundamental goal of any organism is to protect itself from threat—usually threats that are concretely biological in nature. Yet just as humans are concerned with these *realistic* threats, so too are we concerned with *symbolic* threats to group identity, moral values, and worldviews (Stephan & Stephan, 2006). Diseases like COVID-19 pose both a realistic and symbolic threat (Kachanoff, Bigman, Kapsaskis, & Gray, 2020), and in turn may powerfully shape psychological processes including political cognition (Nail, McGregor, Drinkwater, Steele, & Thompson, 2009), moral judgments (Rozin, Lowery, Imada, & Haidt, 1999), intergroup relations (Gamez-Djokic & Waytz, in press), and much more as evidenced in this paper.

Nevertheless, the implications of pathogen threat for human cognition and behavior have been overlooked by social psychologists until relatively recently. Much of behavioral immune system processes involve little deliberative thought, given that they are often affectively motivated by disgust (see Oaten et al., 2009) or by imbedded cultural norms (Murray et al., 2017; Schaller & Murray, 2011). However, the growing body of research on the behavioral immune system suggests that global disease events are likely to have implications for cognition and behavior in just about every domain of social psychology. When viewed functionally, it is easy to see that virtually all phenomena covered throughout the current paper involve disease-related causes and consequences—our close relationships, intergroup relations, fundamental motivations, moral cognition, and even our broader cultural systems and political institutions (see Murray & Schaller, 2016, for a review). As discussed in the sections that follow, we have ample reason to expect that the wake of COVID-19 will make pathogen threat's fingerprints on our thoughts, feelings, and behaviors all that much more apparent.

Stress and Coping

For most people, the COVID-19 pandemic brought heightened stress, making it important for psychological scientists to understand factors underlying how people *cope* with such stress. Community-based traumas like COVID-19 can profoundly tax both individual well-being and societal resources. Thus, an immediate research question concerns identifying who is most vulnerable psychologically to the COVID-19 pandemic and who is most likely to be resilient in its aftermath. There is precedent for the study of such traumas. Indeed, we learned much from over a decade of research on one of the largest collective tragedies in the U.S.: the September 11, 2001 terrorist attacks (e.g., Silver, 2011; Silver, & Fischhoff, 2011). That catastrophe, and several collective traumas that followed—including mass violence events such as the Boston Marathon bombings and the Orlando Nightclub Shooting, and natural disasters such as Hurricanes Katrina, Harvey, and Irma—are characterized by their sudden, unexpected, uncontrollable nature. Yet the very aspects of these events that make them so stressful for individuals to endure also make them challenging for researchers to study.

To design and implement research on collective traumas like COVID-19 requires overcoming formidable scientific and logistical challenges resulting from the fundamental unpredictability of these events (Schlenger & Silver, 2006). As a result, most studies are post-only designs, often with retrospective assessments made long after the event. However, without information on pre-event mental and physical health, it is difficult to disambiguate the effects of the trauma on subsequent responses to it. Moreover, surprisingly few studies (cf. Garfin, Silver, et al., 2014) have considered how cumulative exposure to collective and individual stressors may contribute to adjustment to this crisis over time. Indeed, prior research that has measured exposure to individual-level and collective traumas and followed people for several years

suggests that many will cope well and may even thrive in the face of this disaster (Seery, Holman, & Silver, 2010).

The challenges of obtaining funding quickly in the aftermath of collective traumas often lead to a lack of large representative samples that preclude comparisons of responses across demographic groups or generalizability to the population as a whole. However, to understand how individuals have coped—and will continue to cope—with COVID-19 before a vaccine enables individuals to re-activate their pre-pandemic activities, data collection on representative samples is critical. Listserv surveys using snowball sampling, volunteer surveys of college students, and data collection using MTurk workers preclude population estimates and generalizability of findings. Moreover, many survey research companies claim to have "representative samples," but these *opt-in* survey panels suffer from substantial selection biases (Callegaro, Villar, Yeager, & Krosnick, 2014; Yeager et al., 2011) that should be acknowledged.

Understanding who will successfully adjust to this chronic stressor requires longitudinal research that follows a representative, probability sample of individuals over time. Data collection conducted during early stages of the crisis can help identify individuals who are most likely to engage in self-protective and socially responsible behaviors, classify early patterns of response, help isolate risk factors eventually associated with long-term psychological maladjustment, and identify correlates of resilience. Critical variables to study include emotional (fear, worry, distress), cognitive (perceived risk), social (loneliness, sense of social cohesion), and behavioral (media use, health protective behaviors) responses to the COVID-19 outbreak. Exploring social benefits in the aftermath of a collective disaster (Poulin, Silver, Gil-Rivas, Holman, & McIntosh, 2009) and examining how individuals and communities make sense of this crisis (Updegraff, Silver, & Holman, 2008) also requires longitudinal research using large

samples that can isolate religious, political, and cultural differences in responses. Additional important research questions include understanding the impact on stress responses of direct exposures to the pandemic versus indirect exposure through widespread traditional and social media coverage of the outbreak (Garfin, Silver, & Holman, 2020); articulating how ambiguous or conflicting communication may amplify perceived risk and stress (Jones, Thompson, Dunkel Schetter, & Silver, 2017); and examining how cognitive and affective processes shape risk assessments, behavioral responses, and mental and physical health outcomes.

Purpose in Life

A particular psychosocial resource valuable for coping with stress is having a strong sense of purpose in life. Decades of studies suggest that a sense of purpose in life is a coveted resource, with reliable linkages to resilience to stress (Burrow & Hill, 2013), greater health and well-being (Kim, Sun, Park, & Peterson, 2013; Ryff, 1989), strong social ties (Steptoe & Fancourt, 2019), and even longevity (Hill & Turiano, 2015). While the utility of purpose is apparent, how individuals might find and cultivate such a sense in the wake of a pandemic is less clear. Equally elusive is whether the expected benefits of purpose will be evident among those most impacted by extreme environmental uncertainties. These unknowns can motivate a novel research agenda designed to clarify important questions about the role of feeling purpose in everyday life. As widespread transmission of COVID-19 and the social policies imposed to address it drastically transform how we interact with our environments, investigations into how individuals remain engaged in daily activities that inspire a sense of meaningful contribution to the world can be valuable.

These questions can be informed by existing theoretical perspectives on purpose and may even help adjudicate longstanding deliberation within the field. For example, foundational

theories contend the value of purpose may be most pronounced in contexts of adversity and hardship (Frankl, 1959; Ryff, Keyes, & Hughes, 2003). Indeed, having a central life aim may help individuals navigate difficult times by motivating them to invest in valued activities and consider future goals (Machell, Disabato, & Kashdan, 2015). Other perspectives suggest that a singular and resolute purpose, while generally adaptive, may actually increase susceptibility to suffering when opportunities to pursue that purpose are obscured (Hasse, Heckhausen, & Wrosch, 2013; McKnight & Kashdan, 2009). This view is buttressed by role-identity studies wherein disruptions or barriers to important roles can diminish one's sense of engagement and purpose, resulting in poorer health (Thoits, 1986; 2011). To the extent that social distancing policies restrict and reshape access to workplaces, educational settings, and recreational spaces, familiar sources of purpose may be obscured and the consequences of possessing this sense may be fundamentally different. How exactly purpose operates in the wake of COVID-19 awaits investigation, and the insights to be gained can be vital in promoting psychological stability amid environmental uncertainty.

Self-Compassion

The wake of COVID-19 may undermine the ability to fulfill social roles integral to maintaining not only purpose but also self-esteem. For example, people may experience difficulties from having to shift to doing their jobs remotely, fomenting concerns about not being productive enough. With K-12 schools shuttered, parents must suddenly oversee their children's education, often while trying to work remotely or burdened with economic worries due to unemployment. What are some adaptive ways that people can respond to such unprecedented and unanticipated difficulties and challenges? Theory and research on self-compassion can be harnessed to shed important light on this question.

Self-compassion is rooted in sympathy extended towards the self when a person experiences a failure, setback, or some other kind of difficulty. According to Neff (2011), self-compassion has three interrelated components: (1) *self-kindness*, a tendency to apply a caring and tender, rather than judgmental, attitude towards one's failure; (2) *common humanity*, the recognition that it is "only human" to make mistakes and that one's suffering is shared by others; and (3) *mindfulness*, taking a balanced approach toward one's failure and observing one's pain with an open mindset. Can self-compassion help in coping with difficulties and failures brought on by the COVID-19 crisis? For example, is approaching one's lowered job productivity with self-compassion associated with a less negative, and more positive, emotional profile (e.g., less stress, lower depression, greater optimism), as prior research would suggest (e.g., Neff, Rude, & Kirkpatrick, 2007)? Might taking a self-compassionate approach to one's rocky attempts to teach their children math bolster the desire to improve one's teaching abilities (Breines & Chen, 2012; Zhang & Chen, 2016)?

Survey research examining such questions is quite feasible, particularly if one focuses on the potential role of trait (vs. experimentally induced) self-compassion, which is typically measured via self-report. Daily diary methodology could also be employed, enabling researchers to shed light on the potential impact of self-compassion on adaptively responding to COVID-19-related difficulties on a day-to-day basis.

Intergroup Relations

One of the most notable and widespread changes brought about by the COVID-19 pandemic may be a sudden spike in hostility toward individuals perceived as "outsiders." Even when compared to other kinds of threat, the threat of disease can be an especially potent

stimulant of prejudice and discrimination against individuals and groups whose appearances and/or actions deviate from local norms (Schaller & Neuberg, 2012). The ease with which hostility toward marginalized groups has become more salient since the pandemic's start suggests that many of these latent prejudices never went away; rather, they were hidden in plain sight and awakened by the anxieties and fears associated with COVID-19.

For decades, research has shifted toward studying contemporary forms of prejudice that are difficult to detect (e.g., implicit attitudes) on the assumption that either intergroup hostility has subsided or is muted by the motivation to adhere to socially sanctioned egalitarian norms (Pearson, Dovidio, & Gaertner, 2009). What the COVID-19 pandemic reminds us is that virulent forms of prejudices can accelerate in growth as group boundaries harden in times of uncertainty and social change. Being perceived as "different" can become a justification for group-based discrimination and exclusion against already-marginalized groups (Danbold & Huo, 2015; Huo, 2002). A case in point are Asian Americans, who traditionally represented the "model minority"—perceived as hardworking and high-achieving but also "foreign" (Zou & Cheryan, 2017)—making this group particularly vulnerable to verbal and physical attacks during the pandemic, especially considering the source of the outbreak occurring in China and public figures' references to COVID-19 as the "Chinese virus."

COVID-19 has also sparked an outbreak in ageism (Ayalon et al., in press). Although economic downturns have some common psychological impacts, recessions likely to follow COVID-19 may be somewhat distinctive in having a larger-than-usual intergenerational element. The Global Financial Crisis in 2008 did not seem to affect younger people disproportionately, as extensive media coverage highlighted older adults' loss of retirement savings. The economic impact of the COVID-19 pandemic, on the other hand, is likely to be felt most keenly by the

younger generation. Precarious employment due to decades of rising casualization, combined with high debt levels, leave younger adults exposed to the brunt of economic hardship. With the impending recession readily attributable to the attempt to save the lives of the old—given stark age differences in COVID-19 mortality (Mahase, 2020)—intergenerational conflict may rise in the coming years. This may pose a worthwhile domain for intergroup relations research, particularly considering potential amplifications of in-group and out-group age biases due to intergenerational competition for scarcity of economic resources.

Although the COVID-19 pandemic may result in increased observations of prejudice generally, some people are more prejudiced than others. One of the strongest individual difference predictors of prejudice is social dominance orientation (SDO): an orientation toward supporting group hierarchy and group inequality (Altemeyer, 1998; Duckitt, 2005). SDO is associated with greater endorsement of legitimizing myths and beliefs maintaining social hierarchy, which predict attitudes and behaviors that aim to keep lower status groups in a lower status position (Sidanius & Pratto, 1999). That is, people higher in SDO employ legitimizing myths to justify their prejudice. In the wake of COVID-19, people higher in SDO may employ legitimizing myths related to the pandemic to justify heightened prejudice. For example, beliefs surrounding survival of the fittest or the value of toughness may be used to justify ageism, ableism, or racism.

