

**PREDICTORS OF SOCIAL DISTANCING
TO PREVENT THE COMMUNITY SPREAD
OF SARS-COV-2:**

**Who does not adhere to
social distancing measures,
why and in what context?**

A Rapid Evidence Assessment

April 2023

UNICEF Innocenti – Global Office of Research and Foresight

UNICEF Innocenti – Global Office of Research and Foresight tackles the questions, both current and emerging, of greatest importance for children. It drives change through research and foresight on a wide range of child rights issues, sparking global discourse and actively engaging young people in its work.

UNICEF Innocenti equips thought leaders and decision-makers with the evidence they need to build a better, safer world for children. The office undertakes research on unresolved and emerging issues, using primary and secondary data that represent the voices of children and families themselves. It uses foresight to set the agenda for children, including horizon scanning, trends analysis and scenario development. The office produces a diverse and dynamic library of high-level reports, analyses and policy papers, and provides a platform for debate and advocacy on a wide range of child rights issues.

UNICEF Innocenti provides, for every child, answers to their most pressing concerns.

The findings, interpretations and conclusions expressed in this paper are those of the authors and do not necessarily reflect the views of UNICEF. This paper has been peer reviewed both externally and within UNICEF.

Extracts from this publication may be freely reproduced with due acknowledgement. Requests to utilize larger portions or the full publication should be addressed to the Communications Unit at: researchpublications@unicef.org

Any part of this publication may be freely reproduced if accompanied by the following citation: Predictors of Social Distancing to Prevent the Community Spread of SARS-CoV-2: Who does not adhere to social distancing measures, why and in what context? A Rapid Evidence Assessment, London Metropolitan University Performance with Purpose Research Centre. UNICEF Innocenti – Global Office of Research and Foresight, Florence, 2023.

This research was commissioned and funded by UNICEF and undertaken by London Metropolitan University's Performance with Purpose Research Centre.

London Metropolitan University Performance with Purpose Research Centre

London Metropolitan University's Performance with Purpose Research Centre is located within the Guildhall School of Business and Law. The Centre focuses on research that addresses real societal challenges, such as inclusion, social value and equity, and applies business and management techniques to support effective organizational performance in tackling social problems. The research team was led by Dr. Stephen Hills and included Dr. Justin Webb, Dr. Anna Baker, Dr. Somayeh Pouransari and Alexandros Semertzi. For more information please visit: www.londonmet.ac.uk/research/centres-groups-and-units/performance-with-purpose-research-centre

UNICEF Europe and Central Asia

UNICEF works with and for disadvantaged children and adolescents across 22 countries and territories in Europe and Central Asia where we have country programmes. We also have programmes to respond to the needs of refugee and migrant women and children in the Czech Republic, Greece, Hungary, Italy, Poland and Slovakia, as well as engagement with institutions across many more countries to uphold the rights of children. In line with our mandate, shaped by the Convention on the Rights of the Child (CRC) and the Sustainable Development Goals (SDGs), we work to ensure that no child is left out of economic and social progress.

Correspondence should be addressed to:

UNICEF Innocenti – Global Office of Research and Foresight
Via degli Alfani, 58
50121 Florence, Italy
Tel: (+39) 055 20330/Fax: (+39) 055 2033220

researchpublications@unicef.org

www.unicef-irc.org

@UNICEFINnocenti on Twitter, LinkedIn, Facebook, Instagram and YouTube

© 2023 United Nations Children's Fund (UNICEF)

Graphic design by Mason Riley, London Metropolitan University

CONTENTS

01 EXECUTIVE SUMMARY	4
02 INTRODUCTION	8
03 METHODOLOGY	10
04 EVIDENCE	16
05 WHO IS MORE LIKELY TO NOT ADHERE TO SOCIAL DISTANCING MEASURES AND IN WHAT CONTEXT?	21
5.1 Demographics	22
5.1.1 Age	22
5.1.2 Sex/gender	30
5.1.3 Education	38
5.1.4 Income	45
5.1.5 Race/ethnicity	51
5.1.6 Marital status	56
5.1.7 Living area	60
5.1.8 Essential worker status	64
06 WHY ARE PEOPLE MORE LIKELY TO NOT ADHERE TO SOCIAL DISTANCING MEASURES AND IN WHAT CONTEXT?	69
6.1 Psychological capability	70
6.1.1 Mental health	70
6.1.2 COVID-19 knowledge	76
6.1.3 Social media	81
6.2 Social opportunity	85
6.2.1 Perceived social normative pressure	85
6.2.2 Political ideology	90
6.3 Reflective motivation	95
6.3.1 Perceived susceptibility to COVID-19	95
6.3.2 Perceived behavioural control	100
6.3.3 Behavioural intention	105
6.3.4 Trust in government	109
07 CONCLUSIONS	113
7.1 Who is more likely to not adhere to social distancing measures and in what context?	114
7.2 Why are people more likely to not adhere to social distancing measures and in what context?	117
08 POLICY IMPLICATIONS	120
8.1 Targeting those more likely to not adhere to social distancing measures	121
8.2 Improving psychological capability	124
8.3 Improving social opportunity	126
8.4 Improving reflective motivation	128
09 REFERENCES	130

EXECUTIVE SUMMARY

01

Background

Non-pharmaceutical interventions (NPIs) have played a critical role in reducing transmission rates and the impact of COVID-19 and will continue to be an important tool in slowing and preventing the spread of SARS-CoV-2. Despite effective vaccines being available since 2020, they have thus far been unable to eradicate COVID-19 due to variations in vaccine uptake, global inequities in vaccine access and the emergence of new variants. Therefore, NPIs, including social distancing and even lockdowns, have been retained as a protective measure against COVID-19.

Research questions

1. Who is more likely to not adhere to social distancing measures?
2. Why are people more likely to not adhere to social distancing measures?
3. In what context are people more likely to not adhere to social distancing measures?

Conceptual framework

The COM-B model proposes that there are three components which play a pivotal role in producing behaviour and which, therefore, can be modified to change it. According to the model, in order to perform a behaviour, an individual must feel that they are physically and psychologically capable of performing it, have the physical and social opportunity to perform it and the motivation to perform it such that they want to or need to carry out the behaviour more than competing ones.

Methodology

A systematic search of the literature was undertaken to identify empirical research in journal articles written in

English, published up to and including 30 June 2021, which investigated factors associated with social distancing adherence to limit the spread of SARS-CoV-2. Keywords and search strings were designed and tested to capture this focus and a systematic search was undertaken in PubMed Central, Web of Science and Google Scholar, which returned 561 studies about social distancing adherence. The returned articles underwent title, abstract and full text screening against the inclusion and exclusion criteria before a quality appraisal determined the final list of 29 unique studies to be included in this rapid evidence assessment (REA). These studies underwent thematic analysis to establish the factors associated with social distancing non-adherence before the evidence was segmented by region, cultural groups and income of countries to establish the contexts in which the factors were predictive of social distancing non-adherence, using the COM-B model as a theoretical framework.

Who is more likely to not adhere to social distancing measures and in what context?

Age: Younger age groups are more likely to not adhere to social distancing measures: [59 per cent of studies; 13 out of 22], as particularly evident in North American [78 per cent of studies, 7 out of 9] and Anglo cultural group [77 per cent of studies, 10 out of 13] countries.

Sex/gender: The relationship between sex/gender and social distancing adherence is inconclusive [52 per cent of studies, 11 out of 21 found that sex/gender is not associated with social distancing adherence; 48 per cent of studies, 10 out of 21 found that males are more likely to not adhere to social distancing measures].

Education: Level of education is not associated with social distancing adherence [54 per cent of studies, 7 out of 13].

Income: Amount of income is not associated with social distancing adherence [75 per cent of studies, 6 out of 8],

as particularly evident in North American [80 per cent of studies, 4 out of 5], Anglo cultural group [75 per cent of studies, 6 out of 8] and high-income [78 per cent of studies, 7 out of 9] countries.

Race/ethnicity: Race/ethnicity is not associated with social distancing adherence [71 per cent of studies, 5 out of 7], as particularly evident in Anglo cultural group [75 per cent of studies, 6 out of 8] and high-income [75 per cent of studies, 6 out of 8] countries.

Marital status: There is insufficient evidence to make conclusions about the relationship between marital status and social distancing adherence.

Living area: Whether someone is a rural or urban dweller is not associated with social distancing adherence [100 per cent of studies, 4 out of 4].

Essential worker status: Essential workers are more likely to not adhere to social distancing measures [75 per cent of studies, 3 out of 4], as particularly evident in Anglo cultural group [75 per cent of studies, 3 out of 4] and high-income [75 per cent of studies, 3 out of 4] countries.

Why are people more likely to not adhere to social distancing measures and in what context?

Psychological capability: Our psychological capability to perform a behaviour.

Mental health: The relationship between mental health and social distancing adherence is inconclusive [38 per cent of studies, 3 out of 8 found that mental health sufferers are more likely to not adhere to social distancing measures; 38 per cent of studies, 3 out of 8 found that mental health was not associated with not adhering to social distancing measures].

COVID-19 knowledge: People with less COVID-19 knowledge or who believe COVID-19 conspiracy theories are more likely to not adhere to social distancing measures [80 per cent of studies, 4 out of 5], as particularly evident in high-income countries [75 per cent of studies, 3 out of 4].

Social media: There is insufficient evidence to make conclusions about the relationship between social media use and social distancing adherence.

Social opportunity: External social opportunities required to make performing a behaviour possible, such as social pressures, cultural rules and expectations, and cultural perceptions.

Perceived social normative pressure: There is insufficient evidence to make conclusions about the relationship

between perceived social normative pressure and social distancing adherence.

Political ideology: Right-wing or conservative voters are more likely to not adhere to social distancing measures [80 per cent of studies, 4 out of 5], as particularly evident in North American [75 per cent of studies, 3 out of 4], Anglo cultural group [80 per cent of studies, 4 out of 5] and high-income [80 per cent of studies, 4 out of 5] countries.

Reflective motivation: The reflective and internal processes by which we evaluate existing situations, influencing our decision-making and thus behaviours.

Perceived susceptibility: The relationship between perceived susceptibility to COVID-19 and social distancing adherence is inconclusive [50 per cent of studies, 4 out of 8 found that as perceived susceptibility increases, social distancing non-adherence decreases; 50 per cent of studies, 4 out of 8 found that as perceived susceptibility increases, social distancing non-adherence increases].

Perceived behavioural control: People who perceive themselves to have less control over their social distancing are more likely to not adhere to social distancing measures [100 per cent of studies, 5 out of 5], as particularly evident in high-income [100 per cent of studies, 6 out of 6] countries.

Behavioural intention: There is insufficient evidence to make conclusions about the relationship between behavioural intention and social distancing adherence.

Trust in government: There is insufficient evidence to make conclusions about the relationship between trust in government and social distancing adherence.

Policy implications

Support younger age groups to socially distance: Further research is required to understand why younger age groups are more likely to not adhere to social distancing measures. For example, younger age groups may feel less vulnerable to COVID-19 and have greater fear of missing out, such that they are more inclined to risk catching the virus.

Support essential workers to socially distance: Essential workers are required to continue their work in person when other workers are either not required to work or are able to work from home, so are less able to socially distance. Restructuring of essential workers' work environment and training on how to limit social contact should be undertaken to support them to socially distance.

Increase COVID-19 knowledge and reduce acceptance of COVID-19 conspiracy theories: Continued regulation of

COVID-19 conspiracy theories on social media and other channels can help to limit the spread of information that is eroding COVID-19 knowledge. However, a more sustainable approach is empowering people to be able to think critically about information, so as to be able to distinguish fact from fiction. Schools should place an emphasis on teaching critical thinking. Social marketing campaigns should be used to educate populations on how to maintain social distancing and to highlight the evidence of its effectiveness in limiting the spread of SARS-CoV-2, using quality information presented by reliable and respected sources.

Depoliticize COVID-19 and diversify messengers promoting protective measures: Lockdown measures and removal of freedoms serve to strengthen the political divide and should be avoided wherever possible. Messengers should be diversified, using non-political figures and right-wing and conservative leaders to promote the importance of social distancing.

Increase behavioural control by providing space and choice to enable work and essential services: Where possible, require that employers provide their employees with the option of working from home. Restrict the number of people permitted to access certain locations, so that there remains space for people to have control over their social distancing; ensure capacity of delivery services for essential goods, such as groceries and medicine, so that people can control their need to be out in public; and provide environmental cues, such as signs and visual markers on the floor, use barriers to separate people and implement one-way systems to increase capability to socially distance.

INTRODUCTION

02

Background

Non-pharmaceutical interventions (NPIs) have played a critical role in reducing transmission rates and the impact of COVID-19 and will continue to be an important tool in slowing and preventing the spread of SARS-CoV-2. Despite effective vaccines having been available since 2020, they have thus far been unable to eradicate COVID-19 due to variations in vaccine uptake, global inequities in vaccine access (1) and the emergence of new variants (2). Therefore, NPIs, including social distancing and even lockdowns, have been retained as a protective measure against COVID-19.

This (REA) seeks to understand and synthesize the existing evidence about who does not adhere to social distancing measures, why and in what context. It focuses on non-adherence, rather than adherence, so to be able to inform policies and interventions for those who require support to socially distance.

This report forms part of a larger evidence assessment to investigate NPIs or behavioural interventions to prevent the community spread of SARS-CoV-2, namely the delay or refusal of vaccination, mask wearing and self-isolation.

Research questions

1. Who is more likely to not adhere to social distancing measures?
2. Why are people more likely to not adhere to social distancing measures?
3. In what context are people more likely to not adhere to social distancing measures?

Conceptual framework

The COM-B model (3) was used as a conceptual framework for this REA. It proposes that there are three components which play a pivotal role in producing behaviour and which, therefore, can be modified to change it. According to the model, in order to perform a behaviour, such as the behaviour of social distancing, an individual must feel that they are physically and psychologically capable of performing it, have the physical and social opportunity to perform it and the motivation to perform it such that they want to or need to carry out the behaviour more than competing ones, such as not adhering with social distancing measures.

- **Capability:** Our abilities to perform a behaviour, including psychological capability, such as knowledge, and physical capability.
- **Opportunity:** External factors required to make performing a behaviour possible, including physical opportunities, such as being able to access a location, having the time and the resources, and social opportunities, such as social pressures, cultural rules and expectations, and cultural perceptions. Furthermore, opportunities may include campaigns or interventions (e.g., advertising campaigns) designed to encourage adherence.
- **Motivation:** Internal processes that influence our decision-making and thus behaviours, including reflective motivation, which covers the reflective processes whereby we evaluate existing situations, such as perceptions of the impact of the behaviour on oneself, and automatic motivation, such as desires and impulses.

03

Systematic search

Inclusion criteria: The inclusion criteria are presented in Table 1 below. Only published academic journal articles are included in this REA, so that the evidence being rapidly assessed has first gone through the peer review process to pass an initial quality threshold. Only studies written in English are included, such that there may be relevant evidence published in non-English that is excluded in this review. Collection of evidence commenced on 30 June 2021, so any studies published after this date are excluded. This REA includes factors (e.g., demographics, capabilities, opportunities, motivations, campaigns) associated with the non-adherence (or conversely the adherence) of social

distancing measures. Studies about efficacy of social distancing measures are excluded, but studies about the efficacy of campaigns to increase social distancing adherence are included, if available. Although there are pre-COVID-19 studies (e.g., SARS, Ebola, swine flu), in these contexts they are excluded and only ones in the context of COVID-19 are included. Study designs that are included are empirical research, whether quantitative or qualitative. Theoretical or conceptual studies are excluded, as are studies that lack explanation of the methodology used or which are secondary literature reviews (as opposed to systematic reviews or REAs). Systematic reviews or REAs are also excluded to avoid double review of studies included in the REA as independent studies.

Table 1: Inclusion criteria

	Inclusion criteria	Exclusion criteria
Publication format	Journal articles	Not journal articles Pre-prints
Language	English	Not in English
Publication date	Up to and including 30 June 2021	Post 30 June 2021
Aim of study	Investigating factors associated with social distancing non-adherence (or conversely social distancing adherence) Efficacy of campaigns or interventions to tackle social distancing non-adherence	Not investigating factors associated with social distancing non-adherence (or conversely social distancing adherence) Efficacy of social distancing
Protective measure	Social/physical distancing	Not social/physical distancing

Virus	COVID-19	SARS Ebola Swine flu Not COVID-19
Study population	General population for a given territory Specific populations defined by demographic factors of ethnicity, gender OR age	Specific populations defined by factors other than demographic factors of ethnicity, gender OR age (e.g., hospital populations).
Study design	Empirical research (quantitative OR qualitative)	EITHER theoretical/conceptual OR lacking explanation of methodology OR secondary literature review OR systematic reviews OR REAs

Keywords and search strings: Table 2 provides a list of the keywords for the systematic search of studies via the study's title, abstract and key words. Three layers of keywords are utilised so to reflect the inclusion criteria.

