

Mental Wellbeing and Boosting Resilience to Mitigate the Adverse Consequences of the COVID-19 Pandemic: A Critical Narrative Review

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Abstract

The COVID-19 pandemic has wreaked havoc globally. Besides devastating physical health consequences, the mental health consequences are dire as well and are predicted to have a long-term impact for some individuals and communities and society as a whole. Specific keywords were entered into various popular databases at three points in time (June 2020, April 2021, and February 2022). Articles about COVID-19 that focused on mental health and/or discussed improving resilience/coping were reviewed by the authors. A total of 119 publications were included. The pandemic is certainly a chronic stressor for many people, and some may be traumatized in the aftermath which may lead to stress-related disorders. The psychological impacts of this stress and trauma are reported and findings presented around three key themes: mental health impact, impact in the workplace, and improving resilience. In addition, particularly vulnerable populations are discussed and some of the violence and inequities they might face. Resilience literature offers keys to promoting positive mental wellbeing during and after the pandemic. Being able to effectively respond to the heterogeneity of specific situations while building resilience is addressed. Prevention, preparedness, Psychological First Aid training, and trauma informed practice can all contribute to building resilience and promoting peri/post-traumatic growth at all levels of society. This narrative review provides an overview of the literature on mental health and resilience in the context of the COVID-19 pandemic. The authors propose that, through the use of the accumulated empirical knowledge on resilience, we can mitigate many of the most damaging outcomes. Implications for mental health professionals, policy suggestions, and future research directions are explored.

Keywords

COVID-19, pandemic, mental health, psychological health, resilience

This paper is based on a webinar held on June 1, 2020 by a college in Nepal. The webinar was based on questions from the general public and attended by over 11,500 people globally. It aimed at informing the general public about mental health during the 2019 novel coronavirus SARS-CoV-2 (herein COVID-19) pandemic, increasing awareness, eliciting possible coping strategies and promoting support and help-seeking behaviors (Enos, 2020). The content of this paper is based on the dialogues and content of that webinar in addition to a narrative review of the relevant literature and provides an overview of the mental health challenges and resources for the general public in light of how to build mental health resilience in the face of this global threat.

Research on pandemics has observed different types of challenges: the surveillance and control of the pandemic itself and compliance with national strategies (Kuiper et al., 2020; Van Rooij et al., 2020), the psychosocial and economic consequences (Glonti et al., 2015), and the surge in

utilization of health services after critical events (World Health Organization [WHO], 2020a). The COVID-19 pandemic is unprecedented as it is a worldwide pandemic hitting most regions at different levels of severity. Different measures taken (e.g., lockdown, curfew, etc.) are likely to impact people's health but also create new behavioral and social norms (Galea et al., 2020) (e.g., social distancing leading to contactless interpersonal relationships).

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Further to preventing, testing and treatment for COVID-19, these measures have impacted all aspects of health (e.g., health products and equipment shortages) (Ranney et al., 2020); care for people with chronic conditions (Alexander & Qato, 2020; Boettler et al., 2020); and mental health support or interventions were emphasized as key-aspects in maintaining populations' health (Fiorillo & Gorwood, 2020; Holmes et al., 2020; Rajkumar, 2020). Measures taken and their daily consequences may have an impact on all determinants of psychological wellbeing and mental health (Bhui et al., 2019). When the Pew Research Center surveyed Americans about the pandemic, one-third reported "high levels of psychological distress" (Keeter, 2020, para. 1).

Previous studies on pandemics highlighted a threefold challenge: the control of the pandemic, the social and economic consequences, and a surge in the need for mental health services. Here, we will focus primarily on the last: researchers predicted a "second wave pandemic" of mental health issues (Stefana et al., 2020) and mental wellbeing has been reported as significantly lower as a result of the current pandemic (see Inauen & Zhou, 2020; Robinson et al., 2022 for reviews). Globally, mental health practitioners and agencies seem to be overwhelmed and underprepared (Horesh & Brown, 2020). As seen before in response to a previous novel virus outbreak, Severe Acute Respiratory Syndrome (SARS), even people "who were not directly affected by SARS reported significant numbers of SARS-related stressors and psychological symptoms during the epidemic" (Main et al., 2011, p. 441). Furthermore, many of those who were directly affected were found to experience negative psychological affects many years later (Gardner & Moallem, 2015).

According to the Centers for Disease Control and Prevention (Centers for Disease and Control [CDC], 2020), COVID-19 may affect some people's mental health adversely. Symptoms could include but are not limited to "fear and worry about your own health and the health of your loved ones; changes in sleep or eating patterns; difficulty sleeping or concentrating; . . . worsening of mental health conditions"; and increased or newly initiated substance use, including medication misuse, and other addictive behaviors (CDC, 2020; Outbreaks Can Be Stressful, para. 2; Rogers et al., 2020; Rolland et al., 2020). Furthermore, COVID-19 may "contribute to the onset of new stress-related disorders for many" (Horesh & Brown, 2020, p. 331). This can be seen as everyone across the globe adjusts to this new reality brought on by COVID-19 that has become a chronic stressor due to the many sudden and drastic changes. It has been called a "new type of mass trauma" (Horesh & Brown, 2020, p. 332) and may even lead to complex trauma due to the prolonged and inescapable nature (Moss-King, 2016) of the exposure to the pandemic (Cénat & Dalexis, 2020). The "ambiguous" and "multiple losses" associated with COVID-19 can be "detrimental to mental and physical health" (Zhai & Du, 2020, p. 80).

In China, the country that has been dealing the longest with COVID-19, very early on in the pandemic it had been documented to have contributed to a range of different problematic mental health issues including but not limited to "panic disorder, anxiety and depression" (Qiu et al., 2020). Should an individual contract COVID-19, there is potential for even greater symptoms. In the case of SARS, while infected and recovering, some individuals reported psychotic symptoms and fear of death (Gardner & Moallem, 2015).

In sum, the current pandemic has potential to affect the mental health of almost anyone on the planet. Humanity needs guidance on how to cope with such a global threat in order to mitigate the potential psychological trauma and damage and ensure more people become resilient. The psychological literature on resilience likely has a lot of practical applications that could provide such empirically based guidance. Despite less-than-ideal circumstances, many people tend to have an amazing ability to be resilient to trauma and loss (Bonanno, 2004). The majority of people are predicted to emerge from the pandemic resilient (PeConga et al., 2020). By reviewing relevant literature, the current article could be of significance to governments and policy makers, the health and mental health sectors, and the general public by looking at empirically backed strategies for people to boost their resilience to the possible adverse mental health effects of the pandemic.