The wake of COVID-19 may be conducive to studying many forms of overt prejudice and discrimination. Compared to before the pandemic, people are likely now more willing to express hostile feelings toward marginalized groups, or groups perceived as blameworthy for COVID-19's effects. Might this be the time to revisit the correspondence between implicit and explicit forms of prejudice? Would a comparison of the relationship before and after the

pandemic clarify the motivation underlying each form of prejudice? What are the conditions that can turn benign, even positive, stereotypes into outright hostility seemingly overnight? Psychologists can begin to address these questions now quickly and safely through online survey platforms. Moreover, digital records of behaviors (e.g., racial disparities in hospitalization rates, unaccounted deaths, and hate crimes) can be accessed to complement survey data. Together, these out-of-the-lab data collection methods can identify the active ingredients (e.g., leaders' roles in legitimizing hostility, social identity threat, fear and anxiety) that may transform dormant prejudices into open expressions of intergroup hostility.

Intergroup Contact

With racism and ageism more salient, the wake of COVID-19 represents a critical time for prejudice-reduction efforts. Paradoxically, the most empirically supported means of reducing prejudice involves one that which is now restricted: social contact. Although contact with out-group members generally reduces prejudice (Hodson & Hewstone, 2013; Pettigrew & Tropp, 2006), intergroup contact and its study face new challenges in the COVID-19 era.

First, according to the *contact threshold hypothesis* (MacInnis & Page-Gould, 2015), for intergroup contact to reduce prejudice, interactants must reach a threshold whereby contact transitions from generating anxiety and stress to reducing intergroup negativity. Given that anxiety about interacting with others—even same-group others—is now high and will likely remain so, COVID-19 will presumably impede threshold attainment, particularly if face-to-face (i.e., direct) contact is limited. Fortunately, online intergroup contact also represents a direct and effective—albeit distant—form of contact (MacInnis & Hodson, 2015; White et al., in press). With friendship being a particularly potent type of prejudice-reducing contact (Davies et al.,

2011), the formation and sustainment of online cross-group friendships represents a generative avenue for future research.

Second, research conducted prior to the pandemic has revealed that contact is effective even—or especially—among highly prejudiced persons (Dhont & Van Hiel, 2009; see Turner et al., in press), with effects mediated by elevated empathy (Hodson, 2008), elevated trust (Hodson et al., 2015), and decreased threat (Dhont & Van Hiel, 2011; Hodson et al., 2009). Such patterns seem less tenable now, in part because variability in these mediators will become reduced/restricted (i.e., *most* people will feel cautious around out-groups), but also because highly prejudiced persons are theoretically expected to be hypersensitive to negative contact contexts (Turner et al., in press). An open question is whether highly prejudiced persons will exhibit lowered prejudices following contact in the wake of COVID-19.

The robust benefits of intergroup contact on prejudice may thus be reopened for debate. We may observe (a) decreases in face-to-face intergroup contact (with prejudice spiking), (b) contact becoming less relevant to level of bias, and/or (c) contact thresholds simply taking longer to reach. Nonetheless, there is great worth in studying intergroup contact during the wake of COVID-19. Researchers must recognize not only that social life is increasingly moving online (i.e., where contact now "happens"), but also that online contact is "direct" in nature (i.e., between members of different groups) and can operate with lower anxiety and bring the contact threshold psychologically closer. This is no time to jettison either contact research or contact as a prejudice intervention because contact itself fosters cognitive liberalization (Hodson et al., 2018), making people more creative and mentally flexible. The potential theoretical and practical value of intergroup contact research may be heightened for the foreseeable future.

Political Psychology

The COVID-19 pandemic presents a new and potent threat to the stability—and possibly the legitimacy—of existing social systems, including political and economic institutions as well as the healthcare system in particular. Political ideology is linked to perceptions of threat (Nail et al., 2009), with conservatives seeing more danger in the world than do liberals (Jost et al., 2017). Previous research suggests that highly system-threatening events can shift social and political attitudes in a conservative, system-justifying direction—and sometimes in a xenophobic direction. For instance, terrorist attacks have recurrently precipitated right-wing shifts (Economou & Kollias, 2015; see also Berrebi & Klor, 2008; Canetti-Nisim et al., 2009; Schüller, 2015). Social psychological research also tells us a great deal about the effects of economic downturns (Buttrick & Oishi, 2017). Recessions increase inequality, promote scarcity mindsets (Mullainathan & Shafir, 2013), and, when coupled with system threat, enhance the appeal of authoritarian leaders (Sprong et al., 2019). What implications, then, might the wake of COVID-19 have for research on political psychology?

For one, a significant shift may have initiated whereby people increasingly support political conservatism (Jost et al, 2017). Consider insights from the Ebola outbreak of 2014: Immediately after the Ebola outbreak, polling data in the U.S. and Canada showed increasing intentions to vote for conservative political candidates (Beall et al., 2016; Schaller et al., 2017). Already, much research has emerged documenting political ideology effects related to COVID-19. For example, some evidence suggests that the pandemic may have increased attraction to social conservatism in both the U.S. and Poland (Karwowski et al., 2020; Rosenfeld & Tomiyama, 2020). Moreover, misinformation about the pandemic spread rapidly through right-wing social media networks (Motta et al., 2020), and conservatives have been more likely to downplay the problem and to violate social distancing guidelines, relative to liberals (Rothgerber

et al., 2020). In light of prior work (e.g., Buttrick & Oishi, 2017; Mullainathan & Shafir, 2013; Sprong et al., 2019), we may see exacerbations of the psychological effects of inequality—decreased trust and well-being (Oishi et al., 2011) and increased social status anxiety (Wilkinson & Pickett, 2009), leading to less social cohesion—and further increases in political polarization and populism.

Yet the implications of COVID-19 for political psychology may not simply be characterized by unwavering shifts toward conservatism; rather, there may be important moderators to uncover. For example, findings by Eadeh and Chang (2020) suggest that public health crises might contribute to *liberal* shift if people believe that liberal politicians are more capable of addressing such crises. As Eadeh and Chang (2020) highlight, threat is known to generally increase support for conservatism, yet what remains less known are the effects of threat when such threat occurs specifically in a liberal domain, such as healthcare or environmental justice. It remains to be seen whether the COVID-19 pandemic will increase support for expanded healthcare and public insurance options in the U.S., for example. An additional consideration is participant race/ethnicity. Our knowledge of crisis-driven political action in the U.S. is based primarily on knowledge of White Americans, who are rapidly becoming a demographic minority (Craig & Richeson, 2014; Danbold & Huo, 2015; Jardina, 2019; McClain & Johnson, Carew 2017). It is important that psychologists capture the beliefs and behaviors of diverse populations, and tests of moderation by features of participant identity can be informative.

While many valuable questions can directly address practical matters regarding COVID-19, other questions concerning the current political landscape in COVID-19's wake may provide insights into basic processes of political psychology. Psychological scientists often seek to

identify general, universal phenomena that are supposedly impervious to social contexts. The problem is that this can sometimes result in denial, avoidance, and other failures to appreciate the importance of social context. How does the changing social and political context affect the phenomena political psychologists study? How does our research help society to prevent the worst social and political outcomes—such as prejudice, intolerance, xenophobia, and extremism—from occurring? The times now and ahead are psychologically active in the political domain and lend themselves well to this line of research. Participants' ideologies may already have shifted at baseline from before COVID-19, which should be considered in study design. Experimental and intervention research can seek to shift these ideologies further and may be a fruitful avenue of research.

Motivated Reasoning

Politicized reactions to COVID-19 highlight a salient case of motivated reasoning (Kunda, 1990), wherein liberals and conservatives have construed information in ways that support their preexisting beliefs and most important values. Namely, the liberal view presents the virus as a serious threat and emphasizes the urgency of drastic measures to contain its spread, whereas the conservative view frames portrays drastic measures as overreaction to an exaggerated threat and immoral causes of economic peril. Partisan divides in self-reported social distancing behaviors exemplify these views, with conservatives reporting less compliance with social distancing guidelines than liberals (Conway, Woodard, Zubrod & Chan, 2020; Rothgerber et al., 2020).

With political ideology being an increasingly salient identity for many people during the wake of COVID-19, researchers may benefit from greater consideration of motivated reasoning. For one, in any surveys assessing attitudes toward COVID-19 and its related social and

economic matters, researchers should consider whether particular wordings of items may activate participants' political identities and evoke motivated responses due to reactance. At times, this may be empirically undesirable, as biased responses may not validly capture the constructs researchers desire to assess, such as COVID-19-related moderators of interest. Yet at other times, strategic manipulation of survey design may enable researchers to capitalize on politicized attitudes toward the pandemic in order to generate useful insights into these underlying motivated reasoning processes.

With the aim of generalizing knowledge beyond the current pandemic, psychologists may attempt to better identify conditions under which ideologically driven epistemic disagreements are most versus least likely. Moreover, efforts will be needed to further our understanding of how to galvanize the collective will to fight other impending calamities, such as climate change. Interventional research will be valuable to this aim. With a salient case of motivated reasoning unfolding around us with COVID-19, psychologists are well-poised to move beyond the laboratory and test interventions in the field, such as by manipulating online content in naturalistic settings. In the times ahead, participants' political identities may be highly accessible as they complete research with any perceived relevance to the pandemic, which may naturally amplify effects and increase the sensitivity of tests.

The Politics of Science

To effectively respond to COVID-19, people must trust messages they receive from scientists. Although trust in science is high (Funk, Hefferon, Kennedy, & Johnson, 2019), there are issues in which the scientific consensus has struggled to cut through. This is particularly the case for "hot button" scientific topics through which people battle over values, principles, and ideology. As can be seen with climate science, truth can be a casualty of these battles, as the

debate becomes scrambled by misinformation and political polarization (Oreskes & Conway, 2010).

The debate about COVID-19 risks following the same trajectory that dogged the climate change debate. The political divide over climate science is often attributed to the fact that conservatives are ideologically opposed to what climate mitigation implies: a "big government" response designed to regulate markets (Campbell & Kay, 2014; Lewandowsky, Gignac, & Oberauer, 2013). Parallels with COVID-19 are clear, because stay-at-home measures also require strong government mandates that threaten the economy. It is perhaps predictable, then, that divides are emerging between liberals and conservatives in terms of how best to respond to COVID-19 and that the debate is muddied by conspiracy theories and political allegiances (Van Bavel, 2020).

In order to capture this dynamic—and to seek solutions for it—social psychologists face several challenges. First, they must find ways to draw on multi-national samples. The early social science on climate change was dominated by U.S. samples, casting a shadow that obscured interesting patterns internationally (Hornsey, Harris, & Fielding, 2018). Given what promises to be a tight funding environment, overcoming this challenge may involve large coalitions of international academics sharing resources and labor. Consortia may be better equipped than "labs" to provide this broad perspective. Second, social psychologists would benefit from collaborating with colleagues in other social science disciplines who are geared to directly grapple with structural factors such as media, economic systems, and government. Only by working together will we be in a position to provide an appropriate balance between the "micro" and "macro" units of analysis. Finally, we must find ways to analyze the "culture wars" without being seen as soldiers within them. It is perhaps too late to do this with climate change:

Rightly or wrongly, some skeptics view academics as frontline actors in this ideological battle rather than honest brokers. Avoiding this problem with COVID-19 (and future pandemics) will require a clear eye, but also sensitive and non-partisan public communication.

Moral Psychology

Threat and Harm

The rise of COVID-19 may enable psychologists to further investigate the importance of threat and harm in moral cognition. We already know that moral judgments hinge largely upon harm (Schein & Gray, 2018), especially when it comes to targets who are seen as vulnerable to suffering (Schein & Gray, 2015). Natural regional variation in COVID-19 prevalence, along with individual differences in perceived threat, provides a quasi-experimental platform to further explore the importance of harm. Especially notable is that all regions have been impacted by COVID-19, which helps decouple the impact of immediate threat on psychological processes from longstanding social structures tied to historical threat (Gelfand et al., 2011). In order to embrace COVID-19 as a catalyst for scientific progress, researchers must carefully measure its threat and its variation across region and time (e.g., Gelfand et al., 2020; Kachanoff et al., 2020), as these may be valuable moderating factors underlying moral evaluation.