Table 2: Social distancing keywords

Keywords 1	COVID; coronavirus
Keywords 2	Social distanc* [distance/distancing]; physical distanc* [distance/distancing]
Keywords 3	Compl* [compliance/compliancy/comply/complied]; adher* [adherence/adherency/adhere/adhering/adhered]; follow* [following/followed]; rule* [rules]; guid* [guidelines/guided]; prevent* [preventative/preventing/prevented]; reason* [reasons]; associat* [associated/associations]; predict* [predictors/predicted]; expla* [explanatory/explained]; campaign* [campaigns]

The research team tested the keywords and search strings across the databases and found that they were effective at returning relevant evidence ahead of the full search commencing.

Databases: The research team undertook a comprehensive search of academic and open source databases, as listed in Table 3.

Table 3: List of databases searched

PubMed Central
Web of Science
Google Scholar

Screening

The following three-stage screening process was undertaken to determine the evidence to be included in the REA.

Title screening stage: The titles of studies returned by the systematic searches were screened for relevance using the inclusion criteria, and studies clearly not meeting the inclusion criteria, based upon the limited information available from a title, were excluded. Where a member of the research team was unsure about a study, it was discussed with a second member of the team to decide on inclusion (or not) in the next stage of screening.

Abstract screening stage: Of the remaining studies, their abstracts were next screened for relevance against the inclusion criteria, using the greater information available in an abstract such that it was possible to consider more of the inclusion criteria. Studies deemed not to meet the inclusion criteria were excluded. Again, where a member of the research team was unsure about a study, it was discussed with a second member of the team to decide on inclusion (or not) for the next stage of screening.

Full text screening stage: Of the remaining studies, they were read in full to determine if all inclusion criteria had been met and excluded if not. Where a member of the research team was unsure, a second member of the research team also read the full text. Both then discussed the study and came to a decision together on whether it should be included or excluded. The quality of a study was also appraised when reading the full text, considering guidance from the UK's Department for International Development (DFID, 4) on assessing the strengths of evidence.

Quality appraisal

According to DFID (4), judgement about a study's quality should be based upon a combination of criteria covering conceptual framing, transparency, appropriateness, cultural sensitivity, validity, reliability and cogency, as summarized and applied to this REA below.

Conceptual framing: The study should acknowledge existing research or theory, construct a conceptual or

theoretical framework setting out the study's assumptions and pose specific research questions or hypotheses.

Transparency: The study should be transparent about its design and methods, including data collection and analysis and research setting, such that results can be reproduced. Studies receiving funding from a party with vested interests are considered fatally flawed and should be excluded from this REA.

Appropriateness: The study should use an appropriate research design to answer its research question or achieve its aim or objectives. The screening process will have included only studies investigating the factors associated with adherence of the included COVID-19 interventions. Experimental designs are most appropriate for establishing causal linkages between a treatment (e.g., campaign) and a dependent variable (e.g., adherence), but, other than campaigns, most factors (e.g., demographics, capabilities, opportunities and motivations) can only be measured and observed as independent variables, rather than manipulated or randomly assigned. As such, associations are most appropriately measured using observational designs, such as regression ones, that measure the association between factors and adherence whilst controlling for confounding variables to protect against bias whereby an unmeasured and uncontrolled variable can result in a distortion in the measurement of an association between a factor and adherence. Qualitative studies are not appropriate for measuring associations, but they are included in this REA because rich qualitative data can provide valuable evidence in terms of detailing the mechanisms and processes by which a factor is associated with adherence. Studies using an inappropriate design are considered fatally flawed and should be excluded from this REA.

Cultural sensitivity: The study takes steps to consider the local, socio-cultural factors that might affect the association between factors and adherence of social distancing measures (i.e., are confounding variables). This is particularly important in the context of campaigns as treatment variables, where a control condition, in which the setting (i.e., socio-cultural factors) is held constant, should be included as part of the design to isolate effect of a campaign from the setting in which it was implemented. Such measures are not possible when observing

independent variables, but a study could theoretically consider socio-cultural factors when they represent a potential bias.

Validity: The study should take steps to ensure measurement validity, internal validity, external validity and ecological validity.

Measurement validity: The study should use indicators that are well suited to measure the target concept and which are valid in the research setting of the study. For example, using statements that measure the construct or variable of interest and using concrete facts (e.g., qualifications obtained to measure education), rather than abstract concepts where available.

Internal validity: The study should correctly interpret the extent to which its evidence establishes a cause and effect relationship. The study should take steps to control for confounding variables, which is possible in both experimental and observational designs. Furthermore, the study should take steps to consider reverse causality; the possibility that the supposed independent variable and supposed dependent variable are operating in reverse such that the supposed dependent variable is causing the supposed independent variable. For example, perceived susceptibility has been conceived as an independent variable in relation to the dependent variable of social distancing adherence, but equally, an individual's social distancing adherence can just as plausibly be an independent variable in relation to perceived susceptibility to COVID-19, i.e., 'I am not adhering with social distancing measures so I am more susceptible to infection.' An experimental design removes the possibility of reverse causality because the sequence of cause and effect can be observed following implementation of a treatment. However, reverse causality is a potential problem in observational research and where this is a risk it should be considered theoretically, i.e., provide an explanation based upon what we know about the variables to make a claim that one is causing the other.

External validity: The study should correctly interpret the extent to which its findings are likely to be generalizable and replicable across other contexts. Quantitative studies should take steps to construct a representative sample of the population of interest, such as using a sampling frame, randomly selecting responsive units from that sampling frame so that no units are systematically excluded, and collecting a sufficient sample size for appropriate margin of error and confidence level.

Ecological validity: The study should take steps to capture or accurately represent the real world by undertaking reflexivity to consider how much the activity of doing the research biased the research findings. For example, asking questions about legal adherence with measures in a way

and in a context that captures the truth, rather than the socially desirable response.

Reliability: The study should take steps to ensure stability, internal reliability and analytical reliability.

Stability: The study should take steps to ensure that measures being used work consistently (i.e., results are stable under the same conditions), for example, by ensuring researchers are consistent in the way questions are asked and data gathered.

Internal reliability: The study should take steps to ensure internal consistency between different components of a measure. For example, Cronbach's Alpha can be used to measure the internal consistency of items comprising a scale and items from scales or variables removed from studies where internal consistency thresholds are not met.

Analytical reliability: The study should take steps to ensure that dramatically different results from the same set of data by different researchers or analytical steps being used are avoided. For example, using multiple researchers and using a coding scheme in thematic analysis.

Cogency: The study should provide a clear, logical thread that runs throughout the manuscript, linking conceptual frameworks to data collection, data analysis and conclusions, only making claims supported by the data and findings. Furthermore, the study should consider alternative explanations and interpretations of the data and findings and be self-critical such that limitations of the study are identified.

Where a member of the research team was unsure whether to include or exclude on the basis of quality, a second member of the research team undertook a quality appraisal of the study before both discussed to jointly reach a decision on inclusion or exclusion.

Data analysis and synthesis

Predictors: Next, using NVivo software, open coding was undertaken to identify predictors of social distancing adherence. Once all studies had been coded for predictors, lists of studies containing each predictor were established. At this point, predictors were reviewed to identify predictors of equivalent meaning but different labelling and these collapsed to form a single predictor. For example, it was decided that knowledge and belief in conspiracy theories were equivalent predictors.

Predictor-specific study summaries: Next, predictor-specific summaries of each study were written, identifying the study's context (e.g., United Kingdom residents), sampling method (e.g., convenience sample), how it defined and measured the predictor, how it defined (e.g., social distancing or physical distancing) and measured (e.g.,

binary variable; adherent or not) the outcome variable, the study design (e.g., cross-sectional survey design) and data analysis method (e.g., logistic regression). Next, a summary of the evidence relevant to the predictor of interest was written, which may have been quantitative or qualitative. Where the quantitative analysis was simple (e.g., Chi-square with a single independent variable), the summary described the relationship between the predictor and the outcome variable (e.g., percentage differences and statistical significance), but where it was multiple (e.g., multiple logistic regression) the summary described the relationship between the predictor and the outcome variable (e.g., odds ratio and statistical significance) when holding other variables constant. Finally, a conclusion was drawn as to the overall finding of the study in terms of the relationship between the predictor and the outcome variable.

This may have been identifying a category (e.g., males were most likely to not adhere to social distancing measures) where the outcome variable was most prevalent, whether a numerical association was positive (e.g., as age increases, likelihood of not adhering with social distancing measures increases), negative (e.g., as age increases, likelihood of not adhering with social distancing measures decreases), non-linear or non-significant (e.g., there was no association between age and social distancing adherence). Where there was conflicting evidence within a single study, the strength of the conflicting evidence was weighed up to determine an overall finding. For example, if the vast majority of categories of a predictor were not significantly associated with an outcome variable, then that study would be deemed to be evidence that the predictor was not associated with the outcome variable.

Themes by finding: Next, the predictor-specific study summaries were thematically analysed on the basis of their findings. For example, studies were grouped on the basis of a positive association, negative association, non-linear association or no association.

Data synthesis: To draw conclusions for each predictor, frequencies of studies for each theme were counted and percentages calculated. This was done first at the level of predictive vs. non-predictive whereby, for example, studies finding statistically significant associations, regardless of the direction of the association, were grouped and counted and compared against all studies that did not find a statistically significant association between a predictor and outcome variable.

Next, this synthesis was undertaken at the granular level of themes, breaking predictive studies down into their different findings (e.g., positive association, negative association, non-linear association and no association). Where a category made up 70 per cent or above of the evidence it was deemed to yield a conclusion of high

confidence about the relationship and where a category made up 60–69 per cent of the evidence it was deemed to yield a confident conclusion about the relationship. Where a category made up 50–59 per cent of the evidence it was deemed to yield a conclusion of some confidence about the relationship, unless another category also made up 50 per cent of the evidence, in which case the evidence was deemed inconclusive. Equally, if no categories made up at least 50 per cent of the evidence it was deemed inconclusive.

Context segmentation: To address the question of ‘In what contexts are people more likely to not adhere to social distancing measures?’ evidence was segmented on the basis of (i) region, (ii) cultural group and (iii) income, as determined by the country in which the study was conducted. Region segments used were Europe, North America, Asia, Oceania, South America and Africa. Cultural group segments used were Anglo, Germanic Europe, Nordic Europe, Eastern Europe, Latin Europe, Latin America, Southern Asia, Confucian Asia, Sub-Saharan Africa and the Middle East, as defined by House et al. (5). Income segments used were high income, upper middle income, lower middle income and low income, as defined by the World Bank. The above data synthesis approach was followed at the level of each segment. Where there were fewer than four studies in a segment, it was deemed that this was insufficient evidence by which to draw conclusions about the relationship between a predictor and outcome variable.

Themes by conceptual framework: Demographic predictors were identified so to answer the ‘who is more likely to not adhere to social distancing measures?’ question. The remaining predictors were then organised within the COM-B model conceptual framework in terms of psychological capability (e.g., knowledge), physical capability (e.g., physical strength), physical opportunity (e.g., time, location and resources), social opportunity (e.g., cultural norms and social cues), reflective motivation (e.g., reflections and motivations) and automatic motivation (e.g., desires, impulses and inhibitions) to answer the ‘why are people more likely to not adhere to social distancing measures?’ question.

04

Systematic search and screening results

The systematic search returned 561 studies about social distancing (221 from Web of Science, 220 from Google Scholar and 120 from PubMed). After duplicates were removed on Zotero software, the number of studies decreased to 283.

Title screening stage: Of the 283 unique studies returned from the systematic search, 174 were excluded at the title screening stage:

- 174 studies were excluded for not being relevant: not measuring factors associated with social distancing adherence.

Abstract screening stage: Of the 109 studies remaining after the title screening stage, 73 were excluded at the abstract screening stage:

- 73 studies were excluded for not being relevant: not measuring factors associated with social distancing adherence.

Full text screening and quality appraisal stage: Of the 36 studies remaining after the abstract screening stage, 7 were excluded at the full text screening and quality appraisal stage:

- 1 study was excluded for being about too specific a population.
- 4 were excluded for not being relevant: not measuring relevant outcomes.
- 2 were excluded for not being relevant: reporting non-individual data.

Overview of social distancing evidence

The final list of social distancing evidence to be reviewed consisted of 29 studies, a summary of which is in Table 4.

Table 4: Summary of studies included in REA

	Study	Country	Region	Cultural Group	Income
1	Al-Hasan et al. (2020)	Kuwait, United States & South Korea	Asia & North America	Middle East, Anglo & Confucian Asia	High Income
2	Allcot et al. (2020)	United States	North America	Anglo	High Income
3	Alotaibi et al. (2020)	Saudi Arabia	Asia	Middle East	High Income
4	Beeckman et al. (2020)	Belgium	Europe	Germanic Europe	High Income
5	Bourassa et al. (2020)	United States	North America	Anglo	High Income
6	Christner et al. (2020)	Germany	Europe	Germanic Europe	High Income
7	Coroiu et al. (2020)	Multiple countries aggregated	North America & Europe	Anglo	High Income
8	Ebrahimi et al. (2021)	Norway	Europe	Nordic Europe	High Income
9	Einberger et al. (2021)	United States	North America	Anglo	High Income
10	Fridman et al. (2020)	United States	North America	Anglo	High Income
11	Gouin et al. (2021)	Canada	North America	Anglo	High Income
12	Gratz et al. (2021)	United States	North America	Anglo	High Income
13	Gray et al. (2021)	New Zealand	Oceania	Anglo	High Income
14	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income
15	Hagger et al. (2020)	Australia & United States	Oceania & North America	Anglo	High Income
16	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High Income
17	Kaspar (2020)	Germany	Europe	Germanic Europe	High Income
18	Masters et al. (2020)	United States	North America	Anglo	High Income

19	Megreya et al. (2021)	Qatar	Asia	Anglo	High Income
20	Norton et al. (2021)	Australia	Oceania	Anglo	High Income
21	Pedersen & Favero (2020)	United States	North America	Anglo	High Income
22	Qazi et al. (2020)	Pakistan	Asia	Southern Asia	Lower Middle Income
23	Seiter & Curran (2021)	United States	North America	Anglo	High Income
24	Sturman et al. (2020)	Australia	Oceania	Anglo	High Income
25	Tabernero et al. (2020)	Spain	Europe	Latin Europe	High Income
26	Taylor et al. (2020)	Canada & United States	North America	Anglo	High Income
27	Tomczyk et al. (2020)	Germany	Europe	Germanic Europe	High Income
28	Xie et al. (2020)	United States	North America	Anglo	High Income
29	Zhang & Zhou (2021)	China	Asia	Confucian Asia	Upper Middle income

Region: Evidence was reviewed from four regions of the world, the majority from North America [38 per cent] and Europe [24 per cent]. There was no evidence from South America or Africa.

Cultural group: Evidence was reviewed from several cultural groups of the world, but dominated by evidence from the Anglo cultural group [62 per cent]. There was no evidence from the Eastern Europe, Latin America and Sub-Saharan Africa cultural groups.

Income: The vast majority of evidence reviewed was from high-income countries [90 per cent]. There was no evidence from low-income ones.

Study design: All studies [100 per cent] followed a cross-sectional survey research design, which lends itself well to measuring factors associated with social distancing non-adherence.

Table 5: Studies by region, cultural group, income category and study design

	Number	%
Region		
Europe	7	24%
North America	11	38%
Asia	5	17%
Oceania	3	10%

South America	0	0%
Africa	0	0%
Multi-regional	3	10%
Cultural group		
Anglo	18	62%
Germanic Europe	4	14%
Nordic Europe	1	3%
Eastern Europe	0	0%
Latin Europe	1	3%
Latin America	0	0%
Southern Asia	1	3%
Confucian Asia	2	7%
Sub-Saharan Africa	0	0%
Middle East	1	3%
Multi-cultural group	1	3%
Income		
High Income	26	90%
Upper Middle Income	2	7%
Lower Middle Income	1	3%
Low Income	0	0%
Multi-incomes	0	0%
Study design		
Cross-sectional	29	100%
Conjoint experiment	0	0%
Qualitative	0	0%
Total	29	100%

**WHO IS MORE LIKELY TO NOT ADHERE
TO SOCIAL DISTANCING MEASURES
AND IN WHAT CONTEXT?**

05

DEMOGRAPHICS
AGE

5.1.1

Age is the number of years since an individual was born. The evidence reviewed measured it as either discrete numerical data (i.e., the exact age in years of a respondent) or as a categorical variable (i.e., the age range group that a respondent's age corresponds to).

