BMJ Open

Psychological resilience during COVID-19: a meta-review protocol

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To cite: Seaborn K, Chignell M, Gwizdka J. Psychological resilience during COVID-19: a meta-review protocol. *BMJ Open* 2021;**11**:e051417. doi:10.1136/bmjopen-2021-051417

► Prepublication history for this paper is available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2021-051417).

Received 18 March 2021
Accepted 04 June 2021

Check for updates

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ABSTRACT

Introduction The global COVID-19 pandemic continues to have wide-ranging implications for health, including psychological well-being. A growing corpus of research reviews has emerged on the topic of psychological resilience in the context of the pandemic. However, this body of work has not been systematically reviewed for its quality, nor with respect to findings on the effectiveness of tools and strategies for psychological resilience. To this end, a meta-review protocol is proposed with the following objectives: (1) identify review work on the topic of psychological resilience during COVID-19; (2) assess the quality of this review work using A MeaSurement Tool to Assess systematic Reviews; (3) assess the risk of bias in this work; (4) generate a narrative summary of the key points, strengths and weaknesses; (5) identify the psychological resilience strategies that have been reviewed; (6) identify how these strategies have been evaluated for their effectiveness; (7) identify what outcomes were measured and (8) summarise the findings on strategies for psychological resilience so far, providing recommendations, if possible.

Methods and analysis A systematic meta-review will be conducted in accordance with the Preferred Reporting Items for Systematic Reviews for Protocols and Joanna Briggs Institute umbrella review guidelines. Electronic searches of general databases, especially Web of Science, Scopus and PubMed, will be conducted. Only results from January 2020 onwards will be considered, coinciding with the COVID-19 pandemic. Only results in English will be included. Descriptive statistics, thematic analysis and narrative summaries describing the nature of the reviewed work and evaluation of psychological resilience strategies will be carried out.

Ethics and dissemination Ethical approval is not needed for systematic review protocols. The results of the meta-review will be published in an international peer-reviewed journal. The raw and summarised data will be shared in the journal or other open venues.

PROSPERO registration number CRD42021235288.

Strengths and limitations of this study

- The protocol was crafted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Protocols guidelines.
- The protocol was designed to be replicable and comprehensive, involving keywords and descriptors that are highly similar or relevant to psychological resilience so that multiple disciplines can be searched and a variety of measures can be assessed.
- The protocol was designed to evaluate the quality of review work conducted during COVID-19, and so is not limited to systematic reviews and meta-analyses.
- Limiting the inclusion criteria to papers that include the key term 'psychological resilience' in the abstract may lead to potentially relevant papers being missed.
- Limiting the inclusion criteria to English papers may lead to language bias.

INTRODUCTION

The COVID-19 global pandemic has been a disruptive force across many areas of life. In healthcare, mental health and psychological well-being has emerged as a key topic.[1–4] Most nations have strongly recommended or enforced social distancing, self-quarantine and physical isolation, all interventions that have known or predicted impacts on psychological well-being.[5] This has subsequently raised the issue of how to measure, manage and prevent, if possible, negative outcomes, ranging from anxiety to depression to suicide.[1–3 6–9] Psychological resilience is defined as positive adaptability or the ability to 'bounce back' when confronted with new and especially negative situations involving adversity, stress and trauma.[10–12] In a global pandemic such as COVID-19, the degree to which populations achieve psychological resilience, and how, may be essential for combating comorbidities related to psychological well-being. In assessing the impact of psychological resilience on the impact of COVID-19 on mental stress and mental well-being, results of different studies may be systematically biased by the target populations they observe. Socioeconomic status[13] and cultural factors,[14] among others may all impact the role of psychological resilience in moderating the impact of COVID-19 stressors.

One way to assess the state of affairs while taking account of factors such as quality and bias in review work is through a meta-review process. Meta-reviews, also called umbrella