Empathy

Empathy has become an area for rich debate in moral psychology, as scholars question why people choose empathy and whether empathy supports or inhibits morality (e.g., Batson, 2011; Bloom, 2017; Cameron et al., 2019; Decety & Cowell, 2014; Zaki, 2014). In response to COVID-19, this debate has become more relevant: What exactly *is* the role of empathy in how we think about the pandemic (DeSteno, 2020; Christakis, 2020)?

Will our understanding of empathy change due to COVID-19? At the time of writing, it is likely too early to tell. In some respects, COVID-19 could amplify or reiterate well-known empathy effects. When confronted with large-scale statistics of suffering, people tend to show diminished empathy (Cameron & Payne, 2011), and daily updates of COVID-19 deaths or case rates may create another case of "compassion collapse." Similarly, political polarization in social distancing (Rothgerber et al., 2020; Van Bavel, 2020) has potential to exacerbate intergroup empathy gaps (Cikara et al., 2014). On the other hand, the COVID-19 pandemic may reveal boundary conditions of these effects. If the shared experience motivates people to channel empathy toward the greater good (e.g., through social distancing to slow spread), this may present a case where empathy is *not* insensitive to mass suffering (Robinson & Plaks, 2015). Questions of *for whom* we channel empathy complicate its role, as the needs of different groups may lead us to expand or contract concern in opposing directions (e.g., global vs. local; Waytz et al., 2019). Is shared adversity motivating increased empathy and generosity (Lim & DeSteno, 2016, 2019)? Can it motivate altruism (Batson, Duncan, Ackerman, Buckley, & Birch, 1981), and if so, will such effects be short-lived or sustained (Li et al., 2013)? A key question for empathy researchers is about motivation: Why and how are people choosing to relate to their empathic feelings during COVID-19? Without asking questions about motivational inhibitors to empathy (e.g., Cameron et al., 2019), we will have a difficult time understanding whether and how people choose to empathize during this pandemic.

Turning to methodological concerns, will it be harder to study empathy during COVID-19? Although online platforms (e.g., MTurk) afford opportunities to conduct research that would not otherwise be present, questions about the generalizability of effects beyond the crisis loom unresolved. Given the salience of need in the wake of a pandemic, will distributions of empathy

look different? Certain valuable study procedures may be less feasible, such as bystander intervention with close interaction. Accordingly, it may be time to get creative and attune to the world around us, seeing acts of altruism by healthcare professionals and everyday citizens. Are we overlooking ways in which online expressions of empathy (or moral outrage; Spring et al., 2018) can translate into broader collective action? In forcing all of us to be increasingly isolated, the pandemic may reveal the potential for positive effects of digitally mediated social emotions (van der Linden, 2017)—and empathy may be a sound place to start.

Broadening the Moral Circle

Beyond empathy, might the wake of COVID-19 influence people's circles of moral concern? The concept of a "circle of moral concern" was popularized by Peter Singer (1981/2011), who described concentric circles of typical human moral concern, which begin with oneself and extend to one's family, social in-groups, social out-groups, other sentient beings, and finally all of life.

The suggestion that COVID-19 could *expand* our circle of moral concern may seem counterintuitive, given theorizing discussed elsewhere throughout the current paper (e.g., threatening implications for intergroup relations, stigma, political ideology, etc.). Yet evolving public emergencies have the power to bridge group identities. The intergroup literature has long advocated for recategorization of separate identity groups under a common group identity as a method for improving intergroup relations (Schellhaas & Dovidio, 2016). This may be an effective strategy following a real-world natural disaster (Vezzali, Cadamuro, Versari, Giovannini, & Trifiletti, 2015). Examining the role of institutional actors in facilitating such shared identity across groups in the wake of COVID-19 presents a promising avenue for research. In doing so, psychologists may draw upon conceptual models of forces moving moral

concerns in both centripetal (e.g. in-group loyalty) and centrifugal (e.g. compassion) directions (Graham, Waytz, Meindl, Iyer, & Young, 2017), along with Crimston, Bain, Hornsey, and Bastian's (2016) scale of moral expansiveness to capture meaningful individual differences.

While "top-down" intervention already has an emerging evidence base, there is also promise for broadening the circle of moral concern through more "bottom-up" methods involving individual actors on social media. The primary mode of emotional expression in this context is concerned with anger, or "outrage" (Crockett, 2017; Sawaoka & Monin, 2018; Spring, Cameron, & Cikara, 2018), and future research might also investigate the potential for positive emotion to catalyze collective action. For example, a promising candidate for such research is the emotion of *elevation*, which is described as the expansive emotional response to witnessing acts of moral excellence (Keltner & Haidt, 2003). Elevation has been shown to increase subsequent prosocial behavior (Aquino, McFerran, & Laven, 2011) and to mediate the effect of witnessing acts of moral excellence on such prosocial contagion (Thomson & Siegel, 2013). While outrage might spread "naturally" on social media (Brady, Gantman, & Van Bavel, 2020), the promise of propagating prosociality through positive emotions such as elevation remains relatively unexplored. How might intentional individual actors, influencers, and social media companies utilize such knowledge to broaden our circle of moral concern for collective benefit?

Business Ethics

COVID-19 offers some potent and not-clearly-resolvable moral dilemmas for business. Do consumers who purchase nonessential goods help workers by supporting their wages, or harm them by obliging them to leave quarantine? How much extra should an employer pay employees to work in risky population-dense environments, such as factories, nursing homes, or prisons? Such dilemmas are structurally identical to well-worn problems. People already bear an

unequal distribution of exposure to health risks at work, often taking on risky jobs because they have no other option. COVID-19 may make questions about business ethics increasingly salient and important for psychologists to consider.

Or consider the race underway at pharmaceutical companies to develop effective treatments for COVID-19. Who will receive treatments first, once they become available? Will the expense of the drugs put them out of reach for a subset of the population? These familiar pressing dilemmas are made even more salient in the context of COVID-19. Medical treatments are regularly distributed preferentially to those with the means to pay for them, rather than based on need (Simoens & Hurst, 2004). And millions of people die every year not because medical interventions are difficult to procure, but because there is no profit in it.

Pandemics do not necessarily create, but rather highlight, the already-present moral problems that pervade our institutions. Empirical ethicists may benefit by directing their research efforts towards determining the social and organizational structures that distribute risk fairly and eliminate unnecessary suffering.

Human-Animal Relations

A key issue absent from mainstream discussions of COVID-19 thus far concerns humans' relations with non-human animals. This is surprising given that COVID-19 is a zoonotic disease: one that is transferred from animals to humans. Human-animal relations presents an area of research rich in moral psychology and may be an increasingly valuable topic for psychological science, in order to gain basic knowledge and to apply findings toward the prevention of future zoonotic disease outbreaks.

Critical in progressing psychological research will be to investigate attitudes and behaviors regarding animals used for food. The forced confinement of large numbers of animals

is a risk factor for zoonotic diseases (Jones et al., 2013). This applies to animal markets, such as in Wuhan (China) where the animal-human transmission of SARS-CoV-2 is suspected to have happened (Zhou et al., 2020), and also to factory farms, where most meat consumed in the Western world originates (Reece, 2018). Reducing the production and consumption of animals as meat thus can shrink zoonotic disease risk and avoid future pandemics. However, people are reluctant to reduce meat consumption (Bastian & Loughnan, 2017; Piazza, 2020). Despite experiencing moral discomfort with eating animals, people can preserve meat consumption habits by psychologically distorting the links between animal products and their animal origins (Benningstad & Kunst, 2020; Earle et al., 2019) and through an accessible set of meat-eating rationalizations (Piazza, 2020).

Deepening the psychology of human-animal relations is a worthwhile endeavor. One promising area of research may be to investigate whether the pandemic has influenced psychological reactance and/or motivated reasoning processes with regards to connections between meat consumption and global health risks. Are people now more open to behavior change, given the heightened salience of disease threat and concern about future pandemics? Or will people simply become better-equipped psychologically to rationalize the use of animals for food and other purposes, given that moral ideologies condoning such behaviors now may be threatened? If people's perceptions of human-animal relations and meat consumption have shifted because of the pandemic, then how might that change attitudes and behaviors related to vegetarianism (Rosenfeld, 2018)?

Without direct conversations about the connection between zoonotic diseases and the treatment of farmed animals, people may focus too narrowly on COVID-19 (e.g., calls for bans on wet markets in China) and miss the overarching concern: animal agriculture globally.

Psychological science would benefit from greater consideration of human-animal relations, fostering more comprehensive conceptualizations of social dominance, prejudice, and dehumanization processes (Dhont & Hodson, 2020; Dhont, Hodson, Loughnan, & Amiot. 2019). Prior research reveals psychological connections between exploitative tendencies in human-animal and human intergroup relations (Dhont, Hodson, & Leite, 2016; Salmen & Dhont, in press), and the COVID-19 pandemic reveals further practical implications for human health and well-being.

Morality in an Increasingly Digital World

In light of the aforementioned and other considerations about morality, psychologists should consider the broader context in which morality operates—namely, that COVID-19 has catalyzed our already-accelerating reliance on digitally-mediated social interaction. What effect will such prolonged reduction of face-to-face social contact have on the acquisition and maintenance of our moral beliefs?

An interesting avenue for future research will be to explore the rise of cultivated self-presentation in online spaces. People are generally concerned with how they are perceived by others (Emler, 1990), making it unsurprising that people actively engage in managing others' impressions of them (Jones & Pittman, 1982). There is already a growing body of research on such "self-presentation strategies" in the context of social media (e.g. Seidman, 2013). How will intentional and selective (i.e. *cultivated*) self-presentations affect our perceptions of moral norms transmitted through online interactions?

At the interpersonal level, discrepancies in self-proclaimed moral values and observed behavior allow for the discovery of hypocrisy (Jordan, Sommers, Bloom, & Rand, 2017); will such behavior become more difficult to detect in a less-observable social world? Relatedly, will

our ability to infer others' true beliefs through greater attention to their actions, rather than their words (Kraft-Todd, Bollinger, Gillingham, Lamp, & Rand, 2018), be obscured as we increasingly regulate our self-presentation? At the group level, discrepancies in injunctive norms (i.e., what we think people value) and descriptive norms (i.e., what we see people actually doing) provide tension that could be exploited for cultural progress (Sparkman & Walton, 2017); will such opportunities prove elusive as our estimation of social norms grows more inaccurate under social distancing? Even as social distancing policies are relaxed, our inevitable march toward a predominantly online social life presents psychologists with many important questions of how reduced observability and increased cultivated self-presentation may influence moral cognition.

Motivation

A pandemic may reveal what *really* matters to people. Many years ago, sociologist Harold Garfinkel advocated the use of "breaching experiments" that violate people's social expectations in order to shed light on the otherwise hidden construals and assumptions that underlie their behavior. COVID-19 is, in essence, a global breaching experiment. By considering what people's behavior reveals about their motives under conditions of extreme uncertainty, disruption, and violated expectations, we may see things about human motivation that normally escape notice.

Many long-standing problems in psychology have involved questions about motivation. From the standpoint of theoretical parsimony, it would be ideal to explain the greatest amount of thought, affect, and behavior with the fewest motivational constructs, leading many efforts to identify the most fundamental motives (e.g., Fiske, 2008; Higgins & Pittman, 2008; Maslow, 1943; Murphy, 1954; Murray, 1938; Reiss, 2004; Ryan & Deci, 2000; Schaller, Kenrick, Neel, & Neuberg, 2017). Nevertheless, work in this area remains awash with many motives (including

needs, drives, goals, etc.), with little attention given to which motives may be more basic or how less-important motives might operate in the service of more fundamental ones.