In total, 22 studies considered the association between age and social distancing adherence. Of these, 14 found that age was predictive of social distancing adherence and eight found that age was not predictive. Of the 14 studies that found age was predictive of social distancing adherence, 13 found that as age increases, social distancing non-adherence decreases (i.e., younger age groups are more likely to not adhere to social distancing measures) and 1 study found that as age increases, social distancing non-adherence increases (i.e., older age groups are more likely to not adhere to social distancing measures).

As age increases, social distancing non-adherence decreases

Table 6: Studies evidencing that as age increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Bourassa et al. (2020)	United States	North America	Anglo	High Income
2	Coroiu et al. (2020)	Multiple countries aggregated		Anglo	High Income
3	Ebrahimi et al. (2021)	Norway	Europe	Nordic Europe	High Income
4	Einberger et al. (2021)	United States	North America	Anglo	High Income
5	Fridman et al. (2020)	United States	North America	Anglo	High Income
6	Gouin et al. (2021)	Canada	North America	Anglo	High Income
7	Gray et al. (2021)	New Zealand	Oceania	Anglo	High Income
8	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
		United States	North America	Anglo	High Income
9	Masters et al. (2020)	United States	North America	Anglo	High Income

10	Megreya et al. (2021)	Qatar	Asia	Middle East	High Income
11	Pedersen & Favero (2020)	United States	North America	Anglo	High Income
12	Taberner et al. (2020)	Spain	Europe	Latin Europe	High Income
13	Tomczyk et al. (2020)	Germany	Europe	Germanic Europe	High Income

United States, Bourassa et al. (2020): Bourassa et al. (2020) explored GPS-derived movement behaviours with social distancing measured by remaining within 1 mile of home and people driving fewer miles per day. This was done across 2,858 counties in the United States. Modelling was conducted accounting for demographic characteristics but also exploring the role of health behaviours in adherence behaviours. Regression analysis by county and state level was conducted. Adults aged over 65 years of age were more likely to remain at home ($\beta=0.08$; [0.03, 0.14]) and travel a shorter distance ($\beta=0.07$; [0.02, 0.13]) than adults aged under 65 years of age.

Multiple English-speaking countries, Coroiu et al. (2020): Coroiu et al. (2020) carried out an online cross-sectional study with 2,013 participants completing measures for socio-demographic characteristics, psychological constructs, including motivations to engage in social distancing, prosocial attitudes, distress and social distancing behaviours. Social distancing was measured for the following behaviours: working remotely; avoiding contact outside of the household; avoiding socializing in person; keeping a safe distance of at least 2 metres; and avoiding leaving the home except for essential shopping. Adults aged 65 years and older were more likely to be adherent of avoiding socializing in person (90 per cent compared with 68.7 per cent) and keeping a safe distance (88.8 per cent compared with 48.9 per cent) than 18–24 year olds. Logistic regression was used to explore the impact of factors on adherence to social distancing. Adults aged 65 years and older were more likely to avoid socializing in person ($\beta=2.55$; [1.32, 4.95]) and to keep a safe distance ($\beta=6.77$; [3.65, 12.57]) than 18–24 year olds.

Norway, Ebrahimi et al. (2021): Ebrahimi et al. (2021) conducted a cross-sectional survey of 10,061 adults in Norway to explore social distancing and mental health. A proportional sample of adults across Norwegian regions was included. Adherence was assessed on reported adherence to government guidelines. Younger adults were found to be less adherent than older adults to social distancing guidelines.

United States, Einberger et al. (2021): Einberger et al. (2021) explored the relationship between adherence and alcohol consumption in a sample of young adults. They carried out a cross-sectional survey of 560 young adults (aged 22–28) with adherence to guidelines as the indicator of social distancing behaviours. Self-report measures were used to identify strong adherers and poor adherers. Logistic regression was carried out to explore the difference between them. Older adults were significantly ($OR=1.16$, [1.05, 1.29]; $p<0.01$) more likely to be strong adherers than younger adults.

United States, Fridman et al. (2020): Fridman et al. (2020) conducted a cross-sectional survey ($n=1,243$), using a stratified recruitment procedure by US region and demographics. Outcome variables included trust in information sources about COVID-19, frequency of accessing information, knowledge of COVID-19 and adherence to social distancing measures. Age was found to have a significant association with adherence to social distancing ($\beta=0.02$; $p<0.001$), with older age associated with greater adherence.

Canada, Gouin et al. (2021): Gouin et al. (2021) conducted a cross-sectional study with 1,003 participants using quota sampling to ensure representation based on age, gender and urbanicity. The online survey explored demographic, health, cognitive, emotional and social factors associated with social distancing. Social distancing was measured based on adherence to government guidance around staying at home and minimizing non-essential journeys. Using a 5-point Likert scale, this included avoiding having guests in the house, refraining from social gatherings with more than two people and staying at least 2 metres away from others outside the home. Univariate and logistic regression was carried out to explore associates and predictors. Spearman's correlation showed that participants who were younger ($r=0.48$; $p<0.001$) reported less adherence. This was supported with the logistic regression including socio-demographic and health factors showing being 70 years or older ($OR=1.98$, $p<0.01$) predicted greater adherence, and age was independently associated with the addition of psychological factors

(OR=1.66, $p<0.05$) and also with the fully adjusted model with distress and loneliness added (OR=1.67, $p<0.05$) in predicting reported adherence.

New Zealand, Gray et al. (2021): Gray et al. (2021) explored social distancing among other measures during lockdown requirements in New Zealand with a total sample of 2,407 participants. The survey included collection of demographic information, household composition, experience of symptoms and contact with COVID-19 cases. Respondents were also asked about their views towards measures implemented to slow the spread of infection, adherence to preventative measures and factors having an influence on the ability to practise physical distancing. Logistic regression analysis explored social distancing difficulties with a sample size of 740 participants who had visited a place in the previous seven days. 15–34 year olds (OR=2.08, $p < 0.05$) and 35–54 year olds (OR=1.32, $p<0.05$) were more likely to find social distancing hard than those aged 55 and over.

Australia and United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian ($n=365$) and US ($n=440$) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors in social distancing. Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. Univariate analysis was conducted for all variables including socio-demographic factors whilst structural equation modelling was used to determine the impact of Theory of Planned Behaviour factors on behaviour. Age was significantly positively correlated with current (Australia: $r=0.135$, $p<0.01$; United States: $r=0.078$, $p<0.05$) social distancing behaviour and past behaviour (Australia: $r=0.130$, $p<0.01$; United States: $r=1.64$, $p<0.001$).

United States, Masters et al. (2020): Masters et al. (2020) examined the relationship of risk perceptions and adherence to social distancing recommendations in a convenience sample of 800 people. The sample included Baby Boomers (56–74 years old, born 1946–1964), GenX (people 40–55 years old, born 1965–1980), Millennials (people 24–39 years old, born 1981–1996) and GenZ (people 8–23 years old, born 1997–2012, although only people >18 years were included in the analysis). Using multivariable regression models, Masters et al. (2020) found that there was a slight increase in the proportion who were social distancing as age increased. The marginal mean proportion who reported social distancing was 62.2 per cent (95 per cent CI: 53.4 per cent, 70.3 per cent) among GenZ, 62.2 per cent (95 per cent CI: 53.4 per cent, 70.3 per cent) among

Millennials, 64.9 per cent (95 per cent CI: 55.9 per cent, 73.0 per cent) among GenX and 72.9 per cent (95 per cent CI: 64.0 per cent, 80.4 per cent) among Baby Boomers. Therefore, the results of the present study suggesting that older participants are more accepting of social distancing show the relationship between age and social distancing.

Qatar, Megreya et al. (2021): Megreya et al. (2021) examined the associations between demographic variables (i.e., gender, age, marital and working status, having a family member or a friend infected with COVID-19) and acceptance of social distancing procedure as well as quality of life during the peak of the pandemic and related lockdown in a convenience sample of 280. Pearson correlation coefficients were used to examine the correlations between the demographic variables mentioned above, and the acceptance of social distancing. Social distancing was correlated positively with age ($r(278)=0.26$, $p<0.001$) as older people were more likely to adhere to social distancing. Furthermore, except for a negative correlation between quality of life domain and age, no relationship was found between quality of life and demographic characteristics.

United States, Pedersen and Favero (2020): Pedersen and Favero (2020) examined the individual-level factors that may define the variation both in social distancing behaviour and in the duration that people see themselves maintaining social distancing in a representative sample of 1,449 people. Using ordinary least squares regression, they found that older people (>45 years) are more likely to be associated “indirectly” with social distancing adherence ($\beta=4.02$, $p<0.05$; $\beta=3.83$, $p<0.05$).

Spain, Taberero et al. (2020): Taberero et al. (2020) investigated the psychosocial factors associated with the performance of both physical distancing adherence and self-interested consumption behaviours carried out during the first 10 days of confinement in Spain in 1,324 people. Pearson correlation coefficient analysis found that age showed a positive and significant correlation as older adults were more likely to adhere to the regulations on COVID-19 ($r=0.10$, $p<0.001$), maintaining more than a 1 metre distance from others ($r=0.06$, $p<0.05$).

Germany, Tomczyk et al. (2020): Tomczyk et al. (2020) investigated social distancing adherence and age in a community sample of 157 German adults. Multinomial logistic regression was used to predict adherence patterns by socio-demographic data and psychological factors (stigmatizing attitudes, risk perception and subjective knowledge). The results showed that low social distancing adherence was associated with younger age groups ($\beta=0.72$, [0.57, 0.93]).

As age increases, social distancing non-adherence increases

Table 7: Studies evidencing that as age increases, social distancing non-adherence increases

	Study	Country	Region	Cultural Group	Income
1	Christner et al. (2020)	Germany	Europe	Germanic Europe	High Income

Germany, Christner et al. (2020): Christner et al. (2020) explored psychological and social factors related to social distancing. An online survey of 246 participants was carried out to look at the role of moral judgement, moral identity, empathy, fear of infection and fear of punishment alongside democratic factors. Univariate analysis using

correlations as well as regression analysis explored individual and combined effect with other variables. Age was found to be significantly associated with lower social distancing ($\beta=-0.13$, $p<0.05$). This remained with the inclusion of other psychological factors ($\beta=-0.13$, $[-0.01, -0.00]$). As age increased, social distancing was reduced.

Age is not associated with social distancing adherence

Table 8: Studies evidencing that age is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Al-Hasan et al. (2020)	Multiple countries aggregated			High Income
2	Alotaibi et al. (2020)	Saudi Arabia	Asia	Middle East	High Income
3	Guo et al. (2021)	China	Asia	Confucian Asia	High Income
4	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High Income
5	Kaspar (2020)	Germany	Europe	Germanic Europe	High Income
6	Taylor et al. (2020)	Canada and United States aggregated	North America	Anglo	High Income
7	Xie et al. (2020)	United States	North America	Anglo	High Income
8	Zhang & Zhou (2021)	China	Asia	Confucian Asia	Upper Middle Income

Kuwait, South Korea and United States, Al-Hasan et al. (2020): Al-Hasan et al. (2020) carried out a cross-sectional online survey to assess social distancing behaviours in 162 citizens of the United States, 185 of Kuwait and 71 of South Korea with a total sample size of 418. Adherence to social distancing was measured using self-reported intention to socially distance and beliefs about adherence including sheltering or social distancing measures: beliefs about sheltering or social distancing measures are effective at slowing the spread of COVID-19 and belief that the government has the right to enforce sheltering (i.e., people must stay at home). Regression analysis was used to explore the relationship between independent factors on reported adherence.

Univariate and multivariate analyses showed a non-significant relationship between age and adherence levels with the age groups 18–27 years (n=192, 37.3 per cent), 28–37 years (n=150, 29.1 per cent), 38–47 years (n=70, 13.6 per cent), 48–57 years (n=43, 8.4 per cent) and 58 years or older (n=60, 11.7 per cent) represented.

Saudi Arabia, Alotaibi et al. (2020): Alotaibi et al. (2020) carried out a cross-sectional survey across central regions of Saudi Arabia during Ramadan. A total of 1,515 participants took part in the survey. Measures of social distancing included not attending gatherings, keeping a safe distance, not making physical contact and staying at home during partial lockdown. There were no differences found between age groups in any social distancing behaviours.

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured by prevention strategies of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. There was no significant association with age and social distancing adherence.

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate and multivariate analyses was conducted to explore the independent relationships between factors, with age being non-significant. Further, there was no statistically significant multivariate association ($p>0.05$) between age and the outcome variable of intentional non-adherence to social distancing rules.

Germany, Kaspar (2020): Kaspar (2020) conducted an examination of four aspects relating to COVID protection

which included motivation for social distancing, using a contact tracing app, providing infection status to a contact tracing app and using a Data Donation app. Here, results for motivation for social distancing are explored as a representation of social distancing behaviour. A mix of demographic and psychological factors including severity, vulnerability, rewards self-efficacy, response efficacy, response costs and trust were included in multiple regression analysis for motivation for social distancing ($R^2=0.547$, $p<0.001$). Age was not related to motivation to socially distance.

Canada and United States, Taylor et al. (2020): In a sample of 6,854 people, Taylor et al. (2020) investigated over- and under-responses, along with measures of distress, excessive avoidance and non-adherence to social distancing. Over-response beliefs were examined by scales measuring beliefs about the level of danger of COVID-19 (personal health and socio-economic threats) and COVID-19-related xenophobia (beliefs that foreigners are spreading the virus). Using regression analysis, Taylor et al. (2020) found that age was not a predictor for social distancing adherence.

United States, Xie et al. (2020): In a convenience sample of 850 people, Xie et al. (2020) examined the association of working memory and social distancing including demographic characteristics. Other covariates, such as age, gender, education, income level, depressed mood, anxious feelings, personality and fluid intelligence were treated as background confounders. Using mediation analysis, Xie et al. (2020) examined working memory as a predictor to social distancing, and found that age did not have a significant impact on the relationships between variables.

China, Zhang and Zhou (2021): Zhang and Zhou (2021) examined the association of people's perceived risk of COVID-19 and their psychological stress; risk beliefs with regard to being outside; and safeguarding behaviours for being outside in the event of a pandemic in a representative sample of 189 people. Further, they explored the predictors for reporting concerns about COVID-19, social distancing and panic buying. They did not find age to be a predictor for social distancing.

Conclusions

Table 9: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As age increases, social distancing non-adherence decreases [n, %]	As age increases, social distancing non-adherence increases [n, %]		
Studies	14 [64%]		8 [36%]	22
Studies	13 [59%]	1 [5%]	8 [36%]	22
Region				
Europe	3 [50%]	1 [17%]	2 [33%]	6
North America	7 [78%]	0	2 [22%]	9
Asia	1 [20%]	0	4 [80%]	5
Oceania	2 [100%]	0	0	2
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	10 [77%]	0	3 [23%]	13
Germanic Europe	1 [33%]	1 [33%]	1 [33%]	3
Nordic Europe	1 [100%]	0	0	1
Eastern Europe	0	0	0	0
Latin Europe	1 [100%]	0	0	1
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	2 [100%]	2
Sub-Saharan Africa	0	0	0	0
Middle East	1 [50%]	0	1 [50%]	2
Income				
High Income	13 [65%]	1 [5%]	6 [30%]	20
Upper Middle Income	0	0	2 [100%]	2
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Key

	Conclusion of high confidence
	Confident conclusion or conclusion of some confidence

Overall: Out of the studies that considered the association between age and social distancing adherence, 64 per cent [14 out of 22] found age to be predictive, such that it can be confidently concluded that age is predictive of social distancing adherence. Of the 14 studies that found this, 93 per cent [13 out of 14] found that as age increases, social distancing non-adherence decreases (i.e., younger age groups are more likely to not adhere to social distancing measures), such that it can be concluded with high confidence that, when age is predictive of social distancing adherence, as age increases, social distancing non-adherence decreases. Out of all studies, only 59 per cent [13 out of 22] found that as age increases, social distancing non-adherence decreases (i.e., younger age groups are more likely to not adhere to social distancing measures), such that, overall, it can be concluded only with some confidence that as age increases, social distancing non-adherence decreases.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between age and social distancing adherence are evident.