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reviews or overviews of reviews, are systematic reviews of existing survey work that aim to generate clarity and consensus on a certain topic or research question.[15 16] A key aspect of meta-reviews is an assessment of quality of the review work conducted.[15 17 18] The intended beneficiaries are the academic community, the public at large and especially decision-makers. Typically, meta-reviews summarise survey work that represents the highest level of evidence achievable: systematic reviews and meta-analyses of primary studies.[15] Yet, COVID-19 has created a special situation in which there is an urgent demand for answers as well as greater flexibility in what gets published.[19] This 'paperdemic' is raising serious questions about scientific integrity during COVID-19.[19] We expect that the body of review work on psychological resilience is no different: that it has and will be subject to the same pressures of time and demand. Indeed, a cursory review of the literature that purports to synthesise prior research shows that much of the work cannot be classified as systematic reviews or meta-analyses. Yet, as citation counts and news coverage indicate, we are relying on this body of work to understand the state of affairs and make decisions about healthcare. As such, the effects of the COVID-19 situation on research practice need to be acknowledged and integrated into meta-review protocols. This means expanding the purview of meta-review protocols to include other kinds of survey work beyond systematic reviews and meta-analyses. Additionally, protocols must assess the quality of the methods used, summarise the state of the art and generate consensus for healthcare decision-making.

To this end, the goal of this meta-review protocol is to provide a means of systematically surveying the previous and emerging review work, broadly defined, on psychological resilience published during COVID-19. The following two-pronged approach is provided: (1) describe the nature and quality of this body of work and (2) summarise the findings on the strategies that have been deployed to assess, maintain and encourage psychological resilience during COVID-19. The results of conducting this protocol will help us understand the state of the literature methodologically as well as summarise the findings for building knowledge and taking action.

METHODS AND ANALYSIS

Objectives

The goal is to assess the nature and quality of survey work on the topic of psychological resilience, and to summarise findings on the strategies that have been deployed to assess, maintain and encourage psychological resilience during COVID-19. Two research questions follow from this: (RQ1) What is the nature and quality of the survey work published on this topic? (RQ2) What consensus can be derived from the survey work on strategies used to assess, encourage and/or maintain psychological resilience during COVID-19? In answering these questions, the following objectives will be met: (1) identification of review work on the topic of psychological resilience during COVID-19; (2) assessment of the quality of this body of work; (3) assessment of the risk of bias in this body of work; (4) generation of a narrative summary of the key points, strengths and weaknesses revealed by this body of work; (5) identification of the psychological resilience strategies that have been reviewed; (6) assessing the effectiveness of these strategies; (7) identification of outcomes and (8) summarisation of the findings so far, with recommendations where possible.

Study design

The meta-review protocol will be conducted in line with the Preferred Reporting Items for Systematic review and Meta-analysis Protocols (PRISMA-P) guidelines,[20] with additional guidance for meta-reviews according to Aromataris *et al*.[15]

Search strategy and information sources

Scopus, Web of Science and PubMed, the standard general and broad-indexing databases, will be searched in June 2021. Only peer-reviewed English language publications (eg, not papers posted to archival websites or grey literature) will be included. Preliminary searches were conducted on 16 and 19 January 2021 to test the initial queries and keywords as well as to generate a first look at the state of affairs. See table 1 for the full search queries.

Eligibility criteria

Study design

All types of systematic research surveys will be included. Relevant terms are included in the search keywords based on the typology created by Grant and Booth.[21] Unpublished papers will be excluded.

Condition or domain being studied

Survey work on psychological resilience during COVID-19, involving the general population or specific subsets, and reporting on strategies for assessing, encouraging and/or maintaining psychological resilience during COVID-19, will be included. Survey work before COVID-19 or excluding COVID-19 will not be included. All strategies, whether proposed or evaluated, whether during COVID-19 or prospectively applied to COVID-19, will be included. Survey work that does not feature psychological resilience or adjacent topics, for example, personal strengths, positive functioning, coping strategies, etc, will be excluded.

Setting

Only work conducted on the COVID-19 pandemic will be included. However, we will evaluate whether or not the surveyed reviews include work from before the pandemic.

Time frame

A date range of January 2020 and June 2021 will be set, coinciding with the start of COVID-19 up until the start of the planned query searches.