By creating a dramatic upheaval in most people's ordinary lives, the pandemic has shown what *really* matters to people and can help psychologists address unresolved motivational questions. For example, many people have been intently focused on their own and their loved ones' physical well-being during the pandemic. Although motives involving safety and security have been discussed extensively in the literature, social psychologists have paid little attention to their wide-ranging effects on everyday behavior (cf. Carroll, Arkin, & Wichman, 2015). When daily life seems reasonably safe, motives involving safety and security are not at the forefront of people's concerns. Yet, the notion that people *implicitly* structure their lives in ways that protect their safety and well-being becomes clear when threats such as those related to COVID-19 become salient. This powerful motive affects a broad swath of behavior, and our basic understanding of it can be sharpened in the wake of COVID-19.

Moreover, feelings of efficacy and control are in flux during the pandemic, which can have profound implications for motivated cognitive and behavioral responding. Motivated responses to fear are dependent on the degree to which individuals believe they can or cannot control their risk of experiencing harm. When, for instance, people believe they have minimal control over the threat to which they are exposed, they react in ways that manage the emotional stress; they do so in part by engaging in motivated cognitions that serve to manage emotions at the expense of behaviors that may protect themselves from physical harm (e.g., Leventhal, 1971).

Yet when people experience threat and simultaneously feel empowered to control its effects, the behavioral response can be quite different. In fact, these conditions produce proactive

behaviors aimed at mitigating potential future harm. Controllability, for instance, can lead people to engage in preemptive behaviors aimed at self-protection against threats to their health (Aspinwall & Taylor, 1997; Bandura, 1986; Weisz, 1983). Learning that a disease is serious but controllable rather than uncontrollable can lead people to proactively seek information about their susceptibility (Dawson, Savitsky, & Dunning, 2006). Moreover, when faced with controllable threats, some people actually exaggerate the nature of the threat as a means to engage proactive defense responses sooner, including the compulsion to act, defensive movements, and cardiac responses (Fanselow, 1994; King, Dykeman, Redgrave, & Dean, 1992; Mobbs et al., 2007; Pichon, et al., 2012).

In the wake of COVID-19, researchers in the field of motivation might find themselves in unique positions to investigate the ways in which people cope with fear, particularly as controllability of social conditions fluctuates in actuality and as a function of individual perceptions. The resurgence of reinfection and concerns about the efficacy of vaccines being developed may continue to perpetuate fear. The uncertainty of the longevity of quarantine and social distancing may continue to perpetuate feelings of uncontrollability. However, people will differ in the degrees to which their communities are actually affected by these social conditions, to which they appraise the conditions as threatening, and to which they actually can or think they can control their environments. Motivational science, in this regard, may be particularly useful in the foreseeable future for informing research on emotion regulation and health communication.

In addition, the pandemic has highlighted the importance of fundamental motives for affiliation, acceptance, and belonging (Leary, 2009). We all know that human beings are “social animals.” But we may underestimate the degree to which many motives that have been studied—including some that have been conceptualized as intrapersonal efforts to maintain cognitive or

emotional states (such as cognitive consistency or self-esteem)—operate in the service of acceptance and belonging (Leary, Raimi, Jongman-Sereno, & Diebels, 2015). People's reactions to the pandemic's constraints illuminate that many of their everyday activities, even those that ordinarily seem to be motivated by other things, are strongly—if not *fundamentally*—rooted in sociality. Efforts are needed to map the ways in which basic social motives underlie a broad array of other motives to permeate almost everything people do. By stripping away the extraneous activities of pre-pandemic life, the wake of COVID-19 may foster additional insights into the basic motives that underlie most thought, emotion, and behavior.

Self-Regulation

The wake of COVID-19 has important implications for the motivational subfield of self-regulation, which deals with goals and behavior change. The sad truth is that much of humanity lives under conditions of uncertainty about the future, even in the absence of a pandemic. We know very little, for instance, about the self-regulation of refugees from a civil war or people around the world living paycheck to paycheck. Now is the time to conduct sweeping descriptive work about how goals, motivation, and behavior change operate when the world of next month is unknowable.

The good news is that there is no shortage of theoretical frameworks to guide the way. Following from these theories, researchers could ask these and other questions about the adverse effects of the pandemic on self-regulation: Does the truncated temporal perspective influence the goals people set and how people construe their behavior (Fujita et al., 2006)? Do disrupted social connections, particularly between intimate partners, change the types of goals people pursue and their likelihood of success (Fitzsimons & Finkel, 2018)? On the "up" side, there is the possibility that self-regulation might improve in some areas: Does the radical change in people's daily lives

make breaking habits easier because the associated cues are removed (Neal et al., 2012)? Does the threat of upheaval and death spur people to consider their core values and set goals in a values-directed way (Berkman et al., 2017)? With some thoughtful planning, we could emerge from the pandemic with a more comprehensive science of self-regulation.

Shared Experiences

As the name *pan*demic makes clear, one of the most notable things about such disasters is that they affect *everyone.* Shared events may give people greater permission to publicly express whatever emotions the events inspire, sometimes intensifying these emotions in the process. We see this when a worldwide celebrity dies a tragic death, and the expressions of grief seem more poignant because so much of the world is grieving together. Psychologists have recently made some progress in understanding close cousins of this phenomenon, such as synchronous activity, shared rituals, and experiences of awe (Fischer, Callander, Reddish, & Bulbulia, 2013; Piff et al., 2015; Wheatley, Kang, Parkinson, & Looser, 2012). But how does knowing that "we're all experiencing this together, at the same time" differ from those experiences, and to what extent do these experiences all draw upon the same psychology?

Just as we all experience the pandemic together, the pandemic impacts each of us in unique ways. Stay-at-home directives hurt academics much less than they hurt first responders or flight attendants. Some people have had loved ones who have contracted the virus and recovered quickly; others have had to deal with the death of kith or kin. The dual unique-but-shared nature of people's experiences with the pandemic highlights an important element of the human condition that calls out for greater understanding. To understand the full impact of shared events, psychologists need to understand how, when, and why people toggle back and forth between thinking of such events in terms of their shared versus unique elements. Whether the shared or

unique elements are most psychologically salient is likely to have a number of important consequences. Are people more likely to obey social distancing directives, for example, if they think about how the pandemic has impacted everyone the same relative to thinking about how it has impacted them in unique ways? More generally, does thinking about one's own unique angle on any shared experience draw one inward and make one less community-minded than does thinking about the common elements of such experiences? Are the effects of shared thinking moderated by whether one is considering other people who are part of one's social in-group versus out-group? These questions lend themselves to highly feasible survey-based experiments, and the findings to be uncovered can advance basic research in this area and provide immediate insights into mitigating behaviors such as panic-buying and ultimately improving public health.

Close Relationships

The wake of COVID-19 presents a context for testing boundary conditions of close relationship theories and phenomena. Millions of people are suddenly—and, for many, for the first time—navigating financial precarity, a lack of available childcare, and/or high-stress employment situations (e.g., people who work in healthcare and other essential services). Frameworks such as the vulnerability-stress-adaptation model (Karney & Bradbury, 1995) put forth testable predictions about how romantic couples will handle such unexpected stressors, with consequences for their relationship quality and well-being, and can be increasingly useful for relationship research. Many couples have faced lockdowns with extended periods of monotony and a lack of restorative activities (e.g., date nights). These conditions offer a strong context for testing tenets of self-expansion theory (Aron & Aron, 1986, 1997), including links between boredom and dissatisfaction in long-term romantic relationships (e.g., Harasymchuk et al., 2017; Muise et al., 2019).

Yet other individuals have isolated with non-romantic cohabitants or alone, inviting new research questions about other types of close relationships as well as broader social networks. For example, how do unexpected extended periods of time spent with family members or roommates impact the quality of those relationships? How sufficient are digital forms of communication for mitigating feelings of loneliness? Although current research efforts are unlikely to progress quickly enough to help people navigate the height of the COVID-19 crisis, these efforts can provide valuable theoretical insights and help to develop new solutions prospectively for tackling similar problems in the future.

COVID-19 may advance our knowledge of some relationship phenomena, but it may also create barriers for studying others. In particular, single people cannot meet new dating partners in face-to-face encounters if they adhere to maximal social distancing recommendations. There is already a dearth of ecologically valid research on initial attraction and early relationship formation, in part because it is difficult to recruit people to report on such an ephemeral experience even under normal circumstances (Campbell & Stanton, 2014; Joel & Eastwick, 2018). These recruitment challenges will be greatly exacerbated in the coming months—and potentially years, if physical distancing remains a social norm beyond the pandemic's immediate aftermath.

Focusing research on online dating seems unlikely to mitigate these problems because the initial face-to-face meeting is a crucial turning point even for relationships that begin online (e.g., Sherabi & Caughlin, 2017). Nevertheless, it may become increasingly normative for single individuals to form official relationships without ever having a face-to-face meeting. Methods that explore hypothetical attraction (e.g., reporting on global partner preferences in the absence of a known romantic target) lend themselves better to current research constraints, but

unfortunately may have limited predictive utility (Joel et al., 2017). Overall, the wake of COVID-19 is likely to increase relationship science's reliance on self-report methods that can be administered online (e.g., surveys) while discouraging the use of more behavioral methods, such as recorded lab conversations and observational coding.

Social Comparison

Everyday social interactions are a rich source for self-evaluation. In many cases, people leave social interactions with self-servingly biased and distorted perceptions of themselves, believing that they are better than others in almost every imaginable trait, skill, or ability (Alicke, 1985; Dunning, Heath, & Suls, 2004). Yet in other cases, social interactions offer a sobering opportunity for self-doubt, leading people to feel pessimistic about their accomplishments and anxious about their social standing (Hermann, Leonardelli, & Arkin, 2002; Leary, Tambor, Terdal, & Downs, 1995; Norem & Cantor, 1986; Watson & Friend, 1969). By forcing people to socially distance from others, the COVID-19 pandemic has altered the ways in which people interact with one another and self-evaluate, raising an important question: What is the role of social comparison during the wake of a pandemic?

Beginning with Festinger's (1954) seminal work, social psychologists have long examined how social comparisons affect self-perceptions (Suls & Wheeler, 2000). In recent decades, in-person comparisons have been increasingly supplemented by virtual comparisons over social media platforms, allowing people to measure themselves against a wide range of individuals, many of whom they have never met (and probably will never meet). The social isolation brought about by COVID-19 has amplified this, transforming online comparisons from a secondary source of self-assessment to a prominent—and often *exclusive*—source of self-evaluation.

With in-person encounters and random social interactions drastically reduced, how has COVID-19 affected *whom* people compare themselves to and *how often* they do so? When comparing themselves to online friends and acquaintances, are people able to account for the "curated" aspect of others' online personas in order to maintain positive self-regard? Or do such comparisons augment people's tendency to measure themselves against extreme and often unreachable standards (Davidai & Deri, 2019; Deri, Davidai, & Gilovich, 2017)? More generally, does social distancing lead people to "look inward" for self-evaluation (Kruger, 1999), or does it amplify their search for comparison targets, causing people to feel like they are lagging behind others (Przybylski, Murayama, DeHaan, & Gladwell, 2013) as well as their own personal ideals (Davidai & Gilovich, 2018)? Researchers can now broaden our perspective of what the "social" in "social comparison" truly means.

Self and Identity

Uncertainty and Identity

COVID-19 presents psychologists with intriguing questions about how people and society experience and respond to overwhelming uncertainty—existential uncertainty, economic uncertainty, socio-political uncertainty, and uncertainty about our cultural beliefs and practices. This uncertainty is likely to impact one's sense of self and identity in the world.

According to uncertainty-identity theory (Hogg, 2007, 2012, 2015), self-uncertainty is aversive because it makes it difficult for us to know what to think and feel, how to act, and how others will view and treat us. Adaptive life becomes challenging, and people strive to resolve self-uncertainty. One very effective way to reduce self-uncertainty is to identify with social groups and categories (Choi & Hogg, in press). Group identification causes us to internalize social identity-defining attributes that are shared—attributes that describe and prescribe who we

are and how we should behave. Group identification reduces uncertainty about ourselves and others, and furnishes a community of fellow in-group members who provide badly needed consensual validation of who we are.