Methods

Search Strategy

In order to focus the literature review, certain themes that came up during the original webinar were determined by the researchers to be relevant to an overview about boosting resilience and mitigating the adverse mental health consequences in regards to the COVID-19 pandemic. Databases searched included MedLine, ScienceDirect, Scopus, Google Scholar, and PsycINFO. Further literature was also retrieved via a backward snowballing strategy whereby relevant articles were chosen from the reference list of previously included publications. Additional articles were added based on reviewers' recommendations.

Keywords Used

- Pandemic OR epidemic OR infectious diseases OR COVID-19 OR SARS-CoV-2 AND
- Quarantine OR lockdown OR Mental health OR mental wellbeing OR anxiety OR depression OR distress AND
- Resilience OR growth OR coping strategies OR post traumatic growth AND
- Systematic review OR meta-analysis (February 2022 search only)

The first draft was finalized in June 2020. In April 2021 an update was performed, and more articles were included. In

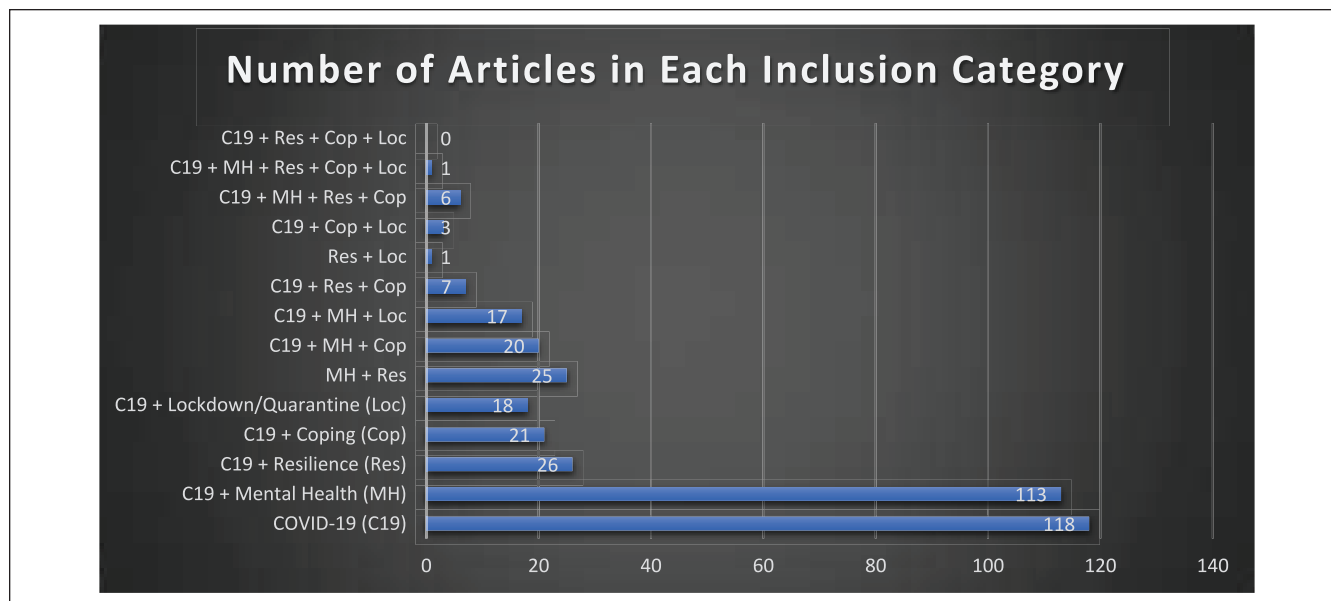


Figure 1. Number of Articles in Each Inclusion Category, Including Where Categories Overlapped.

February 2022, the final version was written with a specific search for Systematic review OR meta-analysis.

Inclusion Criteria

Only articles published in English language between Jan. 2020 and Feb. 2022 were considered for inclusion. All types of publications were included (i.e., meta-analyses, systematic reviews, randomized controlled trials, opinion papers, etc.). Only articles about COVID-19 that explicitly focused on mental health (including topics such as violence and discrimination), addressed mental health difficulties, and/or discussed improving resilience/coping were considered for inclusion. Additionally, in order to support various sections of the paper, other articles from the general psychological literature related to the topics were also included. There was no date limitation on this supporting literature.

Selection Criteria

Abstracts were read and screened by at least one of the current authors. If an article was about COVID-19 and explicitly focused on mental health, addressed mental health difficulties, and/or discussed improving coping or resilience, then it was included. Otherwise, it was excluded. (See Figure 1 for the number of articles in each category including where the categories overlapped). Attention was paid to provide articles from high, middle and low-income countries to allow a global scope.

Data Extraction and Analysis

The 119 publications that were included were read, key information (methodological aspects, key population, key

themes, main findings) was collated in a spreadsheet and then mapped (See Table in Appendix A for complete list of articles). This mapping led to three key themes: impact on mental health, mental health in the workplace (with a strong focus on health care workers), and building resilience.

Mental Health Impact of COVID-19

While the pandemic is not a traumatic event per se, it is arguably a Potentially Traumatic Event (PTE) (Hepp et al., 2006) comparable to previous pandemics and disasters (Esterwood & Saeed, 2020). Beyond the pandemic itself, its management and consequences are likely to generate heterogeneous stressful and/or distressing situations, trigger or increase difficulties, increase the number of PTEs (Shi & Hall, 2020), and lead ultimately to stress disorders (Bao et al., 2020). Stressful events and PTEs encompass a wide spectrum of situations such as sudden death, experiencing or witnessing a life-threatening event, as defined in both classifications for stress disorders (American Psychiatric Association, 2013; American Psychological Association [APA], 2013; WHO, 2020a); bereavement and the impossibility to perform usual rituals likely to lead to grief disorders (Tang & Xiang, 2021; Zhai & Du, 2020); fear of contagion (Ornell et al., 2020); and stigma, loneliness and precariousness (Brooks, Webster et al., 2020). Fear of acquiring or transmitting the virus can lead to lasting uncomfortable emotions (e.g., fear, anger, sadness). It is important to acknowledge these emotions and to promote and support resilience instead of pathologizing emotions that are likely related to normative stress responses. This must be added to the socio-economic consequences that can result in poorer life conditions and mental health deterioration (Agberotimi et al., 2020; Macintyre et al., 2018).