Region: A relationship between age and social distancing adherence was not evident in an Asian context: 80 per cent of studies [4 out of 5] found that age was not associated with social distancing adherence, such that it can be concluded with high confidence that in countries in Asia, age is not associated with social distancing adherence.

Out of studies conducted on countries in North America, 78 per cent [7 out of 9] found that as age increases, social distancing non-adherence decreases (i.e., younger age groups are more likely to not adhere to social distancing measures), such that it can be concluded with high confidence that in North American countries, as age increases, social distancing non-adherence decreases.

Out of studies conducted on countries in Europe, 50 per cent [3 out of 6] found that as age increases, social distancing non-adherence decreases (i.e., younger age groups are more likely to not adhere to social distancing measures), such that it can be concluded with some confidence that in European countries, as age increases, social distancing non-adherence decreases.

There is insufficient evidence to make conclusions about the relationship between age and social distancing adherence in the context of Oceania [2 studies].

There is no evidence to make conclusions about the relationship between age and social distancing adherence in the contexts of South America [0 studies] and Africa [0 studies].

Cultural group: Out of studies conducted in countries in the Anglo cultural group, 77 per cent [10 out of 13] found that as age increases, social distancing non-adherence decreases (i.e., younger age groups are more likely to not adhere to social distancing measures), such that it can be concluded with high confidence that in countries in the Anglo cultural group, as age increases, social distancing non-adherence decreases.

There is insufficient evidence to make conclusions about the relationship between age and social distancing adherence in the contexts of the Germanic Europe [3 studies], Confucian Asia [2 studies], Middle East [2 studies], Nordic Europe [1 study] and Latin Europe [1 study] cultural groups.

There is no evidence to make conclusions about the relationship between age and social distancing adherence in the contexts of the Eastern Europe [0 studies], Latin America [0 studies], Southern Asia [0 studies] and Sub-Saharan Africa [0 studies] cultural groups.

Income: Out of studies conducted on high-income countries, 65 per cent of studies [13 out of 20] found that as age increases, social distancing non-adherence decreases (i.e., younger age groups are more likely to not adhere to social distancing measures), such that it can be confidently concluded that in high-income countries, as age increases, social distancing non-adherence decreases.

There is insufficient evidence to make conclusions about the relationship between age and social distancing adherence in the context of upper middle-income countries [2 studies].

There is no evidence to make conclusions about the relationship between age and social distancing adherence in the context of lower middle-income [0 studies] and low-income [0 studies] countries.

DEMOGRAPHICS
SEX/GENDER

5.1.2

Sex is the biological characteristics and gender is the socially constructed characteristics of males, females and other categories. In the evidence reviewed, sex and gender were most frequently measured as a binary variable (i.e., male vs. female), but also as a categorical variable with additional categories (e.g., other).

In total, 21 studies considered the association between sex/gender and social distancing adherence. Of these, 10 found that sex/gender was predictive of social distancing adherence and 11 found that it was not. Of the 10 studies that found sex/gender was predictive of social distancing adherence, all 10 found that males are more likely to not adhere to social distancing measures than females.

Males are more likely to not adhere to social distancing measures

Table 10: Studies evidencing that males are more likely to not adhere to social distancing measures

	Study	Country	Region	Cultural Group	Income
1	Alotaibi et al. (2020)	Saudi Arabia	Asia	Middle East	High Income
2	Coroiu et al. (2020)	Multiple countries aggregated		Anglo	High Income
3	Ebrahimi et al. (2021)	Norway	Europe	Nordic Europe	High Income
4	Einberger et al. (2021)	United States	North America	Anglo	High Income
5	Gouin et al. (2021)	Canada	North America	Anglo	High Income
6	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income
7	Pedersen and Favero (2020)	United States	North America	Anglo	High Income
8	Tomczyk et al. (2020)	Germany	Europe	Germanic Europe	High Income
9	Xie et al. (2020)	United States	North America	Anglo	High Income
10	Zhang and Zhou (2021)	China	Asia	Confucian Asia	High Income

Saudi Arabia, Alotaibi et al. (2020): Alotaibi et al. (2020) carried out a cross-sectional survey across central regions of Saudi Arabia during Ramadan. A total of 1,515 participants took part in the survey. Measures of social distancing included not attending gatherings, keeping a safe distance, not making physical contact and staying at home during partial lockdown. Chi-square tests were used to explore differences between men and women, showing significant variations in not attending gatherings ($p<0.001$), keeping a safe distance ($p<0.001$), not making physical contact ($p=0.002$) and staying home during partial lockdown ($p<0.001$). Women reported greater commitment to not attending gatherings, keeping a safe distance and staying home during partial lockdown compared with men but lower commitment to not making physical contact. Overall rates of commitment were high in both groups for all social distancing behaviours.

Multiple English-speaking countries, Coroiu et al. (2020): Coroiu et al. (2020) carried out an online cross-sectional study with 2,013 participants completing measures for socio-demographic characteristics, psychological constructs, including motivations to engage in social distancing, prosocial attitudes, distress and social distancing behaviours. Social distancing was measured for the following behaviours: working remotely; avoiding contact outside of the household; avoiding socializing in person; keeping a safe distance of at least 2 metres; and avoiding leaving the home except for essential shopping.

Logistic regression was used to explore the impact of factors on adherence to social distancing. Participants classified as other gender had lower adherence rates compared with men for working remotely ($\beta=0.21$, [0.06, 0.78]) and keeping a safe distance of at least 2 metres ($\beta=1.50$, [1.11, 2.03]) but higher rates for avoiding socializing in person ($\beta=2.79$, [0.87, 8.98]). Women were more adherent compared with men for avoiding socializing in person ($\beta=2.02$, [1.45, 2.82]), keeping a safe distance ($\beta=1.50$, [1.11, 2.03]) and avoiding leaving the home ($\beta=1.42$, [1.05, 1.91]), but less adherent for working remotely ($\beta=0.84$, [0.57, 1.25]).

Norway, Ebrahimi et al. (2021): Ebrahimi et al. (2021) conducted a cross-sectional survey of 10,061 adults in Norway to explore social distancing and mental health. A proportional sample of adults across Norwegian regions was included. Mental health was assessed using the GAD-7 (Spitzer et al., 2006) and PHQ-9 (Kroenke et al., 2001) measures to assess anxiety and depression. Adherence was assessed on reported adherence to government guidelines. Linear multiple regressions were used to explore predictors of depression, anxiety and adherence. For the purpose of this report, only analysis with adherence as the outcome will be discussed. Men reported lower adherence than women ($\beta=-0.589$, $p<0.001$).

United States, Einberger et al. (2021): Einberger et al. (2021) explored the relationship between adherence and alcohol consumption in a sample of young adults. They carried out a cross-sectional survey of 560 young adults (aged 22–28) with adherence to guidelines as the indicator of social distancing behaviours. Self-report measures were used to identify strong adherers and poor adherers. Logistic regression was done to explore the difference between them. Women were more likely to be strong adherers compared with men (OR: 0.62, 0.42, 0.95; $p<0.05$).

Canada, Gouin et al. (2021): Gouin et al. (2021) conducted a cross-sectional study with 1,003 participants using quota sampling to ensure representation based on age, gender and urbanicity. The online survey explored demographic, health, cognitive, emotional and social factors associated with social distancing. Social distancing was measured based on adherence to government guidance around staying at home and minimizing non-essential journeys. Using a 5-point Likert scale, this included avoiding having guests in the house, refraining from social gatherings with more than two people and staying at least 2 metres away from others outside the home. Univariate and logistic regression was carried out to explore associates and predictors. Spearman's correlation showed that male participants (0.005, $d=0.21$) reported less adherence. The logistic regression including socio-demographic and health factors also found being female (OR: 1.58, $p<0.001$) was associated with greater reported adherence and was independently associated when including additional psychological factors (OR: 1.30, $p<0.05$) and within the fully adjusted model with distress and loneliness added (OR: 1.35, $p<0.05$).

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured by prevention strategy of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. Only gender was found to be a significant predictor of social distancing reporting among demographic factors, with women three times more likely than men to socially distance (OR: 3.12, $p<0.05$).

United States, Pedersen and Favero (2020): In a representative sample of 1,449 people, Pedersen and Favero (2020) examined the individual-level factors that may define the observation of the variation both in social distancing behaviour and in the duration that people can see themselves maintaining social distancing. Using ordinary least squares regression, Pedersen and Favero (2020) found that regarding social distancing behaviour, women report higher levels of adherence than men ($r=5.37$, $p<0.01$; $r=4.60$, $p<0.01$; $r=2.91$, $p<0.01$; $r=3.03$, $p<0.01$).

Germany, Tomczyk et al. (2020): In a community sample of 157 German adults, Tomczyk et al. (2020) investigated social distancing adherence and age. Tomczyk et al. (2020) used multinomial logistic regressions to predict adherence patterns by socio-demographic data and psychological factors (stigmatizing attitudes, risk perception and subjective knowledge). Males were significantly less likely to adhere to recommendations [relative risk ratio (RRR)=0.08 (0.01; 0.85)].

United States, Xie et al. (2020): In a convenience sample of 850 people, Xie et al. (2020) examined the association of working memory and social distancing including demographic characteristics. Other covariates, such as age, gender, education, income level, depressed mood, anxious feelings, personality and fluid intelligence, were treated as background confounders. Using mediation analysis, Xie et al. (2020) examined working memory as a predictor to social distancing, and females showed more social distancing adherence ($r=0.15$, $p<0.05$).

China, Zhang and Zhou (2021): In a representative sample of 189 people, Zhang and Zhou (2021) examined the association of people's perceived risk of COVID-19 and their psychological stress; risk beliefs with regard to being outside; and safeguarding behaviours for being outside in the event of a pandemic. Further, they explored the predictors for reporting concerns about COVID-19, social distancing and panic buying. Zhang and Zhou (2021) used hierarchical regression to analyse the data. Gender was a significant predictor of reported social distancing by cancelling outings. Specifically, females were more likely to adhere to social distancing by cancelling outings ($r=0.182$, $p<0.05$; $r=0.177$, $p<0.05$; $r=0.140$, $p<0.140$). However, there were no differences for the other social distancing behaviours.

Sex/gender is not associated with social distancing adherence

Table 11: Studies evidencing that sex/gender is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Al-Hasan et al. (2020)	Multiple countries aggregated			High Income
2	Bourassa et al. (2020)	United States	North America	Anglo	High Income
3	Christner et al. (2020)	Germany	Europe	Germanic Europe	High Income
4	Fridman et al. (2020)	United States	North America	Anglo	High Income
5	Gray et al. (2021)	New Zealand	Oceania	Anglo	High Income
6	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
		United States	North America	Anglo	High Income
7	Hills and Eraso (2021)	United Kingdom	Europe	Anglo	High Income
8	Kaspar (2020)	Germany	Europe	Germanic Europe	High Income
9	Masters et al. (2020)	United States	North America	Anglo	High Income
10	Megreya et al. (2021)	Qatar	Asia	Anglo	High Income
11	Taylor et al. (2020)	Canada and United States aggregated	North America	Anglo	High Income

Kuwait, South Korea, United States, Al-Hasan et al. (2020):

Al-Hasan et al. (2020) carried out a cross-sectional online survey to assess social distancing behaviours in 162 citizens of the United States, 185 of Kuwait and 71 of South Korea with a total sample size of 418. Adherence to social distancing was measured using self-reported intention to socially distance and beliefs about adherence including sheltering or social distancing measures: beliefs that sheltering or social distancing measures are effective at slowing the spread of COVID-19 and that the government has the right to enforce sheltering (i.e., people must stay at home).

Regression analysis was used to explore the relationship between independent factors on reported adherence. Univariate and multivariate analysis showed a non-

significant relationship between gender and adherence across the whole sample, and within countries.

United States, Bourassa et al. (2020): Bourassa et al. (2020) explored GPS-derived movement behaviours with social distancing measured by remaining within 1 mile of home and people driving fewer miles per day. This was done across 2,858 counties in the United States. Modelling was conducted accounting for demographic characteristics but also exploring the role of health behaviours in adherence behaviours. Regression analysis by county and state level was carried out. There were no gender differences found for either increase in the percentage remaining at home or decrease in vehicle miles travelled.

Germany, Christner et al. (2020): Christner et al. (2020) explored psychological and social factors related to social

distancing. An online survey of 246 participants was carried out to look at the role of moral judgement, moral identity, empathy, fear of infection and fear of punishment alongside demographic factors. There were no gender differences found with either univariate or regression analysis conducted.

United States, Fridman et al. (2020): Fridman et al. (2020) conducted a cross-sectional survey (n=1,243), using a stratified recruitment procedure by US region and demographics. Outcome variables included trust in information sources about COVID-19, frequency of accessing information, knowledge of COVID-19 and adherence to social distancing measures. Adherence was measured based on participants adhering to seven specific social distancing behaviours. Overall, 32 per cent adhered to all seven behaviours. Trust was explored for government sources, private sources and social networking ones. Fridman et al. (2020) reported no association between gender and social distancing adherence although no statistical results were provided.

New Zealand, Gray et al. (2021): Gray et al. (2021) explored social distancing among other measures during lockdown requirements in New Zealand with a total sample of 2,407 participants. The survey included collection of demographic information, household composition, experience of symptoms and contact with COVID-19 cases. Respondents were also asked about their views towards measures implemented to slow the spread of infection, adherence to preventative measures and factors having an influence on the ability to practise physical distancing. Logistic regression analysis explored social distancing difficulties with a sample size of 740 participants who had visited a place in the previous seven days. There were no significant differences by gender.

Australia, United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian (n=365) and US (n=440) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors in social distancing. Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. Univariate analysis was conducted for all variables including socio-demographic factors whilst structural equation modelling was used to determine the impact of Theory of Planned Behaviour factors on behaviour. Gender was not significantly associated with current social distancing behaviour or past social distancing behaviour for either country.

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was

measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate and multivariate analyses were conducted to explore the independent relationships between factors, with gender being non-significantly associated with social distancing rules. Further, there was no statistically significant multivariate association ($p>0.05$) between gender and the outcome variable of intentional non-adherence to social distancing rules.

Germany, Kaspar (2020): Kaspar (2020) conducted an examination of four aspects relating to COVID protection which included motivation for social distancing, using a contact tracing app, providing infection status to a contact tracing app and using a Data Donation app. Here, results for motivation for social distancing are explored as a representation of social distancing behaviour. A mix of demographic and psychological factors including severity, vulnerability, rewards self-efficacy, response efficacy, response costs and trust were included in multiple regression analysis for motivation for social distancing ($R^2=0.547$, $p<0.001$). There was no association between gender and motivation to socially distance.

United States, Masters et al. (2020): In a convenience sample of 713 people, Masters et al. (2020) examined the relationship of risk perceptions and adherence to social distancing recommendations. Masters et al. (2020) used logistic regression to control for gender, as well as urbanicity, race/ethnicity, family income and political affiliation. There were no statistically significant differences in social distancing adherence by gender.

Qatar, Megreya et al. (2021): The aim of this study was to examine the associations between demographic variables (i.e., gender, age, marital and working status, having a family member or a friend infected with COVID-19) and acceptance of social distancing procedure as well as quality of life during the peak of the pandemic and related lockdown in a convenience sample of 280. Pearson correlation coefficients were used to examine the correlations between the demographic variables mentioned above, and the acceptance of social distancing. Pearson correlation coefficients showed no correlation between gender and social distancing adherence.

Canada and United States, Taylor et al. (2020): In a sample of 6,854 people, Taylor et al. (2020) investigated over- and under-responses, along with measures of distress, excessive avoidance and non-adherence to social distancing. Over-response beliefs were examined by scales measuring beliefs about the level of danger of COVID-19 (personal health and socio-economic threats) and COVID-19-related xenophobia (beliefs that foreigners are spreading the virus). Using regression analysis, Taylor et al. (2020) found that gender was not a predictor for social distancing adherence.

Conclusions

Table 12: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Males are more likely to not adhere to social distancing measures [n, %]	Females are more likely to not adhere to social distancing measures [n, %]		
Studies	10 [48%]		11 [52%]	21
Studies	10 [48%]	0	11 [52%]	21
Region				
Europe	2 [40%]	0	3 [60%]	5
North America	4 [44%]	0	5 [56%]	9
Asia	3 [75%]	0	1 [25%]	4
Oceania	0	0	1 [100%]	1
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	5 [36%]	0	9 [64%]	14
Germanic Europe	1 [33%]	0	2 [67%]	3
Nordic Europe	1 [100%]	0	0	1
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	2 [100%]	0	0	2
Sub-Saharan Africa	0	0	0	0
Middle East	1 [100%]	0	0	1
Income				
High Income	10 [45%]	0	12 [55%]	22

Upper Middle Income	0	0	0	0
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: The overall relationship between sex/gender and social distancing adherence is inconclusive: 48 per cent of studies [10 out of 21] found sex/gender to be predictive of social distancing adherence and 52 per cent of studies [11 out of 21] found that it is not. Of the 10 studies that found sex/gender to be predictive of social distancing adherence, 100 per cent [10 out of 10] found that males are more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that, when sex/gender is predictive of social distancing adherence, males are more likely to not adhere to social distancing measures.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between sex/gender and social distancing adherence are evident.