One implication of this analysis is that under more extreme and impactful self-uncertainty—such as that generated by a pandemic—people strive to identify strongly with groups and categories that most effectively reduce uncertainty. These groups are typically distinctive and well-structured, with simple and clearly defined identities that are largely consensual. However, they also tend to be ethnocentric, xenophobic, and intolerant of diversity and criticism; have authoritarian leaders; and subscribe to populist ideologies that nourish conspiracy theories. The picture painted here is of an uncertainty-induced transformation of society—an increasing appeal of populism, autocracy, and extremist identities (Hogg, 2014, in press). The COVID-19 pandemic injects a new urgency into social psychological research on the relationship between uncertainty and societal extremism. Theoretical insights into identity, group processes, intergroup relations, and political psychology are likely to emerge, which can yield timely practical insights into the dynamic social world around us.

Social Identity Threat

The COVID-19 pandemic has shifted and altered many social identities in potentially meaningful ways, simultaneously forming new identities while erasing previous identities. Social identities reflect placing oneself into any category based on shared traits and qualities with others (Tajfel & Turner, 1986). When that sense of social belonging to an important social category is threatened (Baumeister & Leary, 1995)—e.g., through losing one's job, grieving over the death of a loved one, or being forced to live alone under stay-at-home orders—many people are forced to consider basic psychological and safety needs rather than focusing on one's self-actualization

and self-esteem. Thus, in the wake of COVID-19, psychologists should consider which identities are more versus less salient, and which identities people relinquish versus cling to.

When someone experiences an identity-based threat, there are usually two main responses: (1) They either push other people away as a method of maintaining or reaffirming their own social identity or to protect themselves from future social threats (e.g., Twenge, Baumeister, Tice, & Stucke, 2001), or (2) they become more inclusive by creating new social bonds as a way to build up their sense of self (e.g., Lakin, Chartrand, & Arkin, 2008). Threats to belonging also lead to greater activation of important group identities as a social resource (e.g., Knowles & Gardner, 2008; Williams, 2007), such as the increased rates of COVID-19 impacting communities of color who are now bonding together for change (e.g., Aubrey, 2020). This suggests that, for the foreseeable future, participants will have both heightened and dampened identities that must be accounted for in research. In light of findings that identity threats can result in worse academic performance (Steele & Aronson, 1995), in-group favoritism (e.g., Marques, Yzerbyt, & Leyens, 1988; Navarrete, Kurzban, Fessler, & Kirk-Patrick, 2004), and antisocial behavior (Aquino & Douglas, 2003), it is plausible that COVID-19 as a source of identity threat can also shift these same outcomes, and likely more.

When conducting threat-related research pertaining to COVID-19, psychologists should clarify which aspects of threat they are studying. Several possibilities exist, including *existential* threats (of infection and death; Green & Arndt, 2011); *epistemic* threats (uncertainty from lack of clear information and behavioral guidelines; Hogg, 2007); *symbolic* group-based threats (e.g., from Asian Americans as potential scapegoats; Sears, 1993); and *system-level* threats to the legitimacy or stability of existing institutions (e.g., government, economy, scientific establishment, healthcare system; Jost, 2020). Some of these threats may spark aggressive forms

of identity assertion as individuals seek collective security. Hence, rather than unifying people, national crises have great potential to divide people by activating incompatible goals and identities that undermine shared reality and effective collective action.

We urge greater care in unearthing the roots of public reactions to threats. When studying racial diversity, for example, one might intuitively presume the role of racial identities. But in many cases, considering partisan identities may trump consideration of racial identity in understanding the workings of phenomena such as intergroup politics. Conceptualizing politicized identity on the basis of class, religion, or generation may also be vital. Grappling with people's identity portfolios can identify proximal sources of threat and create more persuasive communications that widely galvanize individuals toward collective solutions (Klar, 2013; Pérez et al., 2019; Pérez, forthcoming).

Social identity is powerful in shaping virtually all of social psychology, and shifts in identity phenomena might not be easily identifiable in ongoing and future research. Thus, researchers should consider how identity-based changes may lead some results not to replicate and for issues of generalizability to increase during this time. Finally, researchers should measure the potential boundary effects that lead to increased versus decreased identification and the associated potential benefits and downstream consequences that may stem from newly gained or lost identities.

Stigma

Stigma is the result of a label associated with a negative stereotype being attached to a characteristic, leading people with this characteristic to be seen as legitimate targets of discrimination (Link & Phelan, 2001). Research on social stigma is important for understanding psychological processes that emerge from the COVID-19 pandemic and for informing public

policy. The disruptive social nature of the pandemic suggests the need for field-based research that captures people's lived experiences over time and studies that examine outcomes at different levels of analysis. It will also be important to design and test randomized interventions tailored to relevant dimensions of stigma (Cook et al., 2014). Below, we consider three dimensions of stigma relevant to conducting research in the wake of COVID-19: risk of peril, exacerbating disparities, and attributing personal responsibility.

Concerns of pathogen exposure may lower tolerance for non-conformity (Murray & Schaller, 2012; Murray, Trudeau, & Schaller, 2011), leading to greater stigmatization of groups who are at—or are *perceived* to be at—higher risk of COVID-19 infection (Jones et al., 1984). These groups include people of Chinese origin (given the geographic origin of the virus), delivery workers, and other sub-populations in which outbreaks occur. It will be important to ensure timely measurement of stigma in these groups, as well as assessment of intergroup attitudes, which are likely to deteriorate over time in response to stigma (Pasek & Cook, 2019).

Members of stigmatized groups often have less access to employment, housing, or quality medical care (Link & Phelan, 2006). As reviewed later in this paper, these disparities will likely be magnified by COVID-19 and suggest research priorities with respect to measurement and intervention in groups at higher risk. One such group in the U.S. is currently African Americans, who are experiencing disproportionately high rates of COVID-19 infection.

People who are infected with COVID-19 may be seen as responsible for their illness, a factor that increases stigma (Corrigan et al., 2003). Choices around social distancing, the use of protective gear, "hooking up," and other behaviors that pose infection risks may become stigmatized. People with higher body weight or who inhale tobacco products may be increasingly stigmatized because these characteristics are often seen to be in the domain of personal

responsibility and are also associated with higher infection risk and treatment challenges. To avoid stigma, people may conceal their illness and/or avoid testing or treatment (Cook et al., 2017), potentially increasing risks to themselves and others.

Culture

Is it the person or the situation? The answers to this question inform the heart of social psychological research (Ross & Nisbett, 2011), with core relevance to self and identity processes. Generally, the situation and the person are intertwined factors, and the COVID-19 pandemic magnifies the significance of situational explanations for understanding psychological processes at the individual level. Culture—including history as well as everyday interactions and practices within institutions—is an omnipresent, yet often invisible, situational factor (Kroeber & Kluckhohn, 1952; Markus & Kitayama, 1991). It dynamically shapes and interacts with individuals to inform their cognitions, motivations, and behaviors (Markus & Kitayama, 2010, 2010). Culture also has both immediate and lasting consequences for how such psychological processes are experienced within mainstream institutions such as medical, school, and workplace settings (Markus, 2017; Markus & Conner, 2014).

The reality is that people are not separable from a pandemic's effects at the global, national, and community levels. Thus, even experimental psychologists—who, by definition, create and manipulate controlled conditions to isolate causal effects—should consider that the wake of COVID-19 presents an emergent cultural force that may be difficult to eliminate from participants' psychologies. For the foreseeable future, all participants in our studies will be completing procedures and measures within the broader context of a highly visible and salient pandemic, what one might call a shared "culture of COVID-19." This new reality will likely encourage researchers to directly involve the pandemic in the design of studies or to employ

targeted efforts aimed at accounting for the impact of potential effects tied to COVID-19 by adding additional measures to studies, conceptual frameworks, and analytic plans. In so doing, cultural psychology has the potential to offer broader social psychological research a key insight—which involves the imperative to question and directly test assumptions about the *perceived* universal experiences and in turn impacts of COVID-19 (see Henrich, Heine, & Norenzayan, 2010).

Just as considerations may be needed to avoid noisy emergent and intersectional cultural effects of COVID-19, so too does psychological science have the potential to be strengthened by the pandemic's visibility. This potential is evermore present if researchers utilize cultural effects of COVID-19 to consider other situational factors that are also often ever-present and fueling psychological phenomena. Many of these factors are also receiving unprecedented visibility as the world strives to contend with disparities in COVID-19 impacts across a variety of social identity lines (e.g., racial/ethnicity, social class background; Yancy, 2020). Recent critiques of psychological science have noted the failure to take social identities including race and gender into account when seeking to understand human decision-making (e.g., Hester & Gray, 2020) and even intergroup relations (Brannon, Taylor, Higginbotham, & Henderson, 2017). Greater attention to cultural influences—especially history and ideas and practices tied to race/ethnicity, social class, and gender—on the full scope of cognition and behavior can strengthen psychological science in near and distal futures.

Gender

Beyond being part of identity and characterizing who people *are*, gender is also performative in embodying something that people *do* through roles (Deaux & Major, 1987; West & Zimmerman, 1987)—and the COVID-19 pandemic has high potential to alter gender role

norms. Some evidence suggests that a small shift toward more traditional gender role conformity may be occurring (Rosenfeld & Tomiyama, 2020), which could be a worthwhile focus of research. This may have implications not only for men and women, but also for the experiences of gender non-binary and transgender individuals and others' attitudes toward them. One set of explanations for a shift toward traditional gender roles is that heightened stress, societal uncertainty, and pathogen threat may increase the application of traditional gender roles as the dominant alternative or default (Katz-Wise, Priess, & Hyde, 2010; Rosenfeld & Tomiyama, 2020). Yet more direct effects of COVID-19 on gender roles may relate to the unique ways in which men and women behave during the pandemic's wake.

Traditionally, gender stereotypes, gender roles, and the division of labor prescribe men to prioritize earning more than caregiving and women to prioritize caregiving more than earning (Haines & Stroessner, 2019). Women tend to feel more strain from work-life balance than men in the form of guilt (Borelli, Nelson, River, Birken, & Moss-Racusin, 2017), the second shift (Hochschild, 1990), and disproportionate emotional and mental load (Ahn, Haines, & Mason, 2017). In the wake of COVID-19, school-age children now require adult support in distance learning; most children are at home needing supervision; unemployment has skyrocketed; essential workers work overtime; and other workers have shifted all activities to home. These factors have changed the way men and women navigate home and work expectations, suggesting that researchers studying gender should be mindful of potential recent shifts in gender attitudes and roles.

COVID-19 has potential to worsen gender inequalities by promoting rigid gender roles, disproportionately placing caregiver stressors on women, and threatening men's masculinities. Gender roles and prescriptive stereotypes ascribe caring and selfless devotion others as central to

a woman's femininity (Williams & Best, 1990). In general, women are more likely than men to be the primary caregiver for young children, to do more housework and home management, to shoulder more emotional burden of others both at home and at work, and to occupy professions in support of others (e.g., teachers, nurses; Family Caregiver Alliance, 2019). By increasing caregiving needs, COVID-19 has intensified the pressure on women to uphold prescriptive feminine norms.

Having children home from school has disrupted how many women manage, organize, and control their daily activities. Women are likely to bear more of the burdens of providing additional support for children's distance learning; alleviating children's emotional tedium, isolation, and anxiety of shelter-in-place; and managing increased demands of planning and preparing multiple daily meals. Gatekeeping behavior (Allen & Hawkins, 1999) may be an ironic consequence of increased caregiving demand if men partners are present. The observed "leisure gap" between men and women (Hochshild & Machung, 2012) is likely to widen, increasing women's stress and burnout. These burdens may be most felt by working and single mothers where the time bind is more pronounced (Hochshild, 2001) and extended family members (e.g., grandparents) are unavailable for relief.

Caring for and selfless devotion to others take on additional meaning during COVID-19, as women make up 76% of essential healthcare workers (Cheeseman-Day, & Christnacht, 2019). Women have experienced higher rates of COVID-19-related unemployment than men (Bureau of Labor Statistics, 2020b; Henriques, 2020), undermining their ability to provide financial care for dependents. Women who are essential workers face a new double bind as they must weigh their dedication to caring for others against their heightened risk of infecting family members. Essential worker mothers are faced with a triple bind as they additionally must weigh logistics

and feelings of leaving children behind at home, caring for the infected at work, and possibly infecting loved ones upon returning home. COVID-19 may thus further strain women's abilities to satisfy social expectations of them.