Pandemic and Lockdown Impact on Mental Wellbeing

While some may positively experience the restrictions related to COVID-19 (Lu et al., 2021; Sandín et al., 2020), previous systematic studies documented the negative psychological impact of preventative measures with a range of uncomfortable feelings reported (i.e., fear, guilt, loss of control, and boredom) and the presence of mood, sleep, anxiety, and post-traumatic stress disorders (Chiesa et al., 2021; Hossain et al., 2020; Panchal et al., 2021; Reynolds et al., 2008). Social distancing and isolation themselves can have a negative impact on mental health and exacerbate pre-existing challenges. Lack of connection, loneliness, and feeling excluded can lead to worsening or starting of mental health symptoms (Pinker, 2015).

One of the most alarming potential consequences of not coping with COVID-19 is the risk for suicide which is higher during times of quarantine, particularly for ethnic minorities (Mitchell & Li, 2021). This is explained mostly by socio-cultural factors such as the lack of access to mental health services but also disproportionate COVID-19 rates and outcomes in different groups (Barbisch et al., 2015; Shoib et al., 2022). Another vulnerable group identified is people living with mental health disorders and diagnosed with COVID-19 for whom mortality is increased, emphasizing the need for ongoing support and continuity of care (Fond et al., 2021). Overall, health and social inequalities are highlighted as structural factors leading to social vulnerability and poorer outcomes in minority groups (Bordiano et al., 2021; Keys et al., 2021; Magesh et al., 2021).

The importance of mental health and social support has been acknowledged as an important health aspect in previous pandemics (Reynolds et al., 2007; Shultz et al., 2015) and providers should anticipate an uptick in utilization both during the lockdown and after the end of the lockdown (Meredith et al., 2011; Shigemura et al., 2020; Terhakopian & Benedek, 2007). However, most of these studies are based on high-income countries' responses and studies, which does not take into consideration the cultural aspects of mental health, its institutionalization and means (Sarikhani et al., 2021; Whitaker et al., 2019).

Quarantine and other restrictions are recommended to be as short as possible to avoid the potential long-term psychological consequences (Brooks, Webster et al., 2020), yet many countries have already experienced multiple quarantine or lockdown measures. Uncertainty remains regarding the impact of multiple lockdowns within a short timeframe. While organizational, workload, and academic aspects have been readjusted, little is known about the effects of repeated lockdowns on the population's mental health (Arango & Pelov, 2020; Schildkraut et al., 2020).

Recent meta-analyses have evidenced that around 16% of the population studied experienced post-traumatic stress and that anxiety and depression were higher in suspected or

confirmed COVID-19 cases (Liu et al., 2021); mental health symptoms increased in people with physical health problems but did not in people with pre-existing mental health conditions (Robinson et al., 2022; Wu et al., 2021).

Multicultural and Spiritual Considerations

Some cultures and countries may be disproportionately more vulnerable to adverse mental and physical health consequences (Mitchell & Li, 2021; Sarikhani et al., 2021; Whitaker et al., 2019). In many countries and cultures, mental health is not a topic that is discussed in the open and stigma remains widespread (Lauber & Rössler, 2007; Loya et al., 2010; Mascayano et al., 2015). In some contexts, people will go to religious institutions seeking relief for mental health symptoms (Abdullah & Brown, 2011). While some mental health professionals may lack cultural and/or spiritual competence, conversely religious institutions or leaders also may not have the necessary intervention skills and knowledge to address mental health issues appropriately (Nagai, 2008). During critical times such as the current pandemic and in locations that lack professional mental health resources, alternative support from religious institutions, social support networks, and trained paraprofessional helpers can be invaluable (Del Castillo et al., 2020; Dutra & Rocha, 2021). However, this may also pose some mental health risks as lay people likely do not have the training, experience, and expertise to manage the potential severity of symptoms possibly brought on by the pandemic. Lay supports also tend to lack the professional supervision, monitoring, collaboration, consultation, and support that mental health professionals usually have which could lead to additional risks for those being served.

Therefore, both spiritual and mental health professionals may be underequipped to manage the range of symptoms people may be facing due to the pandemic. These factors potentially could lead to exacerbated symptoms and reduced resiliency; by the time people seek professional psychological services, there could already be serious complications and consequences. Hence, while there is an urgent need for more resources to be allocated to professional mental health services, it is also important to provide training, supervision, and support (i.e., train-the-trainer, trained peer-support, Psychological First-Aid) to lay paraprofessional helpers such as religious and community leaders (Thum et al., 2021). This would be even more pertinent in cultural contexts where mental health is stigmatized or there is a lack of professional mental health resources

Mental Health of Key Populations

Suffering from mental health symptoms could decrease immune system effectiveness (Garfin et al., 2020; Irwin et al., 1990; Olff, 1999), leaving individuals more vulnerable if exposed to the virus, potentially causing even further distress. In a rapid review of 18 studies about the mental health

effects of the current pandemic, Inauen and Zhou (2020) reported that “women, younger persons, persons with lower formal education, and those more closely exposed to the pandemic” (p. 945) were more vulnerable. Furthermore, over half of individuals with disabilities reported high psychological distress in relation to the pandemic (Keeter, 2020).

Youth seem to be particularly at risk. In a study of over 50,000 people in China, Macau, Taiwan, and Hong Kong that looked at psychological distress from COVID-19, 18 to 30-year-olds reported one of the highest peritraumatic distress levels, second only to people above 60 years old (Qiu et al., 2020). Many young people were already dealing with mental health challenges prior to the outbreak (Kok & Low, 2019); they are likely to be more vulnerable and their symptoms are likely to be triggered by the circumstances, and previously well-functioning youth may experience new symptoms. According to the chief medical officer of the National Alliance on Mental Illness, “three-quarters of all mental-health vulnerabilities begin before age 25, and social distancing could intensify those feelings” (as cited in Kuhlman, 2020 para. 2).

The media and current events may affect youth mental health adversely. For example, the release of a popular TV show has been correlated with a spike in youth suicides (Bridge et al., 2019). The high levels of psychological distress associated with COVID-19 among younger populations found by Qiu et al. (2020) was suggested to be attributed to exposure to high levels of stress-inducing social media. In fact, some studies have already reported that the bombardment of media about COVID-19 could lead to anxiety and stress in addition to physical and mental health consequences (Garfin et al., 2020; Shokri et al., 2020; Trnka & Lorencova, 2020).