Region: Out of studies conducted in Asian countries, 75 per cent [3 out of 4] found that males were more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that in Asian countries, males are more likely to not adhere to social distancing measures.

Out of studies conducted in European countries, 60 per cent [3 out of 5] found that sex/gender was not associated with social distancing adherence, such that it can be confidently concluded that in European countries, sex/gender was not associated with social distancing adherence.

Out of studies conducted in North American countries, 56 per cent [3 out of 5] found that sex/gender was not associated with social distancing adherence, such that it can be concluded with some confidence that in North American countries, sex/gender was not associated with social distancing adherence.

There is insufficient evidence to make conclusions about the relationship between sex/gender and social distancing adherence in the context of Oceania [1 study].

There is no evidence to make conclusions about the relationship between sex/gender and social distancing adherence in the contexts of South America [0 studies] and Africa [0 studies] countries.

Cultural group: Out of studies conducted on Anglo cultural group countries, 64 per cent [9 out of 14] found that sex/gender is not associated with social distancing adherence, such that it can be confidently concluded that in Anglo

cultural group countries, sex/gender is not associated with social distancing adherence.

There is insufficient evidence to make conclusions about the relationship between sex/gender and social distancing adherence in the contexts of Germanic European [3 studies], Confucian Asian [2 studies], Nordic European [1 study] and Middle Eastern [1 study] cultural group countries.

There is no evidence to make conclusions about the relationship between sex/gender and social distancing adherence in the contexts of Eastern European [0 studies], Latin European [0 studies], Latin American [0 studies], Southern Asian [0 studies] and Sub-Saharan African [0 studies] cultural group countries.

Income: Out of studies conducted in high-income countries, 55 per cent [12 out of 22] found that sex/gender was not associated with social distancing adherence such that it can be concluded with some confidence that in high-income countries sex/gender is not associated with social distancing adherence.

There is no evidence to make conclusions about the relationship between sex/gender and social distancing adherence in the contexts of upper middle-income [0 studies], lower middle-income [0 studies] and low-income [0 studies] countries.

DEMOGRAPHICS
EDUCATION

5.1.3

Education is the process of learning. Education was measured in terms of the highest level of formal education achieved by respondents as a categorical, but ordered, variable from low (e.g., no formal qualifications) to high (e.g., doctoral degree).

In total, 13 studies considered the association between education and social distancing adherence. Of these, six found that education was predictive of social distancing adherence and 7 found that it was not associated with it. Of the six studies that found education was predictive of social distancing adherence, five found that as education level increases, social distancing non-adherence decreases and one found that as education level increases, social distancing non-adherence increases.

As education level increases, social distancing non-adherence decreases

Table 13: Studies evidencing that as education level increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Alotaibi et al. (2020)	Saudi Arabia	Asia	Middle East	High Income
2	Bourassa et al. (2020)	United States	North America	Anglo	High Income
3	Coroiu et al. (2020)	Multiple countries aggregated		Anglo	High Income
4	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
		United States	North America	Anglo	High Income
5	Zhang & Zhou (2021)	China	Asia	Confucian Asia	Upper Middle Income

Saudi Arabia, Alotaibi et al. (2020): Alotaibi et al. (2020) carried out a cross-sectional survey across central regions of Saudi Arabia during Ramadan. A total of 1,515 participants took part in the survey. Measures of social distancing included not attending gatherings, keeping a safe distance, not making physical contact and staying at home during partial lockdown. Chi-square tests were used to explore differences in educational levels with significant differences observed for not attending gatherings ($p=0.002$), not having meals with others ($p=0.035$) and staying at home during partial lockdown ($p=0.005$). Participants with a PhD were more likely to be committed to social distancing compared with the other groups.

United States, Bourassa et al. (2020): Bourassa et al. (2020) explored GPS-derived movement behaviours with social distancing measured by remaining within 1 mile of home and people driving fewer miles per day. This was done across 2,858 counties in the United States. Modelling was conducted accounting for demographic characteristics but also exploring the role of health behaviours in adherence behaviours. Regression analysis by county and state level was carried out. Results found that counties that were more educated were more likely to have an increase in the percentage of people remaining less than 1 mile from home ($\beta=0.23$; 0.18, 0.27) and a decrease in vehicle miles travelled ($\beta=0.37$, [0.31, 0.43]). The more educated the sample was, the more likely they were to restrict movement.

Multiple English-speaking countries, Coroiu et al. (2020): Coroiu et al. (2020) carried out an online cross-sectional study with 2,013 participants completing measures for socio-demographic characteristics, psychological constructs, including motivations to engage in social distancing, prosocial attitudes, distress and social distancing behaviours. Social distancing was measured for the following behaviours: working remotely; avoiding contact outside of the household; avoiding socializing in person; keeping a safe distance of at least 2 metres; and avoiding leaving the home except for essential shopping. Logistic regression was used to explore the impact of factors on adherence to social distancing. Those who had a bachelor's degree were more adherent than those without for working remotely ($\beta=1.48$, [1.06, 2.08]). There were no significant differences for the other social distancing behaviours.

Australia, United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian ($n=365$) and US ($n=440$) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past

behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors on social distancing. Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. Univariate analysis was conducted for all variables including socio-demographic factors whilst structural equation modelling was used to determine the impact of Theory of Planned Behaviour factors on behaviour. Educational level was not significantly associated with current or past social distancing in Australia but was found to be significant for both in the US sample for current ($r=0.08$, $p<0.05$) and past behaviours ($r=0.139$, $p<0.001$).

China, Zhang and Zhou (2021): Zhang and Zhou (2021) examined the association of people's perceived risk of COVID-19 and their psychological stress; risk beliefs with regard to being outside; and safeguarding behaviours for being outside in the event of a pandemic in a representative sample of 189 people. Further, they explored the predictors for reporting concerns about COVID-19, social distancing and panic buying. A one-way analysis of variance (ANOVA) was used to analyse the data. Regarding demographic parameters, the variable of education was a key determinant in predicting reported concerns about COVID-19. Respondents' education group was significantly correlated with risk beliefs regarding being outside ($r=-0.182$, $p<0.05$), safeguarding behaviours for being outside ($r=0.184$, $p<0.05$) and reported social distancing by cancelling outings ($r=0.190$, $p<0.01$). They also found that respondents with a higher education level had a higher risk perception of COVID-19 ($p<0.01$) and a lower risk belief regarding being outside ($p<0.05$).

As education level increases, social distancing non-adherence increases

Table 14: Studies evidencing that as education level increases, social distancing non-adherence increases

	Study	Country	Region	Cultural Group	Income
1	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High Income

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate and multivariate analyses was conducted to explore independent relationships between factors.

When holding other factors constant, the odds of intentionally not adhering to social distancing rules are 66.8 per cent lower if a participant's highest qualification is a master's degree (OR=0.332), 69.3 per cent lower if a professional qualification (OR=0.307), 63.9 per cent lower if a bachelor's degree (OR=0.361) and 82.6 per cent lower if a vocational or work-related qualification (OR=0.174), than if a doctoral degree. In sum, as education level increases, social distancing non-adherence increases.

Education is not associated with social distancing adherence

Table 15: Studies evidencing that education is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Ebrahimi et al. (2021)	Norway	Europe	Nordic Europe	High Income
2	Einberger et al. (2021)	United States	North America	Anglo	High Income
3	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income
4	Pedersen & Favero (2020)	United States	North America	Anglo	High Income
5	Taylor et al. (2020)	Canada & United States aggregated	North America	Anglo	High Income
6	Tomczyk et al. (2020)	Germany	Europe	Germanic Europe	High Income
7	Xie et al. (2020)	United States	North America	Anglo	High Income

Norway, Ebrahimi et al. (2021): Ebrahimi et al. (2021) conducted a cross-sectional survey of 10,061 adults in Norway to explore social distancing and mental health. A proportional sample of adults across Norwegian regions was included. Mental health was assessed using the GAD-7 (Spitzer et al., 2006) and PHQ-9 (Kroenke et al., 2001) measures to assess anxiety and depression. Adherence was assessed on reported adherence to government guidelines. Linear multiple regressions were used to

explore predictors of depression, anxiety and adherence. For the purpose of this report, only analysis with adherence as the outcome will be discussed. There were no significant differences based on educational level.

United States, Einberger et al. (2021): Einberger et al. (2021) explored the relationship between adherence and alcohol consumption in a sample of young adults. They carried out a cross-sectional survey of 560 young adults (aged 22–28) with adherence to guidelines as the indicator of social distancing behaviours. Self-report measures were used to identify strong adherers and poor adherers. Logistic regression was done to explore the difference between them. There were no differences based on those who were college students or not for adherence rating.

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured by prevention strategies of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. There were no educational variations in social distancing observed.

United States, Pedersen and Favero (2020): In a representative sample of 1,449 people, Pedersen and Favero (2020) examined the individual-level factors that may define the observation of the variation both in social distancing behaviour and in the duration that people can see themselves maintaining social distancing. Using ordinary least squares regression, Pedersen and Favero (2020) found that education levels do not significantly predict social distancing outcomes in any of their models.

Canada, United States, Taylor et al. (2020): Taylor et al. (2020) investigated over- and under-responses, along with measures of distress, excessive avoidance and non-adherence to social distancing in a sample of 6,854 people. Over-response beliefs were examined by scales

which included the level of danger of COVID-19 (personal health and socio-economic threats) and COVID-19-related xenophobia (beliefs that foreigners are spreading the virus). The majority of participants had completed at least full or partial college education (79 per cent), followed by high school education (18 per cent) and no high school diploma (3 per cent). Taylor et al. (2020) used regression analysis and found that education level was not a significant predictor for social distancing.

Germany, Tomczyk et al. (2020): Tomczyk et al. (2020) investigated social distancing adherence and demographic factors in a German community sample of 157 German adults. Of the sample, 2.6 per cent had lower secondary education, 59 per cent had higher secondary education and 38.3 per cent had tertiary education. Multiple logistic regression was used to predict adherence patterns by socio-demographic data and psychological factors (stigmatizing attitudes, risk perception, preventative behaviour and subjective knowledge). Education level was not found to be associated with social distancing adherence.

United States, Xie et al. (2020): Xie et al. (2020) examined the association of working memory and social distancing including demographic characteristics in a convenience sample of 850 people. The covariates of age, gender, education, income level, depressed mood, anxious feelings, personality and fluid intelligence were treated as background confounders. Using mediation analysis, Xie et al. (2020) examined working memory as a predictor to social distancing. Social distancing adherence measure was not significantly correlated with education of the participants.

Conclusions

Table 16: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As education level increases, social distancing non-adherence decreases [n, %]	As education level increases, social distancing non-adherence increases [n, %]		
Studies	6 [46%]		7 [54%]	13
Studies	5 [38%]	1 [8%]	7 [54%]	13
Region				
Europe	0	1 [33%]	2[67%]	3
North America	2 [33%]	0	4 [67%]	6
Asia	2 [67%]	0	1 [33%]	3
Oceania	1 [100%]	0	0	1
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	4 [44%]	1 [11%]	4 [44%]	9
Germanic Europe	0	0	1 [100%]	1
Nordic Europe	0	0	1 [100%]	1
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	1 [50%]	0	1 [50%]	2
Sub-Saharan Africa	0	0	0	0
Middle East	1[100%]	0	0	1
Income				
High Income	4 [36%]	1 [9%]	6 [55%]	11

Upper Middle income	1 [50%]	0	1 [50%]	2
Lower Middle income	0	0	0	0
Low Income	0	0	0	0

Overall: Out of the studies that considered the association between education and social distancing adherence, 54 per cent [7 out of 13] found education to be non-predictive, such that it can be concluded with some confidence that education is not associated with social distancing adherence. Of the six studies that found education to be predictive of social distancing adherence, 83 per cent [5 out of 6] found that as education level increases, social distancing non-adherence decreases, such that it can be concluded with high confidence that, when education is predictive of social distancing adherence, as education level increases, social distancing non-adherence decreases.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between education and social distancing adherence are evident.

Region: Out of studies conducted in North American countries, 67 per cent [4 out of 6] found that education is not associated with social distancing adherence, such that it can be confidently concluded that in North American countries, education is not associated with social distancing adherence.

There is insufficient evidence to make conclusions about the relationship between education and social distancing adherence in the contexts of European [3 studies], Asian [3 studies] and Oceanian [1 study] countries.

There is no evidence to make conclusions about the relationship between education and social distancing adherence in the contexts of South American [0 studies] and African [0 studies] countries.

Cultural group: There is inconclusive evidence about the association between education and social distancing adherence in Anglo cultural group countries: 44 per cent of studies [4 out of 9] found that as education level increases, social distancing non-adherence decreases, but 44 per cent [4 out of 9] also found that education was not associated with social distancing adherence.

There is insufficient evidence to make conclusions about the relationship between education and social distancing adherence in the contexts of Confucian Asian [2 studies], Germanic European [1 study], Nordic European [1 study] and Middle Eastern [1 study] cultural group countries.

There is no evidence to make conclusions about the relationship between education and social distancing

adherence in the contexts of Eastern European [0 studies], Latin European [0 studies], Latin American [0 studies], Southern Asian [0 studies] and Sub-Saharan African [0 studies] cultural group countries.

Income: Out of studies conducted in high-income countries, 55 per cent [6 out of 11] found that education was not associated with social distancing adherence such that it can be concluded with some confidence that in high-income countries education is not associated with social distancing adherence.

There is insufficient evidence to make conclusions about the relationship between education and social distancing adherence in the context of upper middle-income countries [2 studies].

There is no evidence to make conclusions about the relationship between education and social distancing adherence in the contexts of lower middle-income [0 studies] and low-income [0 studies] countries.

DEMOGRAPHICS INCOME

5.1.4

Income is the regular money received by an individual through work, a pension, investments, benefits or other sources. Income was primarily measured as a categorical, but ordered, variable using different money ranges, differing in terms of unit of income (e.g., household income or individual income) and time frame of income (e.g., monthly or annual income).

In total, eight studies considered the association between income and social distancing adherence. Of these, two found that income was predictive of social distancing adherence and six found that income was not predictive of it. Of the two studies that found income was predictive of social distancing adherence, both found that as income increases, social distancing non-adherence decreases (i.e., those with a lower income are less adherent).

As income increases, social distancing non-adherence decreases

Table 17: Studies evidencing that as income increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Bourassa et al. (2020)	United States	North America	Anglo	High Income
2	Gray et al. (2021)	New Zealand	Oceania	Anglo	High Income

United States, Bourassa et al. (2020): Bourassa et al. (2020) explored GPS-derived movement behaviours with social distancing measured by remaining within 1 mile of home and people driving fewer miles per day. This was done across 2,858 counties in the United States. Modelling was conducted accounting for demographic characteristics but also exploring the role of health behaviours in adherence behaviours. Regression analysis by county and state level was carried out. Results found that counties with greater household income were more likely to have an increase in the percentage of people remaining less than 1 mile from home ($\beta = 0.46$, [0.39, 0.54]) and a decrease in vehicle miles travelled ($\beta = 0.16$, [0.11, 0.22]).

New Zealand, Gray et al. (2021): Gray et al. (2021) explored social distancing among other measures during lockdown

requirements in New Zealand with a total sample of 2,407 participants. The survey included collection of demographic information, household composition, experience of symptoms and contact with COVID-19 cases. Respondents were also asked about their views towards measures implemented to slow the spread of infection, adherence to preventative measures and factors having an influence on the ability to practise physical distancing. Logistic regression analysis explored social distancing difficulties with a sample size of 740 participants who had visited a place in the previous seven days. Deprivation was explored using the NZDep2013 quintile index with those in the most deprived groups (quintiles 3 and 4) more likely to find difficulties distancing compared with those from less deprived areas (OR: 1.75, $p < 0.05$ and OR: 1.39, $p < 0.05$).