Masculine gender roles prescribe daring, risky behavior (Becker & Eagly, 2004; Diekman & Eagly, 2000; Prentice & Carranza, 2002; Vandello & Bosson, 2013). Men's felt pressure to enact masculinity may help explain why men take COVID-19-related safety directives less seriously than women, reporting lower likelihoods of avoiding gatherings, increasing handwashing, or using disinfectants (Kahn, 2020). The wake of COVID-19 may yield elevated performances of masculinity among men not only because men are motivated to display toughness, but also due to unemployment-related gender identity threats. While COVID-19 has coincided with greater rises in unemployment for women than men, the rise in unemployment for men remains substantial (Bureau of Labor Statistics, 2020b). As the breadwinner role remains central to traditional male identity, men who face job insecurity are likely to experience masculinity threat and distress (Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008). Men erroneously assume that others view them as "less manly" when they lose jobs (Michniewicz, Vandello, & Bosson, 2014), and this predicts depression and anxiety. Thus, the pandemic and its consequences may amplify effects capturing men's already-precarious gender status. Men may now aim to "win back" masculinity by dedicating longer hours and more intensity to work or by avoiding feminine tasks and domestic labor altogether. This may in turn amplify gender inequalities in the divisions of labor among heterosexual couples, placing greater strain on women. It will be vital to understand for which couples this shift may be most probable and how to combat it most effectively to promote egalitarianism.

While many pressures of COVID-19 may push people toward traditional gender roles, there remains potential for the pandemic to increase egalitarian gender attitudes and behaviors. First, within heterosexual couple contexts, backlash for gender atypical behavior may decrease, making external attributions for why men are caregivers during a workday (e.g., he's working from home and helping out) or for women working long hours (e.g., she's an essential worker) salient, legitimate, and even praiseworthy. Second, men and women in varied roles may compel correspondent inferences that men are more communal and women are more agentic than before the pandemic (Eagly, 1987). Third, flexible work is now compulsory for employers previously reluctant to offer it. In the wake of the pandemic, these work arrangements may be destigmatized if there is widespread and equivalent use by men and women.

Psychologists may be in a position well-suited for gender role research in the times ahead, as greater salience of gender identities may increase the sensitivity of empirical tests and allow for useful testing of role theories. A critical aim for research will be not only to document main effects but also to identify individual and sociocultural moderators of gender role shifts, as to understand conditions under which COVID-19 may promote more traditional versus egalitarian gender roles. Intervention research can be valuable to combat amplifications of gender inequalities, particularly to address the added challenges women are likely to face. This research can refine theory and provide timely insights toward improving the influence of gender in people's lives.

Social Inequality

Times of crisis shed bright light on society's pressing problems. While everyone has been affected by the COVID-19 pandemic, not everyone is employed in work that keeps them safe, or still employed at all (Bureau of Labor Statistics, 2020a). COVID-19 mortality rates, moreover,

pose particularly high threats to communities of color, people facing homelessness, older adults, and incarcerated individuals (Case & Deaton, 2020). The wake of this pandemic calls further for psychologists to investigate social inequality, and particularly to explore a critical puzzle: Why do people accept extremely vast economic disparities in their society?

Although inequality has risen dramatically in the past six decades (Piketty & Saez, 2014), people do not seem especially disturbed by it. Most people, for example, tend to underestimate economic inequality and overestimate economic mobility, believing that lower-income individuals are much better off than they actually are—and have a much higher chance of moving up in society (Alesina, Stantcheva, & Teso, 2018; Davidai, 2018; Davidai & Gilovich, 2015, 2018; Kraus & Tan, 2015; Norton & Ariely, 2011). Yet the economic fallout of COVID-19 can potentially undermine this apparent lack of concern.

For instance, whereas people tend to accept inequality to the extent they believe that economic disparities reflect differences in ability, effort, and skill (Jost, 2020; Kluegel & Smith, 1986), COVID-19 has highlighted how situational circumstances that are beyond one's control can severely affect their financial well-being. How do such salient economic forces influence lay attitudes about inequality and redistribution? Are dire, unexpected economic shocks enough to weaken the influence of system-justifying beliefs in meritocracy (Ledgerwood, Mandisodza, Jost, & Pohl, 2011), upward mobility (Day & Fiske, 2017), and the Protestant work ethic (Furnham, 1990)? Alternatively, would the economic fallout of COVID-19 amplify people's tendency to focus on their own personal hardships (Davidai & Gilovich, 2016) and bemoan their own economic burdens (Sanchez & Gilovich, 2020), even when these burdens are commonly shared and experienced by many others (Windschitl, Kruger, & Simms, 2003)? Although COVID-19 may not change the methods used to answer these questions, it nevertheless

highlights the urgency of raising them in the first place. Psychological scientists are optimally situated to explore the questions raised by this crisis about how society is—and should be—structured.

Evolutionary Psychology

Evolution-minded behavioral ecologists have long recognized that when animals avoid threats in their environments, they incur opportunity costs. For instance, food-foraging and mate-searching expose animals to predation; predator-avoidance, then, often entails costs of reduced foraging or poorer mating opportunities. Animals should thus balance relative costs and benefits of avoiding predators. Similarly, then, the behavioral immune system must have means to gauge the benefits of pathogen-avoidance relative to its opportunity costs (e.g., Buck, Weinstein, & Young, 2018; Gangestad & Grebe, 2016; Kupfer & Tybur, 2017). Social distancing guidelines explicitly embody these trade-offs: To reduce the chances of becoming infected and infecting others, individuals are asked to give up many benefits garnered through social interactions. However, even after government-issued restrictions are relaxed, the enhanced salience of a deadly viral infection will affect individuals' decisions about social interactions, partly guided by their behavioral immune systems. Investigations into these decisions can yield theoretical insight into basic phenomena. But in the wake of COVID-19, understandings of what regulates people's social behaviors are likely to have important applied implications pertinent to personal health, epidemiology, economic activity, and psychological well-being more generally.

Notably, individuals are likely to transmit COVID-19 when they are pre-symptomatic (He et al., 2020). Understanding of the behavioral immune system, then, will profitably move beyond the processes that involve detection of *overt cues* of infection that have dominated inquiry to date. Decisions about the benefits and disease-related costs of social interactions must

increasingly be treated as decisions made under great uncertainty, absent any near-definitive cues. Widespread "social foraging" outside of close social circles entails increased risk of exposure to infection, yet high rates of encounters with novel social partners reap benefits in important realms—e.g., the formation of romantic partners and new friendships. How do individuals make these trade-offs? Absent overt cues of infection, how do they evaluate risks associated with partners? How do they evaluate and respond to their own close partners' risk-taking in this regard? In the wake of COVID-19, these issues will have important implications for interdependence in people's lives—and an evolutionarily grounded social psychological understanding of them will be needed.

For the most immediate benefit to society and advances in basic science, applying evolutionary perspectives on disgust may be fruitful. Disgust is elicited by seeing blood, abnormal body fluids, and dead or dying bodies (Curtis, Aunger, & Rabie, 2004), and makes us desperately want to avoid vectors of disease, including other people (Curtis & de Barra, 2018; Lieberman & Patrick, 2018). There is thus high potential that disgust can be a powerful determinant of behavior in the wake of COVID-19 by activating adaptations for disease avoidance and intrinsically motivating people to socially distance. Disgust may be a readily motivating factor when infection cues are overt, whereas its motivational impact may be reduced—at least for some people—when cues are covert.

As we debate "opening up" cities and states, our decision-making is handicapped. Without a better scientific understanding of disease cues and the evolved responses they produce, the spread of COVID-19 may go on much longer than necessary. Social psychologists are in a position suitable for conducting research on disgust in the wake of COVID-19, as the widespread potential for people to feel disgusted by a common threat—the virus—may lend itself to

sensitive theory-testing. To develop successful interventions, psychologists may find ways to bring genuine threats to people's minds and capitalize on the evolutionary origins of disgust as a motivational force driving health-protective behavior.

Existential Psychology

Although there are many terrifying aspects of the COVID-19 pandemic, the most disturbing may be the staggering number of people who have died from the virus and the apparent ease with which it can be spread. Terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986; Pyszczynski, Solomon, & Greenberg, 2015) posits that awareness of the inevitability of death gives rise to an ongoing potential for anxiety that people manage by maintaining faith in their cultural worldviews, self-esteem, and close interpersonal relationships. The wake of COVID-19 highlights the relevance of existential psychology and TMT, underscoring the importance of investigating terror management defenses in response to a real-world mortality salience induction. Studying TMT in the wake of a pandemic may also enable psychologists to empirically address recently raised concerns about the reproducibility of mortality salience effects (e.g., Klein et al., 2019; Sætrevik & Sjåstad, 2019; but also see Chatard, Hirschberger, & Pyszczynski, 2020).

The pandemic is a dramatic reminder of the fragility of life, and people's responses to it can be conceptualized as proximal and/or distal defenses in line with a TMT approach. Proximal defenses (a) emerge when one is consciously thinking about death and (b) deal with the problem directly. Examples of proximal defenses to COVID-19 include disease-avoidant behavior (e.g., social distancing, hand-washing, facemask-wearing), hypervigilance for relevant information (e.g., obsessive consumption of news media), and outright denial of the threat (e.g., deeming it no worse than the flu). Distal defenses (a) emerge when thoughts of death are on the fringes of

consciousness and (b) entail maintaining self-esteem, faith in one's worldview, and close interpersonal connections. Examples of distal defenses to COVID-19 include blaming out-groups or icons of opposing worldviews for the virus (e.g., Chinese people, the media), revering heroes (e.g., doctors, nurses, grocery store workers), political polarization, and seeking comfort in family and friends. Research exploring the conditions under which these different responses emerge could both enhance our understanding of terror management processes and provide insights that help people cope with this particular existential crisis.

The ubiquitous nature of COVID-19 also poses potential methodological problems for existential psychology. Near-constant media coverage and the life-or-death nature of the pandemic is likely to keep its threats highly accessible, which might contaminate control conditions and thus make the effects of experimental manipulations of mortality salience more difficult to detect. Heightened accessibility of pandemic-related thoughts might also affect the findings of research on other forms of behavior affected by mortality salience. Similarities and differences between the effects of COVID-19 thoughts and thoughts of death must be empirically explored, rather than assumed. Although the virus is clearly a reminder of death, its mortality salience induction is embedded in a complex web of associations that may influence the way it affects people. Indeed, the issue of how complex reminders of death such as this relate to the simpler reminders of death explored in most TMT research is an issue in need of investigation, and the current crisis reiterates the need for such inquiry.

Psychology and Law

Legal psychologists face immense methodological challenges in the wake of COVID-19. Empirical research in psychology and law often involves conversations with people involved in the justice system. However, access to personnel and events in courtrooms, police departments,

jails, and prisons is likely to be curtailed for some time. Moreover, projects that involve participants engaging in face-to-face mock jury deliberations have been (indefinitely) postponed. Could much of this research be done online? In an online context, mock jury deliberations would lose whatever verisimilitude they had. Also, participants in many law-related subject pools (e.g., judges, lawyers of different stripes, detectives, forensic psychologists) are often unwilling to participate in online research. Rather, scenario or survey-based research is typically presented to them at conferences or training sessions, along with an educational lecture or debriefing.

The pandemic came on the heels of calls for major reforms to the U.S. criminal justice system. U.S. policies that resulted in mass incarceration were under scrutiny; funding agencies and foundations were generously promoting criminal justice research; and some states had reacted by imposing shorter sentences, releasing older and long-term non-violent prisoners, and decreasing the jail population by reducing the use of cash bail. COVID-19 penetrated into many prisons and threatened to decimate incarcerated populations. As a result, even more states have taken a variety of actions to reduce prison populations. Such actions and their results are ripe for study, especially given the sorts of "natural experiments" COVID-19 has provided.