University students are among the younger population that has been considered vulnerable to the mental health effects of COVID-19. University student anxiety and depression in China during COVID-19 were reported to be higher than usual (Liu et al., 2020). The American Psychological Association (APA) points out that it is normal for university students to be “anxious, sad and uncertain” because of COVID-19 stress (APA, 2020). In contrast to Inauen and Zhou (2020), people with higher educations have also reported higher psychological distress due to COVID-19 (Qiu et al., 2020). Qiu et al. noted that this may have been because those with higher educations may have more awareness of their health. On the other hand, higher education has also been associated with faster psychological rebound due to certain psychosocial factors of those more educated (Jin et al., 2022).

Violence and Inequalities

Adding to the above is an increase in social violence and its expressions (i.e., stigma, prejudice, xenophobia and racism) (Coates, 2020; Haynes, 2020) that might affect vulnerable populations such as Asian (Reny & Barreto, 2022), ethnic

minority, international, LGBTQA+, differentially-abled, and other minority groups (Turner-Musa et al., 2020). Women have also been found to be more likely to experience violence, stress and mental health problems than men during this pandemic (Qiu et al., 2020). Discrimination, racism, and prejudice have been linked to psychological distress and can affect the ability to cope (Cassidy et al., 2004; Lam, 2007; Museus et al., 2015; Todorova et al., 2010). People who have contracted the COVID-19 virus might be blamed for having contracted it and thus experience “stigmatized loss” (p. 80) which affects their social support and resilience (Zhai & Du, 2020).

Numerous national helplines and organizations have warned about the increased reports of child abuse, intimate partner violence, and all types of family violence during lockdown and large-scale crises in general (New Zealand Family Violence Clearinghouse, 2020; Taub, 2020; Bourgault et al., 2021; Bradbury-Jones & Isham, 2020; Leslie & Wilson, 2020). Safeguarding issues arise regarding the protection and support (e.g., sheltering) of both victims and witnesses of violence, even more so when they are minors (Cuartas, 2020; Posick et al., 2020; Teo & Griffiths, 2020; Vermeulen et al., 2022). The WHO has issued practical guidance to prevent violence toward vulnerable groups, focusing on children, women, and older people (WHO, 2020b).

The COVID-19 death toll does not only include those who have lost their lives battling the virus itself, but also includes violent deaths related to the psychological response to the effects of the pandemic. Despite varying reporting systems, increases in pandemic-related suicides have been reported (Papadimos, 2020; Rogers et al., 2021; Weems et al., 2020); preventative actions should be taken as suicide prevention should also be a “public health priority” (Reger et al., 2020). Furthermore, despite lockdowns and quarantines, homicides and mass shootings appear to be occurring at the same rate or possibly even higher in some places (Panetta, 2020).

Mental Wellness and the Workplace

Health Care Workers

Health care workers, particularly those who might come in contact with the virus, are particularly vulnerable. Health care workers have coped with stress, grief, and potential vicarious trauma (Li et al., 2020; Parco Fernández et al., 2022) leading to an increased risk of “bereavement overload” (Zhai & Du, 2020, p. 80). They are being asked to make “impossible decisions and work under extreme pressures” (Greenberg et al., 2020, p. 368) possibly leading to psychological distress associated with moral injury (Riedel et al., 2022) and might experience pandemic related suicidal ideation (Greenberg et al., 2020). In China, half of health care workers reported experiencing depression and almost half (44.6%) reported anxiety, while over two-thirds

(71.5%) reported distress during the pandemic (Lai et al., 2020). Doctors have been found to be the least resilient to the current pandemic among health care workers (Bozdağ & Ergün, 2021). Some hospital workers previously exposed to the SARS outbreak continued to experience psychological distress, PTSD symptoms, and increased chance of burnout several years later (Maunder et al., 2006; Wu et al., 2009).

Health care organizations need to be proactive in providing preparation and support both during and after the pandemic to reduce workers' risks of distress (Greenberg et al., 2020). In terms of addressing psychological wellbeing, health care staff worldwide can benefit from having a psychosocial support team and brief interventions (Ping et al., 2020) in addition to having access to helplines (Geoffroy et al., 2020). In fact, calls to helplines have increased during this pandemic (Between the Lines, 2020; Nortajuddin, 2020) including calls from health care workers. Mental health screening of workers could also be beneficial to raise self-awareness and prevent workers from working when they are psychologically impaired which may reduce burnout. In some places, for example, health care workers are being required to take a short self-administered online mental health assessment before coming to work (Ibrahim et al., 2020).

Providing proactive evidenced based mental health services at multiple levels for health care staff is seen as critical in preventing adverse psychological consequences among this population (Tracy et al., 2020). Workers themselves are encouraged to remember the reasons they work in the helping field but also have self-compassion and recognize when they need to help themselves before they are able to adequately help others. Encouraging health care workers to get adequate sleep and finding ways to boost their life satisfaction and positive emotions (often conceptualized as self-care, see Lewis et al., 2022) have been suggested as ways to increase their resilience during this pandemic (Bozdağ & Ergün, 2021). Such approaches are likely to have positive impacts on boosting their resilience to possible adverse mental health consequences.

Economic Crisis

When people struggle with mental health, their productivity and work performance will likely be affected which can create social problems (Bailey & Dollard, 2019; Ning, 2020). Furthermore, there are many direct and indirect costs for organizations in addition to individuals, communities, and society (Bailey & Dollard, 2019). For example, even prior to COVID-19, mental health concerns were costly for businesses in terms of presenteeism (being at work but not functioning to full potential), absenteeism, and employee turnover (Ning, 2020). The COVID-19 pandemic has already caused huge economic impacts for many business sectors that affect mental wellbeing.

Subsequent to the pandemic and lockdown, the economic crisis has led to a threefold challenge in terms of risk of unemployment, managing the workload (e.g., working from home while juggling other duties), and feeling useful (Blustein & Guarino, 2020). Millions have lost jobs which is considered a major loss for some that has potential to cause grief which, if not treated, could have physical and mental health consequences (Zhai & Du, 2020). More than half of those surveyed about the pandemic who reported financial difficulties also reported high psychological distress (Keeter, 2020).