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Table 1 Search queries

Database	Metadata	Query	Filters
Web of Science	Topic (TS)	(AB=resilien* AND TS=(resilien* OR psycholog* OR personal* OR positiv* OR "cope" OR "coping" OR "personal strength") AND TS=((covid OR covid OR coronavirus OR Sars-Cov-2) AND ("literature review" OR "systematic survey" OR "systematic review" OR "rapid review" OR "literature survey" OR "review article" OR "survey article" OR "meta-analysis" OR "living review" or "mapping review" or "qualitative evidence synthesis" or "scoping review" or "state-of-the-art review" or "systematized review" or "narrative review" or "comprehensive review"))) AND LANGUAGE: (English) AND DOCUMENT TYPES: (Article OR Book OR Book Chapter OR Early Access OR Proceedings Paper)	Year (2020, 2021), Language (English), Doctype (Article, Book, Book Chapter, Early Access, Proceedings Paper)
Scopus	Article title, abstract, keywords	(TITLE-ABS(resilien*) AND (TITLE-ABS-KEY(psycholog*) OR TITLE-ABS-KEY(personal*) OR TITLE-ABS-KEY(positiv*) OR TITLE-ABS-KEY(cope) OR TITLE-ABS-KEY(coping)) OR TITLE-ABS-KEY("personal strength")) AND (TITLE-ABS-KEY(covid) OR TITLE-ABS-KEY(covid) OR TITLE-ABS-KEY(coronavirus) OR TITLE-ABS-KEY(sars-cov-2)) AND (TITLE-ABS-KEY("literature review") OR TITLE-ABS-KEY("systematic survey") OR TITLE-ABS-KEY("systematic review") OR TITLE-ABS-KEY("rapid review") OR TITLE-ABS-KEY("literature survey") OR TITLE-ABS-KEY("review article") OR TITLE-ABS-KEY("survey article") OR TITLE-ABS-KEY("meta-analysis") OR TITLE-ABS-KEY("living review") OR TITLE-ABS-KEY("mapping review") OR TITLE-ABS-KEY("qualitative evidence synthesis") OR TITLE-ABS-KEY("scoping review") OR TITLE-ABS-KEY("state-of-the-art review") OR TITLE-ABS-KEY("systematized review") OR TITLE-ABS-KEY("narrative review") OR TITLE-ABS-KEY("comprehensive review")))	Year (2020, 2021), Language (English)
PubMed	Title/ abstract, text word	((resilien*(Title/Abstract)) AND (resilien*(Text Word] OR psycholog*(Text Word] OR personal*(Text Word] OR positiv*(Text Word] OR cope(Text Word] OR coping(Text Word] OR "personal strength"(Text Word)) AND (SARS-CoV-2(Text Word] OR covid(Text Word] OR Coronavirus(Text Word)) AND ("literature review"(Text Word] OR "systematic survey"(Text Word] OR "systematic review"(Text Word] OR "rapid review"(Text Word] OR "literature survey"(Text Word] OR "review article"(Text Word] OR "survey article"(Text Word] OR "meta-analysis"(Text Word] OR "living review"(Text Word] OR "mapping review"(Text Word] OR "qualitative evidence synthesis"(Text Word] OR "scoping review" [Text Word] OR "state-of-the-art review"(Text Word] OR "systematized review"(Text Word] OR "narrative review"(Text Word] OR "comprehensive review"(Text Word]))	Year (2020, 2021), Language (English)

Selection process

One researcher will run the search queries. The researcher will then extract the results to Zotero, a reference management software. Two researchers will screen the results by applying the inclusion/exclusion criteria based on the title and abstract. Two researchers will then independently rate the quality of the surveys using A MeaSurement Tool to Assess systematic Reviews (AMSTAR-2).[22] Inter-rater reliability testing using Cohen's Kappa statistic will be used. Disagreements will be discussed and re-assessments will take place until a Kappa value of ≥0.80 is achieved between the ratings of the two researchers. A third researcher will be involved as a tiebreaker in the case of unresolvable disagreements between the two researchers. Papers that were mistakenly included in the first step or are of poor quality (three or less) will be excluded. Google sheets, Covidence and/or SRDR+ will be used to track and record decisions and ratings and their analysis.

Data collection and extraction process

Three researchers will divide the corpus of papers and extract the data independently, but within the same shared spreadsheet/database. Extracted data will include citation details, objectives, type of survey, participant demographics, setting and context, number of databases sourced and searched, date range of database searches, publication date range of studies, number of studies, types of studies, country of origin of studies, study quality assessment tool used, quality ratings of studies, outcomes reported, method of synthesis/analysis/narrative, measures and instruments related to RQ2, assessment of these measures, effect sizes with CIs, thematic or content frameworks and major findings. Missing data will be marked with a dash. Google sheets, Covidence and/or SRDR+ will be used to record the data.

Outcomes

Several outcomes are expected for RQ1. A description of the nature of surveys conducted will be produced. An assessment of the quality of the body of work using the AMSTAR-2 tool[22] will be provided. An assessment of the risk of bias across studies identified will be generated using a funnel plot of effect size over standardised mean differences plus a measure of heterogeneity, as per the Cochrane PRISMA guidelines.[23] Finally, a narrative summary of key features, including strong points and weaknesses across the body of work, will be derived. Next steps will be presented in the form of a research agenda.