The make-up of the incarcerated population, along with disparities in COVID-19's general prevalence and fatality rates, have re-demonstrated obvious racial and income inequalities in the U.S. Such demonstrations might alter the public's beliefs about the fairness of the criminal justice system. The public might also be thinking more about the powers possessed by different legal entities (e.g., federal/state/local; executive/judicial/legislative) and the legitimacy of that power, which might affect which recommendations and new laws they will choose to obey. In addition, the public is considering who they would feel safest with managing health or other crises in which competing values (e.g., health versus economics) is at stake. Even

more broadly, in the wake of the pandemic, U.S. citizens might want to more thoroughly debate whether not only health care, but also employment and a basic minimum income, should be made legal rights. These pose intriguing new directions for the immediate future of legal psychology research.

Eating Behavior

Eating behavior has changed in meaningful ways due to the COVID-19 pandemic. A pandemic is stressful, and research suggests that stress tends to impact eating in a way that harms health (Tomiyama, 2019). The wake of COVID-19 provides a context for understanding how individuals use food as a means of emotion regulation and for distinguishing between individuals who cope through health-threatening behaviors versus health-promoting behaviors. People who do engage in stress-eating via the former may gain weight and feel guilt or shame, increasing their risk for body image issues and eating disorders (Stice et al., 2017).

This pandemic may also increase the number of individuals experiencing food insecurity, as a result of food scarcity, school closings, job loss, and increased economic instability. This shift represents a profound social concern, and understanding its consequences for eating behaviors, mental health, and physical health should be high priority. Studying individuals who are experiencing food insecurity for the first time may provide new insights into how food insecurity operates at a basic psychological level.

The social contexts in which people eat have changed due to the pandemic, as quarantines and social distancing keep people in their homes. The network of people influencing an individual's food intake in-person has likely shrunk, and many people may do all of their eating alone or with a constant few others. The influence of social media on eating, however, has potential to be more powerful now than pre-pandemic. Even after the termination of strict social

distancing guidelines, people may no longer commune over meals the way they once did. Given the strong influence of social contexts on eating behavior (Higgs & Thomas, 2016), social-contextual approaches to eating research may be fruitful in times to come.

In addition to refocusing theoretical questions regarding eating behaviors, the wake of COVID-19 will also impact research methodology. Social distancing measures preclude conducting in-person laboratory studies where researchers can directly control and assess objective food intake. However, virtual methods for assessing food intake—such as remote food photography (Martin et al., 2012)—may provide researchers with information about what participants are eating, and receipts from online food shopping may provide useful information about household eating patterns. In addition, the increased influence of social media on food intake could allow researchers to learn much about the role of social norms in eating, as it is relatively easy to experimentally manipulate social media messaging. Even with these virtual methods, however, any research conducted during the coming months—and likely years—will occur within a highly atypical food environment, which may undermine generalizability.

Environmental Psychology

While there is no doubt that COVID-19 is a global challenge, it may ultimately enable societies to create a more socially, economically, and environmentally sustainable future. For psychological research, transitions occurring in the wake of COVID-19 are contexts for examining how to better align behaviors with pro-environmental beliefs and values. To achieve these ends, pro-environmental beliefs and values may need to be reinforced (Verplanken & Roy, 2016), particularly when the context highlights social and economic well-being and when "finite pools of worry" may edge out attention to the environment (Huh et al., 2016). For some people, COVID-19 may reinforce pro-environmental values as they spend more time in nature to cope

with social distancing and recognize the importance of individual behavior change on the environment. After the pandemic, some may experience grief when harm to the environment returns with renewal of previous behaviors and possible removal of environmental regulations to jump-start the economy (Competitive Interprise Institute, 2020). Moreover, perhaps particularly among younger generations (e.g., Swim, Lenguiza, & Fasano, 2020), anger and anxieties about COVID-19 may strengthen emotions about climate change, as both issues can be construed as global threats aggravated by failure of governments to respond to warnings from scientists.

In the wake of COVID-19, researchers should consider the potential for increasingly polarized attitudes toward the environment, given the potential for the pandemic to increase ideological polarization. It may be advantageous for psychologists to understand public perceptions of the three pillars of sustainability: social, economic, and environmental (Geiger & Swim, 2020). Anticipated impacts of policies on all three pillars influence relative support of different climate change policies (Geiger, Swim, & Benson, 2020; Swim, Geiger, & Lenguiza, 2020), and assessments of tensions and complementary relations among the three pillars could affect these anticipated impacts (Geiger & Swim, 2020). Researchers should consider that COVID-19 may specifically affect these perceived links: Calls for a stronger economy to protect people harmed from shutdowns conveys complementary links between economic and social pillars; messages about climate change contributing to the spread of diseases (United Nations, 2020) and about diminished air pollution decreasing the probability of being infected with and dying from COVID-19 (Love, 2020) convey complementary links between environmental and social pillars; and messages that demonstrate environmental recovery during economic shutdowns convey tension between economic and environmental pillars. Notably, though, as balance theory suggests, this pattern of two complementary relations and one relation in tension

may be unstable, encouraging people to alter the perception of one of these links (Geiger & Swim, forthcoming). Attending to all three pillars of sustainability and their perceived effects on each other may enable psychological science to optimize promotion of a sustainable future.

Social Neuroscience

COVID-19 has dramatically reshaped plans and practices for research programs that require in-person data collection, such as social neuroscience. In-person data collection has been halted at many institutions for the foreseeable future, which is particularly impactful for social neuroscience, as virtually all neuroimaging studies require participants to visit labs for data acquisition (e.g., fMRI, electroencephalography). For studies that were in progress before the pandemic, even once it becomes safe and permissible to resume neuroimaging data collection, researchers must carefully consider whether data collected prior to the pandemic can reasonably be combined with new data, given that the intervening months of social distancing, anxiety, and other novel factors will likely impact social and affective responses. This will be particularly important for social neuroscience, relative to other neuroimaging disciplines (e.g., perceptual neuroscience, some areas of cognitive neuroscience), as many of the phenomena that social neuroscientists study are likely to shift in the wake of COVID-19. Longitudinal neuroimaging studies, like all longitudinal projects, may be irreparably disrupted. It is especially important to consider consequences of these circumstances for trainees, given that—due to the high cost of gathering many forms of neuroimaging data and the time required for associated technical training—trainees in social neuroscience often concentrate their efforts on relatively few studies.

There are a few ways forward for continuing to conduct research and for ensuring that students and postdoctoral fellows have their training and professional-development needs met. First, many social neuroscientists study their phenomena of interest using a variety of

approaches, including behavioral experimentation. One option is to temporarily shift to exclusively online behavioral studies. A clear drawback of this approach, though, is that trainees wishing to gain experience developing and applying neuroscience-specific skills may not be able to achieve such goals. A second option, then, involves shifting focus toward analyzing existing neuroimaging datasets from one's own lab group, reexamining or combining old datasets to address new questions. This option, however, may be less feasible for newly established labs.

A third option is to make use of publicly available neuroimaging datasets (e.g., Alexander et al., 2017; Hanke et al., 2014; Taylor et al., 2017; Van Essen et al., 2012). Social neuroscientists are fortunate to have access to a growing number of such datasets. Although most of these datasets are not explicitly presented as intended for social neuroscience, many afford the exploration of social neuroscience questions by containing neural responses to naturalistic stimuli that are rich with social meaning (for a list of many publicly available naturalistic neuroimaging datasets, see Dupre, Hanke, & Poline, 2019). Neuroimaging studies using naturalistic and narrative stimuli are particularly amenable to reuse in the service of new research questions (Willems, Nastase, & Milivojevic, 2020) and to examining how individual differences in social cognitive tendencies shape how people process the world around them (Finn et al., 2018; see Redcay & Moraczewski, 2018 for further discussion). Many large-scale open datasets also couple neuroimaging data with surveys and behavioral tasks that capture individual differences in socio-cognitive and socio-behavioral tendencies (e.g., Taylor et al. 2017; Van Essen et al., 2012), and thus could be of use to social neuroscientists. Such datasets often afford far greater statistical power than typical neuroimaging studies collected by individual labs.

Although addressing many social neuroscience research questions requires specifically designed stimuli and paradigms, shifting focus to address our questions via alternative

methodologies for the time being, albeit with notable limitations, may enable social neuroscientists to maintain active research programs and cultivate valuable new insights equipped to complement neuroimaging data to come.

Person-Environment Interaction

Considerable research will undoubtedly look for "main effects" of COVID-19 in psychological phenomena among the population as a whole. Yet the pandemic's effects likely depend to some degree on the characteristics of the person, along with their social and material worlds (Donnellan et al., 2009). Fundamentally, behavior reflects interactions between the situation and the person, as different individuals construe and respond to the same situation differently. Thus, while the COVID-19 pandemic may be a *shared* experience for everybody, it is nevertheless a *unique* experience for each individual. The individual differences that make this experience unique may provide areas well-suited for investigation.

Interactionist perspectives offer a framework for understanding the psychological mechanisms giving rise to diverse reactions to COVID-19 (Zayas et al., 2002). Key psychological processes may operate automatically or more deliberatively, working alone or in tandem, and in complementary or antagonistic ways. Interactionist frameworks can help identify the "psychological triggers" of the COVID-19 era, whether they are social, economic, health, and/or existential concerns. Other individual differences such as disgust sensitivity, neuroticism, and openness to experience provide a few potential moderators worthy of consideration (Haidt, McCauley, & Rozin, 1994; John, & Srivastava, 1999). Using repeated-measures within-person designs that collect multiple observations of the same construct (e.g., anxiety) in response to the same situational features (e.g., crowds, or economic reminders) from each participant would increase statistical power and help identify "psychological triggers" of the COVID-19 pandemic

(e.g., conservatives may be more reactive to economic insecurities, and liberals more reactive to health insecurities) as well as key individual difference factors (Zayas, et al., 2019).

Meta-Scientific Considerations

Recalibrating the Importance of Research Programs

Whether motivated by intrinsic interest or extrinsic incentives, many psychological scientists gravitate toward the study of phenomena that are perceived to be important—ones with real-world implications for human health and well-being. The COVID-19 pandemic may recalibrate appraisals of scientific importance, leading some research topics to wax and others to wane in the future.

As reviewed throughout this paper, core topics across modern-day social psychology have much to offer for scientific discovery, in terms of novel theoretical insights and solutions to real-world problems. Yet there is also potential to reignite interest in once-popular topics of inquiry that have fallen out of fashion. One example is crowding. Crowding was a burgeoning area of social psychological inquiry in the 1970s, with many articles—published in prominent social psychology journals—identifying conditions under which people did and did not experience the subjective state of being crowded in the presence of other people (e.g., Langer & Saegert, 1977; Stockdale, 1978; Worchel & Teddie, 1976). Since then, however, the study of crowding has fallen off the radar of most social psychologists. Yet it may pose a rich area for research now. For example, the subjective perception of crowding is exaggerated when people feel vulnerable to the threat posed by infectious diseases (Wang & Ackerman, 2019). Analogously, the COVID-19 pandemic has made the threat of infection more highly salient to people in general and has sensitized the whole world to problems posed by close interpersonal proximity. It is plausible, therefore, that there will be a resurgence of interest in the psychology

of crowding and related phenomena (e.g., personal space; Hayduk, 1983). Numerous other previously minor topics of inquiry beyond crowding may see new surges in popularity among psychological scientists now.

Yet even if the pandemic facilitates scientific progress in some areas, it may concurrently hinder progress in other areas. Scientific resources—time, effort, money, etc.—are finite, leading any increase in collective resources devoted to newly popular topics to be accompanied by a reduction in resources devoted to other topics. If the allocation of resources becomes unbalanced, the potential arises for progress across psychological science overall to slow down. Consider an extreme circumstance: If all psychologists focused their research attention on a small set of highly popular pandemic-relevant topics, not only would progress grind to a halt on other topics (including topics that might be of equal or greater importance across the longer term), but there would also be a high likelihood of inefficient redundancy in the allocation of resources devoted to the study of the popular topics. Although there is scientific value associated with some forms of redundancy—such as systematic tests of the replicability of empirical findings—uncoordinated redundancies offer fewer scientific benefits to offset the greater opportunity costs. More generally, because scientific progress proceeds as a kind of evolutionary process (Campbell, 1974; Hull, 1988; Popper, 1972), the engine that drives that progress is fueled by diversity—diversity of perspectives, ideas, theories, hypotheses, research questions, and topics of inquiry. Therefore, while it is inevitable that many psychological scientists will gravitate toward pandemic-relevant research topics (which, ideally, will support finding solutions to the pandemic's many profound challenges), it may be just as important for other psychological scientists to resist that gravitational pull. By allocating resources to topics that are unrelated to

COVID-19, psychologists can continue to produce a balanced literature that is rich in scientific value and real-world importance.