In sum, the current COVID-19 pandemic has had some dire consequences on the mental health of many people across the globe and ability to function well. Furthermore, it has potential to wreak even more havoc in the days to come and the long-term consequences may be even greater. However, we have at our disposal empirically based psychological research that has great potential to mitigate such consequences and enhance people's resiliency, should it be used, applied, and furthered appropriately. Therefore, this paper presents relevant research and suggestions to do just that.

Responding to Heterogeneous Situations and Building Resilience

Resiliency is generally someone's ability to bounce back after difficult and adverse situations. The American Psychological Association (APA, 2012) defines it as "adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress" (What is Resilience, para. 2). Studied for over a half century, ongoing debates around the nature of resilience (e.g., state, trait, process or outcomes, see for instance Kuldass & Foody, 2021) have led to different measures and assessment tools (Southwick et al., 2014; Windle et al., 2011) as well as connected concepts, such as vicarious resilience (Hernandez-Wolfe et al., 2015). Resilience has been identified as a moderating factor in relation to a wide range of hardships or PTEs and subsequent conditions (i.e., PTSD, anxiety, and depression) (Hu et al., 2015; Lee et al., 2020). Despite core epistemological and methodological differences, consensus seems to emerge regarding multi-layered approaches and interventions to foster resilience beyond an individual's *ability* that consider protective factors at the family, community, and societal levels (Clauss-Ehlers, 2008; Distelberg et al., 2015; Yule et al., 2019).

In the context of the COVID-19 pandemic, resilience studies have confirmed resiliency's mediating effect on stress and mental health symptoms (Havnen et al., 2020; Ye et al., 2020; Zager Kocjan et al., 2021). Further theoretical and empirical research on how to foster resilience have been formulated (He et al., 2020; Rieckert et al., 2021; Sakurai & Chughtai, 2020). A wide spectrum of evidence-based interventions has been shown effective in improving emotional coping and social support and reducing mental health problems for individuals and communities (Bonardi et al., 2021;

Shaygan et al., 2021). However, other interventions have been found to be harmful, so it becomes ever more pertinent to ensure there is appropriate evidence for an intervention's effectiveness in the context of the pandemic prior to recommending it (Vukčević Marković et al., 2020).

While many people are resilient and can bounce back after PTEs/adversity without any specific psychological treatment or attention (Daly & Robinson, 2021), there are likely to be a significant number of people that experience psychological distress during and after this pandemic. The next section will explore ways of building resilience and reducing the amount of potential distress.

Adaptive Coping Strategies, Positive Psychology 2.0, Post-Traumatic Growth, and Resilience

Resiliency may be one of the keys to getting through the stressors imposed by the pandemic as it tends to help people adapt to difficult and stressful circumstances. Given the ongoing nature of the current pandemic, however, some people may struggle to maintain resiliency during such prolonged adversity. Facing some adversity as opposed to none or extreme levels of adversity actually appears to improve coping ability, functioning, and happiness (Seery et al., 2010). Positive Psychology 2.0 (Wong, 2011), Existential Positive Psychology (Wong, 2020; Wong et al., 2021) and salutogenesis (Antonovsky, 1979; Rajkumar, 2021) may all contribute to boosting resiliency, positive wellbeing, and possibly even flourishing during these times of ongoing adversity. In fact, proactive coping with "suffering can enhance our resilience" (Wong et al., 2021, para. 15) and be transformed into flourishing through meaning-making and self-transcendence.

Closely related to flourishing in the face of adversity is peri-/post-traumatic growth (Dekel et al., 2011). Some people can experience personal growth after disasters that can reap personal and professional benefits (Brooks, Amlôt et al., 2020). Some believe that people will be able to experience peri/post-traumatic growth after, or possibly during, the COVID-19 pandemic (Tyson, 2020). In fact, resiliency may "involve profound personal growth" (APA, 2012, What is Resilience, para. 2). Many people have actually thrived and been successful to the point of being "supernormal" after living through adversity (Jay, 2019). Jay believes that resilience is not a one time "bouncing back" but rather is ongoing reactions related to how one looks at circumstances and that resiliency can be strengthened through practice. In fact, resiliency can intentionally be fostered and developed (APA, 2012). The majority of people affected by the previous SARS outbreak reported caring more about others' feelings and prioritizing mental health more than usual (Lau et al., 2006), so the current pandemic might be a catalyst for many to increase the importance of mental wellness and build psychological resilience.

Horesh and Brown (2020) believe that many people will be resilient to the "loss, stress, and fear" (p. 331) associated

with COVID-19. For example, some specific factors seem likely to contribute to resilience or growth, including the use of mindfulness and adaptive coping skills, perceived social support, less use of maladaptive coping, and less psychological distress (Pidgeon & Pickett, 2017; Xie & Kim, 2022). When university students have been asked for their views, having social support, being able to have perspective of their situation, and maintaining health all tended to contribute to resilience (Holdsworth et al., 2018). Non-traditional college students have also been found to be more resilient (Chung et al., 2017) supporting the link between life experience, exposure to adverse experiences, and resiliency.

Stress usually leads people to have a coping response and the COVID-19 pandemic has certainly introduced high levels of stress into many people's lives. People engage in both passive and active coping to reduce stress; these include problem solving and emotion-focused coping (Baqutayan, 2015). Lack of sufficient coping skills during times of high stress may result in utilizing unhealthy coping strategies: as stress goes up, so does the likelihood of engaging in unhealthy strategies (Böke et al., 2019; Kar et al., 2021). However, healthy coping seems to be associated with reduced stress (Ganesan et al., 2018). Therefore, people have been recommended to learn healthy coping skills to better cope with stress (Ganesan et al., 2018; Ribeiro et al., 2018).

Having a healthy coping response can be particularly helpful for building resilience in response to disasters (Brooks, Amlôt et al., 2020). People who cope by "taking charge of the situation, engaging in proactive behaviours (sic), acceptance of the situation and allowing oneself to face traumatic thoughts" (Brooks, Amlôt et al., 2020, p. 55) have a greater chance of being resilient. Main et al.'s (2011) study found that people facing the previous SARS epidemic coped by employing active strategies (facing the stress antecedents and taking actions to reduce stress), avoidant strategies (e.g., denying the source of stress, using substances), or by seeking social support. Main et al. also found that those who tended to avoid had more psychological distress, while those who used more active approaches reported greater satisfaction with life. However, they encouraged the use of a range of coping strategies rather than sticking to just one because during times of high stress, any kind of coping can reduce the negative consequences.