Income is not associated with social distancing adherence

Table 18: Studies evidencing income is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Al-Hasan et al. (2020)	Multiple countries aggregated			High Income
2	Fridman et al. (2020)	United States	North America	Anglo	High Income
3	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
		United States	North America	Anglo	High Income
4	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High income
5	Masters et al. (2020)	United States	North America	Anglo	High Income
6	Xie et al. (2020)	United States	North American	Anglo	High Income

Kuwait, South Korea, United States, Al-Hasan et al. (2020):

Al-Hasan et al. (2020) carried out a cross-sectional online survey to assess social distancing behaviours in 162 citizens of the United States, 185 of Kuwait and 71 of South Korea with a total sample size of 418. Adherence to social distancing was measured using self-reported intention to socially distance and beliefs about adherence including sheltering or social distancing measures: beliefs that sheltering or social distancing measures are effective at slowing the spread of COVID-19 and that the government has the right to enforce sheltering (i.e., people must stay at home). Regression analysis was used to explore the relationship between independent factors on reported adherence. There was no association between household income and adherence to social distancing in any countries.

United States, Fridman et al. (2020): Fridman et al. (2020) conducted a cross-sectional survey (n=1,243), using a stratified recruitment procedure by US region and demographics. Outcome variables included trust in information sources about COVID-19, frequency of accessing information, knowledge of COVID-19 and adherence to social distancing measures. Adherence was measured based on participants adhering to seven specific social distancing behaviours. Overall, 32 per cent adhered to all seven behaviours. Trust was explored for government sources, private sources and social networking ones. Fridman et al. (2020) reported no association between income and social distancing adherence although no statistical results were provided.

Australia, United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian (n=365) and US (n=440) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors in social distancing. Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. Univariate analysis was conducted for all variables including socio-demographic factors whilst structural equation modelling was used to determine the impact of Theory of Planned Behaviour factors on behaviour. There were no differences in past or present social distancing behaviour based on income levels in either Australia or the United States.

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Logistic regression was used to explore predictors of social distancing behaviours and intentional non-adherence by breaking social distancing rules. Results for both these outcomes found that deprivation was non-significantly associated (p>0.05).

United States, Masters et al. (2020): Masters et al. (2020) examined the relationship of risk perceptions and adherence to social distancing recommendations in a convenience sample of 713 people. A multiple regression model was used which found that there were no statistically significant differences in social distancing behaviour by family income.

United States, Xie et al. (2020): Xie et al. (2020) examined the association of working memory and social distancing

in a convenience sample of 850 people. Covariates, such as age, gender, education, income level, depressed mood, anxious feelings, personality and fluid intelligence were treated as background confounders. Using mediation analysis, they found that social distancing adherence measure was not significantly correlated with the income levels of the participants.

Conclusions

Table 19: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As income increases, social distancing non-adherence decreases [n, %]	As income increases, social distancing non-adherence increases [n, %]		
Studies	2 [25%]		6 [75%]	8
Studies	2 [25%]	0	6 [75%]	8
Region				
Europe	0	0	1 [100%]	1
North America	1 [20%]	0	4 [80%]	5
Asia	0	0	0	0
Oceania	1 [50%]	0	1 [50%]	2
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	2 [25%]	0	6 [75%]	8
Germanic Europe	0	0	0	0
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	2 [22%]	0	7 [78%]	9

Upper Middle income	0	0	0	0
Lower Middle income	0	0	0	0
Low Income	0	0	0	0

Overall: Out of the studies that considered the association between income and social distancing adherence, 75 per cent [6 out of 8] found income to be non-predictive, such that it can be concluded with high confidence that income is not associated with social distancing adherence.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between income and social distancing adherence are evident.

Region: Out of studies conducted in North American countries, 80 per cent [4 out of 5] found that income is not associated with social distancing adherence, such that it can be concluded with high confidence that in North American countries, income is not associated with social distancing adherence.

There is insufficient evidence to make conclusions about the relationship between income and social distancing adherence in the contexts of Oceanian [2 studies] and European [1 study] countries.

There is no evidence to make conclusions about the relationship between income and social distancing adherence in the contexts of Asian [0 studies], South American [0 studies] and African [0 studies] countries.

Cultural group: Out of studies conducted in Anglo cultural group countries, 75 per cent [6 out of 8] found that income is not associated with social distancing adherence, such that it can be concluded with high confidence that in Anglo

cultural group countries, income is not associated with social distancing adherence.

There is no evidence to make conclusions about the relationship between income and social distancing adherence in the contexts of Germanic European [0 studies], Nordic European [0 studies], Eastern European [0 studies], Latin European [0 studies], Latin American [0 studies], Southern Asian [0 studies], Confucian Asian [0 studies] and Sub-Saharan African [0 studies] cultural group countries.

Income: Out of studies conducted in high-income countries, 78 per cent [7 out of 9] found that income was not associated with social distancing adherence such that it can be concluded with high confidence that in high-income countries income is not associated with social distancing adherence.

There is no evidence to make conclusions about the relationship between income and social distancing adherence in the contexts of upper middle-income [0 studies], lower middle-income [0 studies] and low-income [0 studies] countries.

DEMOGRAPHICS
RACE/ETHNICITY

5.1.5

Race is the physical traits an individual is born with, and ethnicity is the cultural identification that an individual learns. Only races/ethnicities that were featured in multiple studies were considered, resulting in evidence purely from the Anglo cultural group. Race/ethnicity was most frequently measured as a categorical variable, but also as a binary variable (e.g., White vs. non-White).

In total, seven studies considered the association between race/ethnicity and social distancing adherence. Two out of these seven studies [29 percent] found ethnicity to be predictive of social distancing, although there was no conclusive pattern for individual ethnic groups. Five studies found that race/ethnicity was not predictive of social distancing adherence.

Race/ethnicity is associated with social distancing adherence

Table 20: Studies evidencing that race/ethnicity is associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Bourassa et al. (2020)	United States	North America	Anglo	High Income
2	Pedersen & Favero (2020)	United States	North America	Anglo	High Income

United States, Bourassa et al. (2020): Bourassa et al. (2020) explored GPS-derived movement behaviours with social distancing measured by remaining within 1 mile of home and people driving fewer miles per day. This was done across 2,858 counties in the United States. Modelling was conducted accounting for demographic characteristics but also exploring the role of health behaviours in adherence behaviours. Regression analysis by county and state level was carried out. Results showed that counties with a lower percentage of non-Hispanic compared with Whites had higher identified adherence levels ($\beta = -0.17$, $[-0.27, -0.07]$) in terms of increase in the percentage remaining close to

home, although there were no ethnic differences in terms of decrease in vehicle miles travelled.

United States, Pedersen and Favero (2020): Pedersen and Favero (2020) examined the individual-level factors that may explain variation both in social distancing behaviour and in the duration that people can see themselves maintaining social distancing in a representative sample of 1,449 people. Using ordinary least squares regression, they found that ethnicity was a significant predictor for social distancing. Specifically, people of Black ethnicity were more likely to adhere to social distancing ($r = -5.31$, $p < 0.05$; $r = -5.83$, $p < 0.01$; $r = -3.74$, $p < 0.05$; $r = 2.90$, $p < 0.05$).

Race/ethnicity is not associated with social distancing adherence

Table 21: Studies evidencing that race/ethnicity is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Gray et al. (2021)	New Zealand	Oceania	Anglo	High Income
2	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
		United States	North America	Anglo	High Income
3	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High Income
4	Masters et al. (2020)	United States	North America	Anglo	High Income
5	Taylor et al. (2020)	Canada and United States aggregated	North America	Anglo	High Income

New Zealand, Gray et al. (2021): Gray et al. (2021) explored social distancing among other measures during lockdown requirements in New Zealand with a total sample of 2,407 participants. The survey included collection of demographic information, household composition, experience of symptoms and contact with COVID-19 cases. Respondents were also asked about their views towards measures implemented to slow the spread of infection, adherence to preventative measures and factors having an influence on the ability to practise physical distancing. Logistic regression analysis explored social distancing difficulties with a sample size of 740 participants who had visited a place in the previous seven days. There were no significant differences found between Maori and non-Maori ethnic groups.

Australia, United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian ($n = 365$) and US ($n = 440$) participants. The

study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors in social distancing. Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. Univariate analysis was conducted for all variables including socio-demographic factors whilst structural equation modelling was used to determine the impact of Theory of Planned Behaviour factors on behaviour. There were no ethnicity differences (Black, Caucasian/White, Asian or Middle Eastern) associated with current or past social distancing behaviour.

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was

measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate and multivariate analyses were conducted to explore independent relationships between factors with ethnicity being non-significant. There was also no statistically significant multivariate association ($p>0.05$) between ethnicity and the outcome variable of intentional non-adherence of social distancing rules.

United States, Masters et al. (2020): In a convenience sample of 713 people, Masters et al. (2020) examined the relationship of risk perceptions and adherence to social distancing recommendations. Masters et al. (2020) used logistic regression to control for gender, as well

as urbanicity, race/ethnicity, family income and political affiliation. Masters et al. (2020) found that ethnicity was not a significant predictor for social distancing.

Canada, United States, Taylor et al. (2020): In a sample of 6,854 people, Taylor et al. (2020) investigated over- and under-responses, along with measures of distress, excessive avoidance and non-adherence to social distancing. Over-response beliefs were examined by scales which included the level of danger of COVID-19 (personal health and socio-economic threats) and COVID-19-related xenophobia (beliefs that foreigners are spreading the virus). Taylor et al. (2020) used multiple regression and found that ethnicity was not a significant predictor for social distancing.

Conclusions

Table 22: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]	Non-predictive [n, %]	Total
Studies	2 [29%]	5 [71%]	7
Region			
Europe	0	1 [100%]	1
North America	2 [40%]	3 [60%]	5
Asia	0	0	0
Oceania	0	2 [100%]	2
South America	0	0	0
Africa	0	0	0
Cultural Group			
Anglo	2 [25%]	6 [75%]	8
Germanic Europe	0	0	0
Nordic Europe	0	0	0
Eastern Europe	0	0	0
Latin Europe	0	0	0
Latin America	0	0	0
Southern Asia	0	0	0
Confucian Asia	0	0	0

Sub-Saharan Africa	0	0	0
Middle East	0	0	0
Income			
High Income	2 [25%]	6 [75%]	8
Upper Middle Income	0	0	0
Lower Middle Income	0	0	0
Low Income	0	0	0

Overall: Out of the studies that considered the association between race/ethnicity and social distancing adherence, 71 per cent [5 out of 7] found race/ethnicity to be non-predictive, such that it can be concluded with high confidence that race/ethnicity is not associated with social distancing adherence. Of the two studies that found race/ethnicity to be predictive of social distancing adherence, there were no conclusive patterns by individual race or ethnicity.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between race/ethnicity and social distancing adherence are evident.

Region: Out of studies conducted in North American countries, 60 per cent [3 out of 5] found that race/ethnicity is not associated with social distancing adherence, such that it can be confidently concluded that in North American countries, race/ethnicity is not associated with social distancing adherence.

There is insufficient evidence to make conclusions about the relationship between race/ethnicity and social distancing adherence in the contexts of Oceanian [2 studies] and European [1 study] countries.

There is no evidence to make conclusions about the relationship between race/ethnicity and social distancing adherence in the contexts of Asian [0 studies], South American [0 studies] and African [0 studies] countries.

Cultural group: Out of studies conducted on Anglo cultural group countries, 75 per cent [6 out of 8] found that race/ethnicity is not associated with social distancing adherence, such that it can be concluded with high confidence that in Anglo cultural group countries, race/ethnicity is not associated with social distancing adherence.

There is no evidence to make conclusions about the relationship between race/ethnicity and social distancing adherence in the contexts of Germanic European [0

studies], Nordic European [0 studies], Eastern European [0 studies], Latin European [0 studies], Latin American [0 studies], Southern Asian [0 studies], Confucian Asian [0 studies], Sub-Saharan African [0 studies] and Middle Eastern [0 studies] cultural group countries.

Income: Out of studies conducted in high-income countries, 75 per cent [6 out of 8] found that race/ethnicity was not associated with social distancing adherence such that it can be concluded with high confidence that in high-income countries race/ethnicity is not associated with social distancing adherence.

There is no evidence to make conclusions about the relationship between race/ethnicity and social distancing adherence in the contexts of upper middle-income [0 studies], lower middle-income [0 studies] and low-income [0 studies] countries.

DEMOGRAPHICS
MARITAL STATUS

5.1.6

Marital status is the legally defined status with regards to a person's relationship with a significant other. In the evidence reviewed, marital status was most frequently measured as a binary variable (i.e., married vs. unmarried), but also as a categorical variable with additional categories (e.g., divorced, widowed).

In total, two studies considered the association between marital status and social distancing adherence. Of these, one found that marital status was predictive of social distancing adherence and one found that it was not. The study that found marital status was predictive of social distancing found that unmarried people are more likely to not adhere to social distancing measures.

Unmarried people are more likely to not adhere to social distancing measures

Table 23: Studies evidencing that unmarried people are more likely to not adhere to social distancing measures

	Study	Country	Region	Cultural Group	Income
1	Megreya et al. (2021)	Qatar	Asia	Middle East	High Income

Qatar, Megreya et al. (2021): The aim of this study was to examine the associations between demographic variables (i.e., gender, age, marital and working status, having a family member or a friend infected with COVID-19) and acceptance of social distancing procedure as well as quality of life during the peak of the pandemic and related lockdown in a convenience sample of 280. Pearson correlation coefficients were used to examine the correlations between the demographic variables mentioned above, and the acceptance of social distancing.

Pearson correlation coefficients were used to examine the correlations between some demographic variables (age, marital status, working status and having a family member or a friend infected with COVID-19) and the acceptance of social distancing. Social distancing was correlated negatively with marital status (married, unmarried, divorced and widowed) ($r(178) = -0.29, p < 0.001$). Conclusively, married participants accepted social distancing more.

Marital status is not associated with social distancing non-adherence

Table 24: Studies evidencing that marital status is not associated with social distancing non-adherence

	Study	Country	Region	Cultural Group	Income
1	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured

by prevention strategies of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. There were no variations in social distancing observed by marital status.

Conclusions

Table 25: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Unmarried people are more likely to not adhere to social distancing measures [n, %]	Married people are more likely to not adhere to social distancing measures [n, %]		
Studies	1 [50%]		1 [50%]	2
Studies	1 [50%]	0	1 [50%]	2
Region				
Europe	0	0	0	0
North America	0	0	0	0
Asia	1 [50%]	0	1 [50%]	2
Oceania	0	0	0	0
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	0	0	0	0
Germanic Europe	0	0	0	0

Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	1 [100%]	1
Sub-Saharan Africa	0	0	0	0
Middle East	1 [100%]	0	0	1
Income				
High Income	1 [100%]	0	0	1
Upper Middle Income	0	0	1 [100%]	1
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: There is insufficient evidence to make conclusions about the relationship between marital status and social distancing adherence, including when looking for patterns by region, cultural group and income of the countries in the studies.

DEMOGRAPHICS
LIVING AREA

5.1.7

Living area was defined in terms of urban or rural classification. An urban living area is a densely developed area of cities or towns, whereas a rural living area is one not densely developed outside of cities and towns in the countryside. Living area was measured as a binary variable (i.e., urban vs. rural).

In total, four studies considered the association between living area and social distancing adherence. Of these, all four found that living area is not associated with social distancing adherence.

Living area is not associated with social distancing adherence

Table 26: Studies evidencing that living area is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income
2	Masters et al. (2020)	United States	North America	Anglo	High Income
3	Tabernero et al. (2020)	Spain	Europe	Latin Europe	High Income
4	Tomczyk et al. (2020)	Germany	Europe	Germanic Europe	High Income

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured by prevention strategy of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. There were no significant differences based on urban versus non-urban residence.

United States, Masters et al. (2020): Masters et al. (2020) examined the relationship of risk perceptions and adherence to social distancing recommendations in a convenience sample of 713 people. Logistic regression was

used to explore social distancing, controlled for gender, as well as urbanicity, race/ethnicity, family income and political affiliation. There were no statistically significant differences in social distancing adherence by residence (urbanicity).

Spain, Tabernero et al. (2020): Tabernero et al. (2020) investigated the analysis of psychosocial factors associated with the performance of both physical distancing adherence and self-interested consumption behaviours carried out during the first 10 days of confinement in Spain in 1,324 people. Univariate (ANOVAs) and repeated-measures ANOVAs found that residence was not a significant predictor of social distancing adherence.