The Potential for Simulation Methodology

In light of concerns about the generalizability of research conducted in COVID-19's wake, it may often be advantageous to experimentally minimize the effect of COVID-19 on psychological processes. To banish immediate concerns of disease, researchers can focus on two types of simulations: (1) Intergroup simulations with human participants are socially rich and emotionally evocative group experiences where—all in one paradigm—participants can develop culture, chafe under social subjugation, foment revolt, enact retaliation, and more (Kachanoff, Kteily, Khullar, Park, & Taylor, 2019). By simulating real social processes, the immediacy of these simulations helps findings generalize across place and time while removing people from their real-world situation. (2) Agent-based models exile all extraneous influences by isolating—and formalizing—a small set of essential processes (Jackson, Rand, Lewis, Norton, & Gray, 2017). These processes then unfold in an artificial landscape with artificial agents, who fear neither COVID-19 nor death. Although agent-based models are artificial, they can yield new and useful insights about social identity, social influence, group processes, intergroup relations, and many other phenomena (e.g., Gray et al., 2014; Muthukrishna & Schaller, 2020; Smaldino Pickett, Sherman, & Schank, 2012).

Media and Public Engagement

Activism and engagement are common responses to crisis (Omoto, Snyder & Hackett, 2010), and helping—even across group and national lines—is normal after disasters, tragedies, and other crises (Jonas, 2012). The threat of COVID-19, in combination with the growing threat of populism to democracy in many parts of the world, heighten the need for research that

promotes freedom, open inquiry, and democracy (Crandall, 2019). Psychologists carry out some of the most important work on how people respond to threats; cope with poverty; fight racism and sexism; and react to danger, disappointment, and death. Psychologists who choose engagement can find community and support for research through scientific societies such as the Society for the Psychological Study of Social Issues or the Society for Community Research and Action. The more these groups grow, the stronger psychology's impact for good can increase in the times ahead.

Many psychologists are now eager to conduct research on COVID-19 and disseminate it to the public. Nature abhors a vacuum, and if psychologists do *not* engage with the public about addressing psychological consequences of the pandemic, other people with less expertise will likely take our place. At the same time, psychologists do not (yet) have an established process of taking their work step-by-step from basic theoretical principles to large-scale applications in a crisis setting (Ijzerman et al., 2020; Lewis, 2020). The urgent thirst for knowledge relevant to the pandemic underscores the importance of finding better ways to clearly communicate appropriate levels of uncertainty when describing science to the public; we must strive to convey the complex and incremental nature of science at every stage of the research process (da Silva Frost & Ledgerwood, in press; Yong, 2020).

Scientific Reproducibility

Issues of scientific reproducibility have plagued psychological science, and the risks outlined and remedies recommended for the field at large remain applicable (e.g., Munafò et al., 2017). Slippage in our attention to these cautions, however, now represents a salient threat to psychologists producing research peri- and post-pandemic (e.g., if researchers prioritize speed over accuracy; Scheel, 2020). In recognition of the "new normal" we face and the desire of many

psychologists to help people in the wake of disaster, we must be diligent to curate reproducible science (cf. Ijzerman et al., 2020). Here, we offer four ways to fortify social psychological science in the wake of COVID-19.

First, it would be useful to determine if and how established effects may have shifted. As reviewed throughout this paper, much research across social psychology relies on processes we expect to have been impacted by COVID-19. For example, studying predictions of uncertainty-identity theory (Hogg, 2007, 2012, 2015) or the vulnerability-stress-adaptation model (Karney & Bradbury, 1995) will be inseparable from considering increased societal uncertainty and stress that have resulted from COVID-19. As such, the pandemic's wake allows for valuable test cases of these—and many other—theories, making them potential candidates for more ecologically valid testing. These efforts can lead to substantial empirical backing or adjustments of theories, complementing controlled lab studies with new data that reflect naturalistic cognitions and behaviors unfolding in the real world.

Second, and relatedly, we must not overlook how processes that have changed due to COVID-19 may play a different or new role in our estimating effects of interest (for primers see Pearl et al., 2016; Rohrer, 2018). Turning this type of consideration into a header on study registrations (e.g., the "OSF Prereg" available from https://osf.io/zab38/wiki/home/) so researchers are prompted to think about the possibilities may prove fruitful. Just as shifts in participants' psychologies may lend themselves well to certain theory-testing, such shifts may concurrently change the priors we as researchers possess and thus the underlying assumptions we make about the data we collect.

Third, we encourage researchers to be explicit about the level to which their results may generalize. This call is not new (see Simons et al., 2017), but is important to reiterate as data

being collected during the pandemic and soon after will be idiosyncratic in many ways, some unknowable. In addition to basic statements about generalizability, overt acknowledgement of the purposes of the study (e.g., prediction versus description) would facilitate the evaluation of quality and methodological appropriateness (Imai et al., 2008; Shmueli, 2010; Yarkoni & Westfall, 2017). In their papers—and perhaps also in study preregistrations—psychologists should explicitly address whether they expect the processes captured by their research to be affected by the wake of the COVID-19 pandemic, and if so, in what ways. In order words, just as including statements about statistical power, generalizability, and study limitations are common practice in our field, so too should we consider adopting standardized ways of addressing concerns about *COVID-19-specific* generalizability in the years ahead.

Finally, it is imperative to build a true community of science. This must be done within individual labs and research centers (e.g., Stevens et al., 2018) and also the field as a whole (e.g., Nosek et al., 2015). One path forward involves broader endorsement of replication studies (Chambers, 2013; Nosek & Errington, 2017) and changed perceptions that a replication is not a threat to the original author, but an attempt to update or gain additional knowledge. The wake of COVID-19 may be a time for us to recalibrate our sense of how much we already know versus do not know. If the pandemic has influenced psychological processes in unclear ways, then any new study conducted from hereon—including a "mere" direct replication of a prior study—offers important, novel, and publication-worthy knowledge. A second path forward would include the de-stigmatization of (self-)correction (Montealegre et al., 2020), and celebration of the belief that we can actually learn from our own and others' mistakes. A third path is the embrace of multi-lab collaborations (e.g., Klein et al., 2014, 2019; the ManyBabies Consortium; Psychological Science Accelerator), which acknowledge that hard-to-reach populations and expensive data-

collection efforts are best done by teams of scientists to yield informative and adequately powered research. A fourth way to build a community of science includes the routine sharing of data and analysis scripts, which makes it possible for results to be reproduced, confirmed, and expanded (Martone, Garcia-Castro, & VandenBos, 2018; Rouder, 2016).

Considerations for Research Participants

The vast majority of social psychologists study humans, and protecting the health of our research participants must be our top priority. For the foreseeable future, participants will incur health risks by coming to high-density university campuses for in-person studies and exposing themselves to study staff. Clearly, stringent guidelines must be followed to minimize transmission risk. These may include personal protective equipment use, frequent lab sanitation, and minimizing in-person contact.

Even pre-pandemic, participating in studies could be an intimidating experience marked by uncontrollability and social-evaluative threat—the very components that have been demonstrated to heighten individuals' stress responses (Dickerson & Kemeny, 2004). Layered on top of COVID-19-related uncertainty and anxiety, we must redouble our efforts to maximize the risk-benefit ratio of our studies and carefully consider the mental well-being of our participants. Research programs that study aversive states (e.g., stress, discrimination, mortality salience) should identify the lowest "dose" required to understand the phenomenon.

Finally, the dire economic repercussions of the pandemic put potential participants in a vulnerable state. The Belmont report (1979) principle of justice states, "…the selection of research subjects needs to be scrutinized in order to determine whether some classes…are being systematically selected simply because of their easy availability, their compromised position, or their manipulability, rather than for reasons directly related to the problem being studied" (p. 6).

We must be vigilant that we are not taking advantage of financially comprised individuals. Moving studies to online platforms is one way to continue research in the wake of COVID-19, but this online work similarly must not exploit the economic pressures that participants likely are facing. There has long been popular and academic discourse about unfair wages on Amazon's online platform Mechanical Turk (e.g., Hara et al., 2019; Katz, 2017). These concerns are amplified in the pandemic era.

Considerations for Academia

Job prospects in higher education are receding and—as prior recessions have demonstrated—will likely be most severe for individuals with less privilege and social capital (Schwandt & von Wachter, 2019). Recession periods also force the least privileged students into more precarious financial situations that are not conducive to research productivity (Goldrick-Rab, 2006; Long, 2015; Macmillan-Cottom, 2017).

The pandemic differentially affects scholars with disparate resources, such that those with fewer resources (in terms of time, research funds, and personal resources) are often most impacted: Scholars with high teaching loads face the brunt of the workload to shift classes online, and those with young children are suddenly juggling full-time childcare and education on top of their careers. Trainees are very vulnerable, with students in some subfields at extremely high risk of a hindered career trajectory, as noted in the social neuroscience section. There are already inequalities in experiences of the stress and pain of losing loved ones to COVID-19, at both individual and racial/ethnic levels (Pew Research Center, 2020; Yancy, in press).

Gender considerations will also be vital, as COVID-19 may differentially affect academics with different gender identities. Given that women are more likely to shoulder childcare and housework responsibilities than are men (Lachance-Grzela & Bouchard, 2010;

Pew Research Center, 2013), COVID-19 may have a disproportionately more negative impact on women's career trajectories (Flaherty, 2020; Kitchener, 2020; Minello, in press). These effects may be compounded by the tendency for women and people of color to be more excluded from social networks in science (Mickey, 2020), especially if remote working ultimately leads scholars to lean more on existing social networks when creating new research and authorship teams. Moreover, purportedly gender-neutral policies such as "stopping the clock" benefit men and disadvantage women (Antecol, Bedard, & Stearns, 2018); promotion committees should be mindful of this differential impact and should consider creative solutions for supporting and evaluating early-stage women and scholars with fewer resources during and post pandemic. Academic leaders must step up now to seek out and implement strong solutions to protect diversity and inclusion in science (Goodwin & Mitchneck, 2020).

Across psychology, the immediate future can determine who remains to tell the story of this pandemic, and in what conditions will they conduct their research. How will psychologists create structures and systems to ensure that underrepresented perspectives—for instance, from the working class (Case, 2017; Jack, 2019) and Black feminism (Hill Collins, 1986)—inform our research going forward? The details informing the necessary work required to undo cycles of racial and economic inequality in our field, with practices that center on equity and justice, are already specified (e.g., Kalev, Dobbin, & Kelly, 2006). Put simply, the path forward requires that we appropriately value diversity of experience and identity, and that we fund, mentor, hire, promote, and tenure the people who bring it to the academy, lest the ideas and concepts that pervade our science represent a narrower set of voices. Now more than ever, it is vital to maximize our field's efforts toward inclusivity.

Concluding Remarks

The wake of COVID-19 is marked by a number of inevitable misfortunes for psychological science. For the foreseeable future, conducting research will demand adjusting ingrained habits and considering new influences on the very phenomena we have long studied. Yet while methodological challenges loom and uncertainty reigns, our field is poised to ask new questions, address new problems, and achieve the ultimate aim of our discipline: to describe, explain, and predict psychological phenomena as they unfold in the real world around us.

We have embraced in this paper the notion that the wake of COVID-19 is a shared experience for everyone yet impacts each individual in unique ways; that notion certainly holds true for psychological scientists. Through thoughtful theorizing and creative methodologies, many psychologists have potential to make the wake of COVID-19 a time of scientific advancement. Other psychologists, however, might be only as fortunate to hope to maintain a fraction of their pre-pandemic research productivity. By engaging in deep reflections and open conversations about research and our field at large, we become empowered to minimize COVID-19's threats and to advance the study of social psychology.

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