Healthy coping therefore can help people deal with the stress of COVID-19 more effectively and build resilience. In fact, in a review of articles related to the current pandemic's effect on wellbeing, "perceived control, social support, need satisfaction, and habit" (p. 945) were found to be protective factors (Inauen & Zhou, 2020). Some recommended coping strategies specifically mentioned in relation to this pandemic include deep breathing, decreasing exposure to the news, avoiding unhealthy numbing (i.e., drugs and alcohol), having agency in one's life, helping others, and maintaining a connection to others (Gordon et al., 2020). Finally, focusing on physical health can improve self-awareness, increase immune

response, and also boost mental health (i.e., having a routine, getting regular sleep, engaging in exercise, sustaining social connections, getting exposure to sunlight and nature, consuming a healthy diet including fresh fruits and vegetables, etc.; Ilardi, 2010).

International Guidelines, Preparedness, and Mental Health Services

Preparedness is key to anticipating psychological and mental health needs during and after the pandemic and institutional guidelines for preparedness have been released (WHO, 2020c). Preparedness has been linked to greater resiliency during and after disasters (Brooks, Amlôt et al., 2020). In terms of linkage or access to mental health services, three main strategies can be considered: referral to mental health services, mental health professionals detached in primary care services, or training primary care professionals or lay volunteers in basic mental health support [e.g., crisis counseling, Psychological First Aid (Everly & Lating, 2017; Yang et al., 2020)]. Crisis interventions and counseling can be structured as a four-level set of interventions: information, support interventions that include referral schemes, brief interventions, and treatment. One of the main challenges in mental health is to overcome stigma to seek help or support and access services (WHO, 2020a). Outreach initiatives can be performed online (Loeb et al., 2020) and through accessing other services (e.g., testing, psychiatry).

Building Pandemic Resiliency in Organizations

There are certain things that organizations can do that can help encourage resiliency and peri/post-traumatic growth in their employees both during and after the COVID-19 pandemic. In a meta-analysis of the literature, Brooks, Amlôt et al. (2020) found that preparation; “training, experience, and perceived (personal) competence; social support; and effective coping strategies” (p. 52) all contributed to post-traumatic growth and resilience; the authors encouraged organizations to provide these for their employees. This seems relevant for supporting workers in relation to COVID-19. In fact, for workers who dealt with the previous SARS outbreak, social support, previous training, and greater knowledge and competence about reducing the spread of the virus was associated with less distress (Chen et al., 2006; Chua et al., 2004; Maunder et al., 2006).

Organizations can work collaboratively to address mental wellness in the workplace and improve workers’ mental health and general preparedness. Employers need to set clear boundaries and priorities; provide adequate training and opportunities to adapt new skills and technologies; be results-driven instead of presence-driven; engage with all stakeholders in the organization; provide clear communication as information from governments may change frequently and

suddenly; provide Psychological First Aid; provide employee assistance programs; or provide referrals where employees may seek professional advice (Bovopoulos et al., 2016; Memish et al., 2017).

Policy Suggestions and Further Research

The empirically based psychological literature seems to have a lot to offer in terms of helping society build resilience to the COVID-19 pandemic and reduce adverse mental health outcomes. Yet, this knowledge base needs to be shared, expanded, and integrated into policy. Therefore, this paper next explores some areas that resiliency literature can already contribute and should be considered by policy makers. Furthermore, researchers should replicate and expand the current studies to further our understanding and strengthen our confidence in the results.

Since extreme adversity can lead to reduced resilience (Seery et al., 2010), it is important for policies and treatments to be in place to help keep the trauma of the pandemic at a moderate level. Prevention should be at the forefront of all mental health policies; it has the additional benefit of being cost-effective as it has been known to be less costly than after-the-fact interventions (Miller, 2012). Interventions and policy reform that promote prevention, de-stigmatization, and normalization of mental health response should be evidence-based and/or closely evaluated. A survey of over 25,000 academics found that many of them think that policy makers have not “sufficiently taken scientific advice into account to mitigate the pandemic” (Rijs & Fenter, 2020).

Empirically backed studies should therefore inform decision making and policies (Rijs & Fenter, 2020). Such research and policies should support comprehensive and systemic-wide support structures that reduce the negative mental health impact of the pandemic and that promote resilience. Governments can take an active role in enhancing mental health resilience among their populations through targeted programing, community and social sector collaboration, and greater integration of mental health into more areas of society (Kola, 2022). Community partners need to be provided with funding, training, capacity building, education, and general prevention strategies in order to increase resilience among their population (Yip et al., 2021). Yip et al. note the importance of investing in the following for building community resilience in response to the pandemic: “physical and psychological health, economic well-being, communication, social connectedness and integration and involvement of organizations” (p. 7). Zhang et al. (2022) also corroborate the need for integrating sectors and developing an interdisciplinary framework for boosting resilience in light of the pandemic. Community resilience can be promoted through “actively cultivating social support, adaptive meaning, and direct prosocial behaviors to reach the most vulnerable”

(PeConga et al., 2020, p. S47). This pandemic could be a catalyst for massive mental health reform whereby all sectors of society come together to prioritize mental health and resiliency above all other factors; such a shift to prioritizing mental health is likely to improve other indices as well (Beckstein, 2021).

One potential way to mitigate adverse effects and inform further crisis management is to develop trauma-informed practice and trauma-responsive leadership (Esaki, 2020; Purtle, 2020). Trauma-informed practice has been developed by organizations working with trauma survivors (Harris & Fallot, 2006) and has been implemented within care (Bath, 2008) and educational contexts (Brunzell et al., 2019). The next step is to strengthen current trauma-informed services and develop trauma-informed practices for the public (Tebes et al., 2019) in relation to the pandemic.

Next, using technology has the potential to mitigate the mental health consequences and build resiliency. While technology assisted overexposure to pandemic related media may have a detrimental effect on mental health (Garfin et al., 2020; Shokri et al., 2020; Trnka & Lorencova, 2020), it has also been suggested that harnessing technology might be helpful in building resilience after community disasters (Deeming et al., 2019). Use of technology during this pandemic has already been suggested as having positive effects on mental health (Torous et al., 2020; Zhou et al., 2020). But there must be a wide scale “mental health technology revolution” that will allow for the provision of quality and affordable services to those in need (Figueroa & Aguilera, 2020). Providing digital literacy training for providers and users (Karnoe et al., 2018) could decrease the digital mental health divide (Figueroa & Aguilera, 2020). But practitioners also need to be trained on the ethical use of telepsychology (APA, 2013).