Germany, Tomczyk et al. (2020): Tomczyk et al. (2020) investigated social distancing adherence and demographic factors in a German community sample of 157 German adults. Multiple logistic regression was used to predict adherence patterns by socio-demographic data and

psychological factors (stigmatizing attitudes, risk perception, preventative behaviour and subjective knowledge). Living area (region) was not found to be associated with social distancing adherence.

Conclusions

Table 27: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Rural dwellers are more likely to not adhere to social distancing measures [n, %]	Urban dwellers are more likely to not adhere to social distancing measures [n, %]		
Studies	0		4 [100%]	4
Studies	0	0	4 [100%]	4
Region				
Europe	0	0	2 [100%]	2
North America	0	0	1 [100%]	1
Asia	0	0	2 [100%]	2
Oceania	0	0	0	0
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	0	0	1 [100%]	1
Germanic Europe	0	0	1 [100%]	1
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	1 [100%]	1
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	1 [100%]	1

Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	0	0	3 [100%]	3
Upper Middle Income	0	0	1 [100%]	1
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: Out of the studies that considered the association between living area and social distancing adherence, 100 per cent [4 out of 4] found that living area was not associated with social distancing adherence, such that it can be concluded with high confidence that living area is not associated with social distancing adherence.

In looking for patterns by region, cultural group and income of the countries in the studies, no associations between living area and social distancing adherence are evident due to insufficient evidence.

DEMOGRAPHICS
ESSENTIAL WORKER STATUS

5.1.8

Essential worker status was defined in terms of a state’s classification of a job role as essential. Such a status was accompanied by certain permissions. For example, an essential worker may have been exempted from lockdown and stay-at-home rules or been given priority to certain resources. By way of another example, children of essential workers may have been able to access schools when schools were otherwise closed. Essential worker status was measured as a binary variable (i.e., yes vs. no).

In total, four studies considered the relationship between essential worker status and social distancing adherence. Of these, three found that essential worker status was predictive of social distancing adherence and one found that it was not associated with it. Of the three studies which found that essential worker status was predictive of social distancing adherence, all three found that essential workers were more likely to not adhere to social distancing measures.

Essential workers are more likely to not adhere to social distancing measures

Table 28: Studies evidencing that essential workers are more likely to not adhere to social distancing measures

	Study	Country	Region	Cultural Group	Income
1	Gouin et al. (2021)	Canada	North America	Anglo	High Income
2	Gray et al. (2021)	New Zealand	Oceania	Anglo	High Income
3	Pedersen & Favero (2020)	United States	North America	Anglo	High Income

Canada, Gouin et al. (2021): Gouin et al. (2021) conducted a cross-sectional study with 1,003 participants using quota sampling to ensure representation based on age, gender and urbanicity. The online survey explored demographic, health, cognitive, emotional and social factors associated with social distancing. Social distancing was measured based on adherence to government guidance around staying at home and minimizing non-essential journeys. Using a 5-point Likert scale, this included avoiding having guests in the house, refraining from social gatherings with more than two people and staying at least 2 metres away from others outside the home. Univariate and logistic regression was carried out to explore associates and

predictors. Spearman’s correlation showed that essential workers ($p<0.001$, $d=0.61$) reported less adherence. The logistic regression which included both socio-demographic and health factors found strong associations with being an essential worker for lower adherence (OR: 0.31, $p<0.001$). Essential worker status was also independently associated with the addition of psychological factors (OR: 0.32, $p<0.001$) and within the fully adjusted model with distress and loneliness added (OR: 0.32, $p<0.001$) in terms of association with lower adherence.

New Zealand, Gray et al. (2021): Gray et al. (2021) explored social distancing among other measures during lockdown

requirements in New Zealand with a total sample of 2,407 participants. The survey included collection of demographic information, household composition, experience of symptoms and contact with COVID-19 cases. Respondents were also asked about their views towards measures implemented to slow the spread of infection, adherence to preventative measures and factors having an influence on the ability to practise physical distancing. Logistic regression analysis explored social distancing difficulties with a sample size of 740 participants who had visited a place in the previous seven days. Logistic regression showed being an essential worker was associated with difficulties in social distancing (OR: 5.53, $p < 0.05$).

United States, Pedersen and Favero (2020): In a representative sample of 1,449 people, Pedersen and Favero (2020) examined the individual-level factors that may define the observation of the variation both in social distancing behaviour and in the duration that people can see themselves maintaining social distancing. As one could expect, essential workers who were less able to socially distance because of their jobs, reported adhering to social distancing less ($r = -4.29$, $p < 0.01$; $r = -3.57$, $p < 0.01$; $r = -2.97$, $p < 0.01$; $r = -3.48$, $p < 0.01$).

Essential worker status is not associated with social distancing adherence

Table 29: Studies evidencing that essential worker status is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High Income

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules

(92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Both univariate and logistical regression analyses found no association between key worker status and reported social distancing adherence levels, nor intentional non-adherence.

Conclusions

Table 30: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Essential workers are more likely to not adhere to social distancing measures [n, %]	Essential workers are less likely to not adhere to social distancing measures [n, %]		
Studies	3 [75%]		1 [25%]	4
Studies	3 [75%]	0	1 [25%]	4
Region				
Europe	0	0	1 [100%]	1
North America	2 [100%]	0	0	2
Asia	0	0	0	0
Oceania	1 [100%]	0	0	1

South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	3 [75%]	0	1 [25%]	4
Germanic Europe	0	0	0	0
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	3 [75%]	0	1 [25%]	4
Upper Middle Income	0	0	0	0
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: Out of the studies that considered the association between essential worker status and social distancing adherence, 75 per cent [3 out of 4] found that essential worker status is predictive of social distancing adherence, such that it can be concluded with high confidence that essential worker status is predictive of social distancing adherence. Of the three studies that found essential worker status to be predictive of social distancing adherence, 100 per cent [3 out of 3] found that essential workers are more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that, when essential worker status is predictive of social distancing adherence, essential workers are more likely to not adhere to social distancing measures. Out of all studies, 75 per cent [3 out of 4] found that essential workers are more likely to not adhere to social distancing measures, such that, overall, it can be concluded with high confidence that essential workers are more likely to not adhere to social distancing measures.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between essential worker status and social distancing adherence are evident when segmenting by cultural group

and income, but there are no further associations evident when looking for patterns by region of the countries in the studies.

Cultural group: Out of studies conducted on Anglo cultural group countries, 75 per cent [3 out of 4] found that essential workers are more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that in Anglo cultural group countries, essential workers are more likely to not adhere to social distancing measures.

There is no evidence to make conclusions about the relationship between essential worker status and social distancing adherence in the contexts of Germanic European [0 studies], Nordic European [0 studies], Eastern European [0 studies], Latin European [0 studies], Latin American [0 studies], Southern Asian [0 studies], Confucian Asian [0 studies], Sub-Saharan African [0 studies] and Middle Eastern [0 studies] cultural group countries.

Income: Out of studies conducted on high-income countries, 75 per cent [3 out of 4] found that essential workers are more likely to not adhere to social distancing

measures, such that it can be concluded with high confidence that in high-income countries, essential workers are more likely to not adhere to social distancing measures.

There is no evidence to make conclusions about the relationship between essential worker status and social distancing adherence in the contexts of upper middle-income [0 studies], lower middle-income [0 studies] and low-income [0 studies] countries.

**WHY ARE PEOPLE MORE LIKELY TO
NOT ADHERE TO SOCIAL DISTANCING
MEASURES AND IN WHAT CONTEXT?**

06

PSYCHOLOGICAL CAPABILITY
MENTAL HEALTH

6.1.1

Mental health refers to a range of emotional states including depression, anxiety, stress and loneliness. It was measured as both a binary variable (i.e., mental health sufferer vs. not a mental health sufferer) and as a categorical variable (i.e., type of mental illness).

In total, seven studies considered the association between mental health and social distancing adherence. Of these, four found that mental health was predictive of social distancing adherence and three found that it was not associated with it. Of the four studies that found mental health was predictive of social distancing adherence, two found that mental health sufferers are more likely to not adhere to social distancing measures, one found that they are less likely to not adhere to social distancing measures and one study found both that mental health sufferers are more likely to not adhere to social distancing measures and that they are less likely to not adhere to social distancing measures.

Mental health sufferers are more likely to not adhere to social distancing measures

Table 31: Studies evidencing that mental health sufferers are more likely to not adhere to social distancing measures

	Study	Country	Region	Cultural Group	Income
1	Beeckman et al. (2020)	Belgium	Europe	Germanic Europe	High Income
2	Gouin et al. (2021)	Canada	North America	Anglo	High Income
3	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income

Belgium, Beeckman et al. (2020): Beeckman et al. (2020) carried out two cross-sectional surveys among adults in Belgium. The first survey (n=2,379) focused on adherence to physical distancing measures, whilst the second (n=805) focused on difficulty with, and perseverance in, adhering to these measures. Measures of social distancing included staying at home and keeping a physical distance of 1.5 metres. Linear regression models were used to examine associations between a range of factors and adherence levels. There were mixed results on the impact of psychological well-being as measured by depression, anxiety, anger and social isolation in terms of adherence

to social distancing rating. In the Study 1 results, there was lack of evidence for an association between psychological well-being variables and adherence to the 'keeping 1.5m physical distance' measure for those who had recently started and those who had been adhering for some time. In Study 2, which explored difficulties in social distancing for 'staying at home', anxiety ($\beta=1.54$, [0.38, 2.71]), depression ($\beta=2.01$, [0.81, 3.22]), anger ($\beta=2.29$, [0.91, 3.66]) and social isolation ($\beta=2.94$, [1.78, 4.09]) were all associated with difficulties as were anxiety ($\beta=1.95$, [0.75, 3.15]), depression ($\beta=2.55$, [1.31, 3.78]), anger ($\beta=3.14$, [1.72, 4.57]) and social isolation ($\beta=2.50$, [1.30, 3.70]) for 'keeping 1.5m physical

distance'. For those who indicated that they could not persevere as long as needed, depression ($\beta=2.19$, [0.96, 3.42]; $\beta=2.55$, [1.31, 3.78]), anger ($\beta=2.94$, [1.53, 4.35]; $\beta=3.14$, [1.72, 4.57]) and social isolation ($\beta=2.19$, [1.00, 3.37]; $\beta=2.50$, [1.30, 3.70]) were all significant for both staying at home and keeping a 1.5-metre distance anxiety was only significant for persevering with keeping a 1.5-metre distance ($\beta=1.95$, [0.75, 3.15]) but not for staying at home.

Canada, Gouin et al. (2021): Gouin et al. (2021) conducted a cross-sectional study with 1,003 participants using quota sampling to ensure representation based on age, gender and urbanicity. The online survey explored demographic, health, cognitive, emotional and social factors associated with social distancing. Social distancing was measured based on adherence to government guidance around staying at home and minimizing non-essential journeys. Using a 5-point Likert scale, this included avoiding having guests in the house, refraining from social gatherings with more than two people and staying at least 2 metres away from others outside the home. Univariate and logistic regression was carried out to explore associates and

predictors.. Spearman's correlations found that emotional distress was associated with lower adherence levels ($p<0.05$, $d=-0.08$). However, this was not significant in the full logistic regression model which included demographic, health and psychological factors.

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured by prevention strategies of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. Both psychological distress and depressive symptoms were associated with social distancing levels. For depressive symptoms, there were lower odds of social distancing (OR: 0.90, $p<0.05$).

Mental health sufferers are less likely to not adhere to social distancing

Table 32: Studies evidencing that mental health sufferers are less likely to not adhere to social distancing

	Study	Country	Region	Cultural Group	Income
1	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income
2	Xie et al. (2020)	United States	North America	Anglo	High Income

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured by prevention strategies of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. Both psychological distress and depressive symptoms were associated with social distancing levels. For psychological distress, there were higher odds for social distancing (OR: 1.07, $p<0.05$).

United States, Xie et al. (2020): In a convenience sample of 850 people, Xie et al. (2020) examined the association of working memory and social distancing including demographic characteristics. Other covariates, such as age, gender, education, income level, depressed mood, anxious feelings, personality and fluid intelligence, were treated as background confounders. Using mediation analysis, Xie et al. (2020) found that working memory predicted social distancing adherence even after controlling for several

mood-related covariates, such as depressed mood, anxious feelings and poor sleep quality. Xie et al. (2020) found that social distancing adherence was associated with self-report measures of depressed mood ($r=-0.36$, [-0.45, -0.27], $p<0.001$), anxious feelings ($r=-0.26$, [-0.35, -0.17], $p<0.001$) and poor sleep quality ($r=-0.24$, [-0.33, -0.14], $p<0.001$). Specifically, people with high scores of depressed mood, anxious feelings and poor sleep quality were more likely to adhere to social distancing.

Mental health is not associated with social distancing adherence

Table 33: Studies evidencing that mental health is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Ebrahimi et al. (2021)	Norway	Europe	Nordic Europe	Upper Middle Income
2	Seiter & Curran (2021)	United States	North America	Anglo	High Income
3	Zhang & Zhou (2021)	China	Asia	Confucian Asia	Upper Middle Income

Norway, Ebrahimi et al. (2021): Ebrahimi et al. (2021) conducted a cross-sectional survey of 10,061 adults in Norway to explore social distancing and mental health. A proportional sample of adults across Norwegian regions was included. Adherence was assessed on reported adherence to government guidelines. Linear multiple regressions were used to explore predictors of depression, anxiety and adherence. For the purpose of this report, only analysis with adherence as the outcome will be discussed. There was no association between depression or anxiety symptoms and adherence to guidelines ($p=ns$).

Unites States, Seiter and Curran (2021): Seiter and Curran (2021) investigated individual differences associated with depressive symptoms and adherence to Centers for Disease Control and prevention (CDC) guidelines, two major health outcomes critical to understand during the COVID-19 pandemic. No statistical analysis was conducted to analyse the direct effect of mental health for social distancing adherence. The results indicated that psychological well-being can play a variable role in adherence to social distancing measures depending on the actual measures. Issues around being alone may be

affected by physical barriers and constraints. Overall, there is a lack of exploration on the mechanisms between psychological well-being and behaviours. Results were not consistent but do suggest that consideration of psychological well-being may be relevant in providing appropriate support for people in need. Social distancing may exacerbate feelings of depression, anxiety and loneliness but also can have a protective role in avoiding negative thinking patterns.

China, Zhang and Zhou (2021): In a representative sample of 189 people, Zhang and Zhou (2021) examined the association of people's perceived risk of COVID-19 and their psychological stress; risk beliefs with regard to being outside; and safeguarding behaviours for being outside in the event of a pandemic. Further, they explored the predictors for reporting concerns about COVID-19, social distancing and panic buying. Zhang and Zhou (2021) used hierarchical regression to analyse the data and found that stress was not a significant predictor for social distancing adherence.

Conclusions

Table 34: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Mental health sufferers are more likely to not adhere to social distancing measures [n, %]	Mental health sufferers are less likely to not adhere to social distancing measures [n, %]		
Studies	4 [57%]		3 [43%]	7
Studies	3 [38%]	2 [25%]	3 [38%]	8
Region				
Europe	1 [50%]	0	1 [33%]	2
North America	1 [33%]	1 [33%]	1 [33%]	3
Asia	1 [33%]	1 [33%]	1 [33%]	3
Oceania	0	0	0	0
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	1 [33%]	1 [33%]	1 [33%]	3
Germanic Europe	1 [100%]	0	0	1
Nordic Europe	0	0	1 [100%]	1
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	1 [33%]	1 [33%]	1 [33%]	3
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	2 [40%]	1 [20%]	2 [40%]	5

Upper Middle Income	1 [33%]	1 [33%]	1 [33%]	3
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: Out of the studies that considered the association between mental health and social distancing adherence, 57 per cent [4 out of 7] found that mental health is predictive of social distancing adherence, such that it can be concluded with some confidence that mental health is predictive of social distancing adherence. Of the studies that found mental health to be predictive of social distancing adherence, 60 per cent [3 out of 5] found that mental health sufferers are more likely to not adhere to social distancing measures, such that it can be confidently concluded that, when mental health is predictive of social distancing adherence, mental health sufferers are more likely to not adhere to social distancing measures. Out of all studies, only 38 per cent [3 out of 8] found that mental health sufferers are more likely to not adhere to social distancing measures and 38 per cent [3 out of 8] found that mental health was not associated with social distancing adherence, such that, overall, the relationship between mental health and social distancing adherence is inconclusive.

NB: Guo et al. (2021) was counted twice in all analysis other than the predictive vs. non-predictive comparison as for one mental health condition it found that mental health sufferers are more likely to not adhere to social distancing measures and for another mental health condition it found that they are less likely to not adhere to social distancing measures.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between mental health and social distancing adherence are evident.