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For RQ2, any findings related to the evaluation of psychological resilience strategies will be summarised quantitatively or in narrative form. Measures could include standardised mean differences (continuous variables), ORs (dichotomous variables), descriptive statistics for tests of internal and external reliability (eg, Cronbach's alpha), thematic or content analyses of qualitative data, and more. We will use standard statistics software, such as SPSS, R and Microsoft Excel, to conduct these analyses.

Risk of bias (quality) assessment

The ratings resulting from the application of the AMSTAR-2 tool[22] during the study screening phase will be used to assess the quality of each included survey and the overall quality of the body of survey work. The ratings will be processed in line with Natto and Hameedaldain,[24] that is, converted to numbers and summed. Where discrepancies in ratings occur, the average (mean) score between raters will be used.

Data analysis and synthesis

In line with Aromataris *et al*,[15] we will analyse and synthesise the quantitative and qualitative data separately, per each of our meta-review research questions.

To answer RQ1, we will provide descriptive statistics on the nature of the surveys, including mean values, medians, SD and interquartile ranges for all quantitative variables. We will use t-tests to check if gender and other key demographics or variables were equally distributed. For quality, we will categorise the scores from the AMSTAR-2 tool according to the quality categories provided by Shea *et al*.[22] We will then take a random selection of other pre-COVID meta-reviews that used the AMSTAR-2 and compare the distribution across categories with our dataset.

To answer RQ2, we expect diverse research data, so we will divide the findings by quantitative and qualitative data reported. Quantitative data will then be summarised based on variable, measures, effect sizes and outcomes. Where possible, we will do meta-analyses. Qualitative data will be summarised in narrative form based on phenomena of interest.

Patient and public involvement

No patient or public involvement is planned. However, the raw and summarised data will be made available after publication.

Ethics and dissemination

No ethics review process was necessary for this work. We do not foresee any safety issues related to this work. We will publish the results of this protocol as a complete meta-review paper in an international peer-reviewed reputable academic journal. We will provide the extracted and summarised data in spreadsheets or similar formats through the journal and/or our institutional repositories, non-for-profit research archives and/or our personal websites.

DISCUSSION

Meta-reviews are urgently needed as the COVID-19 global pandemic continues to play out. We must understand the state of affairs in research survey work as well as the state of the art on healthcare topics. COVID-19 is the first global pandemic in the modern communications era, meaning that it is also the first where the impacts of social distancing and other interventions have been moderated to some extent by digital technologies. Many of the impacts of COVID-19 appear to be similar across a broad range of countries, with responses such as antimask and antilockdown protests occurring across diverse societies and cultures. The stressors created by COVID-19 have been many and varied, testing the resilience of people in different contexts. Examples include people sheltering at home, young people who have had their social lives curtailed or schooling impaired, older people who have become more isolated and perhaps even 'imprisoned' in residences or care homes, essential workers who are exposed to COVID-19, long-haulers and front-line workers. Each of these COVID-19 contexts offer unique, perhaps 'once in a century' opportunities to study resilience in different contexts on a global scale.

The proposed overview of reviews we have described in this article will capture a snapshot of how resilience has been studied in the time of COVID-19. It is characterised by a reproducible procedure, including descriptions of data sources, search strategy, and data extraction methods. Thus, we have contributed a comprehensive and replicable meta-review protocol on a timely and vital topic—psychological resilience—that will serve to capture and critically evaluate the quality of review work as well as generate a synthesis of health outcomes and potentially recommendations across fields of study and modes of practice. The meta-review is expected to provide consensus on outcomes and provoke a more comprehensive, critical view of survey work during the pandemic.

Correction notice This article has been corrected since it was published. The ORCID id has been updated for Jacek Gwizdka.

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Contributors All authors made substantial contributions to the work. KS: led the design of the protocol and drafted the paper. MC: contributed to the protocol design, focusing on the data analysis portion and selection of the quality assessment instrument. JG: contributed to the protocol design, focusing on the keywords and query design. MC: critically reviewed and refined the draft. All authors sourced references. All authors confirmed the article before submission.