The global switch to online interventions or formats to ensure continuity of care overcame long-lasting reluctance toward online delivery for health professionals (Nagata, 2021; Zhou et al., 2020). While this leads to further challenges and inequalities in terms of access to and ability to use new technologies (i.e., digital literacy) for both service users and practitioners (Karnoe et al., 2018), the impact in terms of mental health is promising (Torous et al., 2020; Zhou et al., 2020). The digital delivery of mental health and/or counseling services can overcome known barriers such as geographical distance, rurality, and lack of *in situ* services, allowing for a wider audience (Ćosić et al., 2020; McCord et al., 2020), although a digital divide still exists for many to have access to adequate mental health care (Figueroa & Aguilera, 2020).

Next, due to the lack of trained mental health professionals and lack of time to train them properly, there needs to be alternative ways of supporting mental health and resiliency that do not have such a heavy reliance on professionals. First, “psychoeducation and evidence-base (*sic*) strategies can promote resilience” (p. 406) among individuals (Marques et al., 2020). Individuals can be educated about recognizing and

managing their own symptoms and stress responses and realizing when they might need additional support (Marques et al., 2020).

Next, more peer-to-peer and community-based supports need to be implemented. As one of the main suggestions for flattening the COVID-19 related mental health curve, it has been recommended to train less specialized workers in mental health support (Marques et al., 2020). Peer support influencers have been shown to be effective at “activating supportive mental health publics” (p. 4748) via online channels (McCosker, 2018). Therefore, there is a need to do massive Psychological First Aid trainings for the general public. Research supports that Psychological First Aid provided by the general population can be helpful for both those who are trained in it and also for the others who those who have been trained now have the skills to offer support to (Bisson & Lewis, 2009; Morgan et al., 2018). Most people are already naturally empathic and caring, so with some basic training they can learn quickly how to support others through improving basic support skills such as listening skills (e.g., acknowledging, hearing, normalizing, paraphrasing, clarifying, and having open body language). Such trainings might contribute a more compassionate and caring population, one that understands the intersecting identities contributing to the inequalities that COVID-19 has highlighted. This could be a positive outcome from the pandemic since during the previous SARS epidemic, people seemed to be more caring for others than usual (Lau et al., 2006). The prosocial acts of helping vulnerable populations likely can build community resilience in both the helpers and helpees (PeConga et al., 2020).

Lastly, mental health professionals will continue to play an important role in helping people cope with this and future pandemics and build resiliency. Mental health professionals already have some training and expertise to diagnose and treat many common problems, but they may need additional resources, training, and tools that are based on empirical evidence to most effectively help their clients boost resiliency during these unprecedented times. There has already been a short questionnaire developed to help people explore COVID-19 induced psychological distress (Ping et al., 2020), but now is the time for innovation in developing and validating effective diagnosis and resiliency building tools and interventions.

Since resiliency can be learned, fostered, and developed through social connection, healthy thinking, having a purpose, focusing on wellness, receiving help when needed (APA, 2012), and experiencing positive emotions (Cohn et al., 2009), mental health professionals can be crucial in helping people increase their resiliency through providing empirically based resiliency promoting interventions. Mental health professionals can further help by educating the general population about the importance of social support, whether from social networks or professionals, and how it tends to help build resiliency and result in better psychological outcomes (Jay, 2019). Such professionals can help those they

work with to foster personal control and personal agency as these factors are likely to contribute to being more resilient in relation to disasters (Deeming et al., 2019). While there are clearly some factors associated with resiliency, practitioners should consider that any number of combinations of contextual factors may be relevant for particular individuals and communities and therefore a “one size fits all” approach should be avoided. Rather, flexibly exploring strategies—and possibly adjusting those as the context changes—that are effective and relevant for each unique individual or group is recommended (Chen & Bonanno, 2020).

Limitations, Recommendations, and Implications

Narrative reviews present with biases regarding the non-systematic search, retrieval, and synthesis of included publications. Certainly, the current study lacked a systematic, structured approach, particularly given that different sections were completed by different authors. Biases of inclusion consist of focusing on English language only, which in the context of the COVID-19 pandemic shows strong limitations given the number of tools and interventions created, adapted, validated and published in local languages. Additional researcher confirmation biases were likely present given that the researchers come from a mental health background and may have inadvertently been looking for evidence to confirm their beliefs.

Despite roughly following quality criteria for narrative reviews (Baethge et al., 2019), the lack of comparable data only allowed for a narrative summary. Although different articles were added at different points in time (June 2020, April 2021, and February 2022), this by far does not represent all the possible articles that have been published on the topic. While likely strengthening the review, adding additional literature at these different time points was not an intentional part of the research plan. Rather, it was as a result of reviewer suggestions and the slow process of the article being accepted for publication requiring updates due to the rapidly burgeoning literature. The included articles from the beginning of the pandemic are far from a comprehensive look at all the possible effects of the pandemic and may be limited due to general lack of information at that time. The value of this review consists mostly in the overview it provides.

There are certainly a number of possible implications that can be extrapolated from this overview. These include possibilities of boosting resilience and mitigating adverse mental health consequences by informing mental health policy, preparedness, prevention, empirically-based treatment, inter-sector collaboration, education, strengthening technologies and decreasing the digital divide, training, utilization of paraprofessionals, psychoeducation, Psychological First Aid, funding and resource allocation, and ethical multicultural

practices (see above section for a more comprehensive review of these).

Other researchers are urged to further empirically investigate effective ways of boosting resilience to and reducing consequences of pandemics. Given the recency of the COVID-19 pandemic, articles retrieved provide an evidence-informed rather than evidence-based overview. Further systematic reviews and meta-analyses along with both qualitative and quantitative longitudinal studies would be relevant to inform specific aspects leading to evidence-based practice for enhancing resiliency and reducing the harmful consequences of the COVID-19 pandemic specifically and future pandemics in general.

Conclusion

While there has been a plethora of studies on mental health, crises, and pandemics published, there is still a dire need for more research to be conducted rapidly in order to advance our knowledge and offer practical solutions for building resiliency to this and future pandemics to ensure the least amount of psychological damage as possible. The current authors further Rijs and Fenter’s (2020) call for funding that supports empirical studies that can inform policy. Ongoing studies and meta-analyses about COVID-19 have started providing updated and preliminary empirical evidence to guide research, practice, and policies. Interventions and policies need to be based on best practices and the current accumulated empirical research. Given the recency (lack of follow-up) and context variability (e.g., countries, health systems), robust and validated interventions remain mostly local; hence, ethics in both research and treatment delivery remains paramount (APA, 2017).

This can be a critical time for a massive shift in transforming our worldwide mental health policies at all levels of society. In fact, the majority of people seem to prioritize mental wellness during virus outbreaks more than usual (Lau et al., 2006). Having the universal threat of the pandemic may have the potential to unite people through having a superordinate goal (Sherif & Sherif, 1953) that requires collaboration. It has been suggested that encouraging an “attitude of togetherness” (p. S48) during this pandemic can build resilience (PeConga et al., 2020). Multiple systems working together will be necessary to build resilience (Stark et al., 2020). The current authors advocate collaboration between all stakeholders to implement global mental wellness reform that prioritizes mental wellness equally or above other indices and also support Kola’s (2020) call for the global implementation of trauma-informed practice. Those who learn from this pandemic are likely to become more resilient to future crises (Rijs & Fenter, 2020). When people are mentally well, other objective indices such as productivity, health, and the economy, etc., will all increase also (Beckstein, 2021). This can support societal-level resiliency.

Appendix A

Reference	Mental health	Resilience	Coping	Lockdown/Quarantine
Agberotimi et al. (2020)	x			
Alexander and Qato (2020)	x			
APA (2020)			x	
Arango and Pelov (2020)				x
Bao et al. (2020)	x			
Beckstein (2021)	x			
Between the Lines (2020)	x	x	x	x
Blustein and Guarino (2020)	x		x	
Boettler et al. (2020)				x
Bonardi et al. (2021)	x			
Bordiano et al. (2021)	x			
Bourgault et al. (2021)	x			x
Bozdağ and Ergün (2021)		x		
Bradbury-Jones and Isham (2020)	x	x		
Brooks, Webster et al. (2020)	x			x
Cénat and Dalexis (2020)	x			
CDC (2020)	x	x	x	
Chen and Bonanno (2020)	x	x		
Chiesa et al. (2021)	x			x
Coates (2020)	x			
Ćosić et al. (2020)	x			
Cuartas (2020)	x			
Daly and Robinson (2021)	x	x		
Del Castillo et al. (2020)	x		x	
Dutra and Rocha (2021)	x	x	x	
Esterwood and Saeed (2020)	x		x	x
Fernández et al. (2022)	x			
Figuroa and Aguilera (2020)	x			
Fiorillo and Gorwood (2020)	x			
Fond et al. (2021)	x			
Galea et al. (2020)	x			x
Garfin et al. (2020)	x			
Geoffroy et al. (2020)	x		x	
Gordon et al. (2020)	x		x	
Greenberg et al. (2020)	x		x	
Havnen et al. (2020)	x	x		
Haynes (2020)	x			
He et al. (2020)	x	x		
Holmes et al. (2020)	x		x	
Horesh and Brown (2020)	x	x		
Hossain et al. (2020)	x			x
Ibrahim et al. (2020)	x		x	
Inauen and Zhou (2020)	x		x	
Jin et al. (2022)	x			
Kar et al. (2021)	x		x	
Keeter (2020)	x			
Keys et al. (2021)	x			
Zager Kocjan et al. (2021)	x	x		
Kola (2020)	x			
Kola (2022)	x	x		
Kuiper et al. (2020)				x

(continued)

Appendix A. (continued)

Reference	Mental health	Resilience	Coping	Lockdown/Quarantine
Lai et al. (2020)	x			
Leslie and Wilson (2020)	x			
Lewis et al. (2022)	x		x	
Li et al. (2020)	x			
Liu et al. (2020)	x			
Liu et al. (2021)	x			
Loeb et al. (2020)	x			
Lu et al. (2021)	x			x
Magesh et al. (2021)	x			
Marques et al. (2020)	x		x	x
McCord et al. (2020)	x			
Mitchell and Li (2021)	x			x
Nagata (2021)	x			
New Zealand Family Violence Clearinghouse (2020)	x			
Nortajuddin (2020)	x			
Ornell et al. (2020)	x			
Panchal et al. (2021)	x			
Panetta (2020)	x			x
Ping et al. (2020)	x			
Papadimos (2020)	x			
PeConga et al. (2020)	x	x		x
Posick et al. (2020)	x			
Qiu et al. (2020)	x			
Rajkumar (2020)	x			
Rajkumar (2021)	x	x		
Reger et al. (2020)	x			
Reny and Barreto (2022)	x			
Rieckert et al. (2021)	x	x		
Riedel et al. (2022)	x			
Rijs and Fenter (2020)		x		
Robinson et al. (2022)	x			
Rogers et al. (2021)	x			
Rolland et al. (2020)	x			
Sakurai and Chughtai (2020)	x	x		
Sandín et al. (2020)	x			x
Schildkraut et al. (2020)	x			x
Shaygan et al. (2021)	x	x		
Shi and Hall (2020)	x			
Shigemura et al. (2020)	x			x
Shoib et al. (2022)	x			
Shokri et al. (2020)	x			
Stark et al. (2020)	x	x		
Stefana et al. (2020)	x			
Tang and Xiang (2021)	x			
Taub (2020)	x			
Teo and Griffiths (2020)	x			
Thum et al. (2021)	x			
Torous, et al. (2020)	x		x	
Tracy et al. (2020)	x			
Trnka and Lorencova (2020)	x			
Turner-Musa et al. (2020)	x			
Tyson (2020)	x	x		

(continued)

Appendix A. (continued)

Reference	Mental health	Resilience	Coping	Lockdown/Quarantine
Vermeulen et al. (2022)	x			
Vukčević Marković et al. (2020)	x			
Weems et al. (2020)	x			
WHO (2020a)	x			
WHO (2020b)	x			
WHO (2020c)	x			
Wong et al. (2021)	x	x	x	
Wu et al. (2021)	x			
Xie and Kim (2022)	x	x	x	
Yang et al. (2020)	x			
Ye et al. (2020)	x	x	x	
Yip et al. (2021)	x	x	x	
Zhai and Du (2020)	x	x		
Zhang et al. (2022)	x	x		
Zhou et al. (2020)	x			

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