Funding Open access fee was funded by an NSERC Discovery Grant awarded to MC.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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REFERENCES

1 Giebel C, Pulford D, Cooper C, *et al*. COVID-19-related social support service closures and mental well-being in older adults and those affected by dementia: a UK longitudinal survey. *BMJ Open* 2021;11:e045889.
2 Robillard R, Saad M, Edwards J, *et al*. Social, financial and psychological stress during an emerging pandemic: observations from a population survey in the acute phase of COVID-19. *BMJ Open* 2020;10:e043805.
3 Ranieri V, Sem Stoltenberg A, Pizzo E, *et al*. COVID-19 welbeing study: a protocol examining perceived coercion and psychological well-being during the COVID-19 pandemic by means of an online survey, asynchronous virtual focus groups and individual interviews. *BMJ Open* 2021;11:e043418.
4 Silva Junior FJGda, Sales JCES, Monteiro CFdeS, *et al*. Impact of COVID-19 pandemic on mental health of young people and adults: a systematic review protocol of observational studies. *BMJ Open* 2020;10:e039426.
5 Williams CYK, Townson AT, Kapur M, *et al*. Interventions to reduce social isolation and loneliness during COVID-19 physical distancing measures: a rapid systematic review. *PLoS One* 2021;16:e0247139.
6 Jia R, Ayling K, Chalder T, *et al*. Mental health in the UK during the COVID-19 pandemic: cross-sectional analyses from a community cohort study. *BMJ Open* 2020;10:e040620.
7 Shahil Feroz A, Akber Ali N, Akber Ali N, *et al*. Impact of the COVID-19 pandemic on mental health and well-being of communities: an exploratory qualitative study protocol. *BMJ Open* 2020;10:e041641.
8 Bueno-Notivol J, Gracia-García P, Olaya B, *et al*. Prevalence of depression during the COVID-19 outbreak: a meta-analysis of community-based studies. *Int J Clin Health Psychol* 2021;21:100196.
9 Santabárbara J, Lasheras I, Lipnicki DM, *et al*. Prevalence of anxiety in the COVID-19 pandemic: an updated meta-analysis of community-based studies. *Prog Neuropsychopharmacol Biol Psychiatry* 2021;109:110207.
10 Tugade MM, Fredrickson BL. Resilient individuals use positive emotions to bounce back from negative emotional experiences. *J Pers Soc Psychol* 2004;86:320–33.
11 American Psychological Association. Building your resilience. Available: https://www.apa.org. 2012.https://www.apa.org/topics/resilience [Accessed 17 Mar 2021].
12 Costanza A, Amerio A, Odone A, *et al*. Suicide prevention from a public health perspective. what makes life meaningful? The opinion of some suicidal patients. *Acta Biomed* 2020;91:128–34.
13 Wu X, Li X, Lu Y, *et al*. Two tales of one City: unequal vulnerability and resilience to COVID-19 by socioeconomic status in Wuhan, China. *Res Soc Stratif Mobil* 2021;72:100584.
14 Braun-Lewensohn O, Abu-Kaf S, Kalagy T. Hope and resilience during a pandemic among three cultural groups in Israel: the second wave of Covid-19. *Front Psychol* 2021;12:637349.
15 Aromataris E, Fernandez R, Godfrey CM, *et al*. Summarizing systematic reviews: methodological development, conduct and reporting of an umbrella review approach. *Int J Evid Based Healthc* 2015;13:132–40.
16 Higgins JPT, Thomas J, Chandler J. *Cochrane Handbook for systematic reviews of interventions*. 2nd edn. John Wiley & Sons, 2019.
17 Lorente S, Vives J, Viladrich C, *et al*. Tools to assess the measurement properties of quality of life instruments: a meta-review protocol. *BMJ Open* 2018;8:e022829.
18 Lorente S, Viladrich C, Vives J, *et al*. Tools to assess the measurement properties of quality of life instruments: a meta-review. *BMJ Open* 2020;10:e036038.
19 Dinis-Oliveira RJ. COVID-19 research: pandemic *versus* "paperdemic", integrity, values and risks of the "speed science". *Forensic Sci Res* 2020;5:174–87.
20 Shamseer L, Moher D, Clarke M, *et al*. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ* 2015;349:g7647.
21 Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Info Libr J* 2009;26:91–108.
22 Shea BJ, Reeves BC, Wells G, *et al*. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ* 2017;358:j4008.
23 Liberati A, Altman DG, Tetzlaff J, *et al*. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *BMJ* 2009;339:b2700.
24 Natto ZS, Hameedaldain A. Methodological quality assessment of meta-analyses and systematic reviews of the relationship between periodontal and systemic diseases. *J Evid Based Dent Pract* 2019;19:131–9.

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