Region: There is insufficient evidence to make conclusions about the relationship between mental health and social distancing adherence in the contexts of North American [3 studies], Asian [3 studies] and European [2 studies] countries.

There is no evidence to make conclusions about the relationship between mental health and social distancing adherence in the contexts of Oceanian [0 studies], South American [0 studies] and African [0 studies] countries.

Cultural group: There is insufficient evidence to make conclusions about the relationship between mental health and social distancing adherence in the contexts of Anglo [3 studies], Confucian Asian [3 studies], Germanic European [1 study] and Nordic European [1 study] cultural group countries.

There is no evidence to make conclusions about the relationship between mental health and social distancing adherence in the contexts of Eastern European [0 studies], Latin European [0 studies], Latin American [0 studies], Southern Asian [0 studies], Sub-Saharan African [0 studies] and Middle Eastern [0 studies] cultural group countries.

Income: Out of studies conducted in high-income countries, 40 per cent [2 out of 5] found that mental health sufferers are more likely to not adhere to social distancing measures and 40 per cent [2 out of 5] found that mental health was not associated with social distancing adherence such that for high-income countries, the relationship between mental health and social distancing adherence is inconclusive.

There is insufficient evidence to make conclusions about the relationship between mental health and social distancing adherence in the contexts of upper middle-income countries [3 studies].

There is no evidence to make conclusions about the relationship between mental health and social distancing adherence in the contexts of lower middle-income [0 studies] and low-income [0 studies] countries.

PSYCHOLOGICAL CAPABILITY
COVID-19 KNOWLEDGE

6.1.2

COVID-19 knowledge is the state of knowing about COVID-19, Belief in debunked COVID-19 conspiracy theories (i.e., improbable explanations) is consistent with a lack of COVID-19 knowledge. It was primarily measured as a test, requiring respondents to indicate whether COVID-19 statements (including COVID-19 conspiracy theories) were true or false, producing a numerical score, but also measured as self-reported perceived COVID-19 knowledge.

In total, five studies considered the relationship between COVID-19 knowledge and social distancing adherence. Of these, four found that COVID-19 knowledge was predictive of social distancing adherence and one found that it was not. Of the four studies that found COVID-19 knowledge was predictive of social distancing adherence, all found that as COVID-19 knowledge increases, social distancing non-adherence decreases (i.e., those with less COVID-19 knowledge or who believe COVID-19 conspiracy theories are less adherent).

As COVID-19 knowledge increases, social distancing non-adherence decreases

Table 35: Studies evidencing that as COVID-19 knowledge increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Al-Hasan et al. (2020)	Multiple countries aggregated			High Income
2	Fridman et al. (2020)	United States	North America	Anglo	High Income
3	Qazi et al. (2020)	Pakistan	Asia	Southern Asia	Lower Middle Income
4	Sturman et al. (2020)	Australia	Oceania	Anglo	High Income

Kuwait, South Korea, United States, Al-Hasan et al.

(2020): Al-Hasan et al. (2020) carried out a cross-sectional online survey to assess social distancing behaviours in 162 citizens of the United States, 185 of Kuwait and 71 of South Korea with a total sample size of 418. Adherence to social distancing was measured using self-reported intention to socially distance and beliefs about adherence including sheltering or social distancing measures: beliefs that sheltering or social distancing measures are effective at slowing the spread of COVID-19 and belief that the government has the right to enforce sheltering (i.e., people must stay at home). Regression analysis was used to explore the relationship between independent factors on reported adherence. Knowledge was significantly associated with adherence across the whole sample ($p < 0.001$); higher knowledge was associated with higher adherence.

United States, Fridman et al. (2020):

Fridman et al. (2020) conducted a cross-sectional survey ($n=1,243$), using a stratified recruitment procedure by US region and demographics. Outcome variables included trust in information sources about COVID-19, frequency of accessing information, knowledge of COVID-19 and adherence to social distancing measures. Adherence was measured based on participants adhering to seven specific social distancing behaviours (to all social distancing behaviours if they responded). Overall, 32 per cent adhered to all seven behaviours. Trust was explored for government sources, private sources and social networking ones. Mediation analysis found that there was a direct relationship between knowledge of COVID-19 ($\beta = -2.58$, $p < 0.001$) and adherence to social distancing

behaviour. There was also an indirect effect of knowledge through trust on social distancing ($\beta = 0.18$, $p < 0.001$). Higher knowledge was associated with higher social distancing.

Pakistan, Qazi et al. (2020): Qazi et al. (2020) investigated the influence of information (formal and informal) sources on situational awareness of the public for adopting health protective behaviours such as social distancing. A sample of 210 adults completed a questionnaire collecting data on demographics, information sources, understanding and social distancing behaviour. Structural equation modelling analysis found that perceived understanding predicted adoption of social distancing ($\beta = 0.34$, $p < 0.001$). Perceived understanding was affected by both formal and informal information sources ($p < 0.01$).

Australia, Sturman et al. (2020): Sturman et al. (2020) investigated whether a modified Theory of Planned Behaviour including knowledge of current social distancing measures could predict intentions to adhere to social distancing restrictions in 374 adults who were living in metropolitan Melbourne, Australia. During this period, metropolitan Melbourne was in stage 4 social distancing restrictions. The participants ranged in age from 19 to 86 years ($M=44.0$, $SD=15.6$). Knowledge was a significant predictor of intention to adhere to social distancing in specific situations using path modelling analysis (0.43, $p < 0.01$). It also had an indirect effect through positive attitudes (0.13, $p < 0.05$). However, when looking at general intention to adhere to social distancing, it was not significant. Greater knowledge was associated with higher adherence intentions.

COVID-19 knowledge is not associated with social distancing adherence

Table 36: Studies evidencing that COVID-19 knowledge is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High Income

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate and multivariate

analyses were conducted. COVID-19 knowledge was not a significant predictor of social distancing ($p > 0.05$).

Conclusions

Table 37: Analysis of evidence by findings, region, cultural group and income

	Predictive		Non-predictive [n, %]	Total
	As COVID-19 knowledge increases, social distancing non-adherence decreases [n, %]	As COVID-19 knowledge increases, social distancing non-adherence increases [n, %]		
Studies	4 [80%]		1 [20%]	5
Studies	4 [80%]	0	1 [20%]	5
Region				
Europe	0	0	1 [100%]	1
North America	1 [100%]	0	0	1
Asia	1 [100%]	0	0	1
Oceania	1 [100%]	0	0	1
South America	0	0	0	0
Africa	0	0	0	0
Anglo	2 [67%]	0	1 [33%]	3
Germanic Europe	0	0	0	0
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	1 [100%]	0	0	1
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	3 [75%]	0	1 [25%]	4

Upper Middle Income	0	0	0	0
Lower Middle Income	1 [100%]	0	0	1
Low Income	0	0	0	0

Overall: Out of the studies that considered the relationship between COVID-19 knowledge and social distancing adherence, 80 per cent [4 out of 5] found COVID-19 knowledge to be predictive of social distancing adherence, such that it can be concluded with high confidence that COVID-19 knowledge is predictive of social distancing adherence. Of the four studies that found COVID-19 knowledge to be predictive of social distancing adherence, 100 per cent [4 out of 4] found that as COVID-19 knowledge increases, social distancing non-adherence decreases (i.e., those with less COVID-19 knowledge or who believe COVID-19 conspiracy theories are less adherent), such that it can be concluded with high confidence that, when COVID-19 knowledge is predictive of social distancing adherence, the association is negative. Out of all studies, 80 per cent [4 out of 5] found that as COVID-19 increases, social distancing non-adherence decreases (i.e., those with less COVID-19 knowledge or who believe COVID-19 conspiracy theories are less adherent), such that it can be concluded with high confidence that, overall, as COVID-19 knowledge increases, social distancing non-adherence decreases.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between COVID-19 knowledge and social distancing adherence are evident when segmenting by income, but

there is insufficient evidence to draw any conclusions on the basis of region and cultural group.

Income: Out of studies conducted in high-income countries, 75 per cent [3 out of 4] found that as COVID-19 knowledge increases, social distancing non-adherence decreases (i.e., those with less COVID-19 knowledge or who believe COVID-19 conspiracy theories are less adherent), such that it can be concluded with high confidence that in high-income countries, as COVID-19 knowledge increases, social distancing non-adherence decreases.

There is insufficient evidence to make conclusions about the relationship between COVID-19 knowledge and social distancing adherence in the context of lower middle-income countries [1 study].

There is no evidence to make conclusions about the relationship between COVID-19 knowledge and social distancing adherence in upper middle-income [0 studies] and low-income [0 studies] countries.

PSYCHOLOGICAL CAPABILITY
SOCIAL MEDIA

6.1.3

Social media are media that facilitate the creation and sharing of information, ideas, interests and beliefs through virtual communities and networks. One study considered the general use of social media and the other considered its use to get news, measuring social media as a binary variable (i.e., social media user vs. not a social media user).

In total, two studies considered the relationship between using social media and social distancing adherence. Both found that using social media was predictive of social distancing adherence and both found that social media users are more likely to not adhere to social distancing measures.

Social media users are more likely to not adhere to social distancing measures

Table 38: Studies evidencing that social media users are more likely to not adhere to social distancing measures

	Study	Country	Region	Cultural Group	Income
1	Guo et al. (2021)	China	Asia	Confucian Asia	Upper Middle Income
2	Pederson & Favero (2020)	United States	North America	Anglo	High Income

China, Guo et al. (2021): Guo et al. (2021) carried out a survey with 2,130 Chinese adults to explore predictors of social distancing. Measures collected included demographics (age, gender, education, marital status, income, self-rated health), social distancing, mental health and social media use. Social distancing was measured by prevention strategies of avoiding social gatherings, avoiding contact with people not living in one's own home and self-isolating at home. Logistic regression results showed that more time spent on social media was associated with higher social distancing ($\chi^2=1.40$, 95 per cent CI=1.16–1.69). There was also an interaction between time on social media and psychological distress, showing less time on social media alongside psychological distress

was associated with more likelihood of maintaining social distancing ($\chi^2=0.96$, 95 per cent CI=0.94–0.99).

United States, Pedersen and Favero (2020): Pedersen and Favero (2020) examined the individual-level factors that may define the variation both in social distancing behaviour and in the duration that people can see themselves maintaining social distancing in a representative sample of 1,449 people. Regression analysis found that participants who primarily get their news from social media tend to report slightly less social distancing ($\beta=-0.161$, $p<0.05$).

Conclusions

Table 39: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Social media users are more likely to not adhere to social distancing measures [n, %]	Social media users are less likely to not adhere to social distancing measures [n, %]		
Studies	2 [100%]		0	2
Studies	2 [100%]	0	0	2
Region				
Europe	0	0	0	0
North America	1 [100%]	0	0	1
Asia	1 [100%]	0	0	1
Oceania	0	0	0	0
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	1 [100%]	0	0	1
Germanic Europe	0	0	0	0
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	1 [100%]	0	0	1
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0

Income				
High Income	1 [100%]	0	0	1
Upper Middle Income	1 [100%]	0	0	1
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: There is insufficient evidence to make conclusions about the relationship between social media use and social distancing adherence, including when looking for patterns by region, cultural group and income of the countries in the studies.

SOCIAL OPPORTUNITY
PERCEIVED SOCIAL
NORMATIVE PRESSURE

6.2.1

Social normative pressure is an individual's perception of pressure in the form of the judgement of significant others with regard to whether a particular behaviour should be performed or not. Perceived social normative pressure was measured as an ordinal variable (i.e., on a scale).

In total, five studies considered the relationship between perceived social normative pressure and social distancing adherence. Of these, three found that perceived social normative pressure was predictive of social distancing adherence and two found that it was not. Of the three studies that found that perceived social normative pressure was predictive of social distancing adherence, all found that as perceived social normative pressure increases, social distancing non-adherence decreases (i.e., those who perceive lower social normative pressure are less adherent).

As perceived social normative pressure increases, social distancing non-adherence decreases

Table 40: Studies evidencing that as perceived social normative pressure increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Christner et al. (2020)	Germany	Europe	Germanic Europe	High Income
2	Gouin et al. (2021)	Canada	North America	Anglo	High Income
3	Hagger et al. (2020)	United States	North America	Anglo	High Income

Germany, Christner et al. (2020): Christner et al. (2020) explored psychological and social factors related to social distancing. An online survey of 246 participants was carried out to look at the role of moral judgement, moral identity, empathy, fear of infection and fear of punishment alongside demographic factors. Univariate analysis using correlations as well as regression analysis explored individual and combined effect with other variables. Moral judgement represents moral norms in terms of social distancing. Results found that moral judgement was a significant predictor of social distancing behaviour ($\beta=0.46$, $p<0.001$).

Canada, Gouin et al. (2021): Gouin et al. (2021) conducted a cross-sectional study with 1,003 participants using quota sampling to ensure representation based on age, gender and urbanicity. The online survey explored demographic, health, cognitive, emotional and social factors associated with social distancing. Social distancing was measured based on adherence to government guidance around staying at home and minimizing non-essential journeys. Using a 5-point Likert scale, this included avoiding having guests in the house, refraining from social gatherings with more than two people and staying at least 2 metres away from others outside the home. Univariate analysis showed

that injunctive social norms (e.g., perception of behaviours approved or disapproved of by others) ($p < 0.05$, $d = -0.06$) and injunctive personal norms (e.g., perceptions of how one should behave) ($p < 0.05$, $d = -0.06$) were all associated with adherence levels. However, regression analysis showed only descriptive social norms, and injunctive personal norms remained significant when including demographic factors (OR: 1.25, $p < 0.05$; OR: 1.68, $p < 0.01$). The beliefs about what others think was associated with greater adherence.

United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of

Australian ($n = 365$) and US ($n = 440$) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors in social distancing.

Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. In the United States sample results showed indirect effects of social norms ($\beta = 0.072$, $p < 0.05$) and moral norms ($\beta = 0.212$, $p < 0.001$) via intention on social distancing.

Social normative pressure is not associated with social distancing adherence

Table 41: Studies evidencing that social normative pressure is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
2	Hills and Eraso (2021)	United Kingdom	Europe	Anglo	High Income

Australia, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian ($n = 365$) and US ($n = 440$) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors on social distancing. Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. There were no associations between social norms or normative beliefs in the Australian sample.

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate analysis found lower perception of normative pressure from friends (5.47 ± 1.718) compared with those who adhered (6.24 ± 1.234),

$t(679) = 3.101$, $p = 0.002$), although these were non-significant for normative pressure from family or neighbours. Normative pressure was not significant for any factors in the regression analysis including other factors. Regression analysis to explore intentional non-adherence found no association with normative pressure for any group.

Conclusions

Table 42: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As perceived social normative pressure increases, social distancing non-adherence decreases [n, %]	As perceived social normative pressure increases, social distancing non-adherence decreases [n, %]		
Studies	3 [60%]		2 [40%]	5
Studies	3 [60%]	0	2 [40%]	5
Region				
Europe	1 [50%]	0	1 [50%]	2
North America	2 [100%]	0	0	2
Asia	0	0	0	0
Oceania	0	0	1 [100%]	1
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	2 [50%]	0	2 [50%]	4
Germanic Europe	1 [100%]	0	0	1
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0

Income				
High Income	3 [60%]	0	2 [40%]	5
Upper Middle Income	0	0	0	0
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: There is insufficient evidence to make overall conclusions about the relationship between perceived social normative pressure and social distancing adherence.

NB: Hagger et al. (2020) was not included in the above overall analysis as it contained two countries for which there were mixed findings in terms of the association between perceived social normative pressure and social distancing adherence.

In looking for patterns by region, cultural group and income of the countries in the studies, an association between perceived social normative pressure and social distancing adherence is evident when segmenting by income, but there is insufficient evidence to draw any conclusions on the basis of region and cultural group, other than an inconclusive association for Anglo cultural group countries: half of studies [2 out of 4] found that as perceived social normative pressure increases, social

distancing non-adherence decreases and half of studies [2 out of 4] found that perceived social normative pressures were not associated with social distancing adherence.

Income: Out of studies conducted in high-income countries, 60 per cent [3 out of 5] found that as perceived social normative pressure increases, social distancing non-adherence decreases (i.e., those who perceive lower social normative pressure are less adherent), such that it can be confidently concluded that in high-income countries, as perceived social normative pressure increases, social distancing non-adherence decreases.

There is no evidence to make conclusions about the relationship between perceived social normative pressure and social distancing adherence in the contexts of upper middle-income countries [0 studies], lower middle-income countries [0 studies] and low-income countries [0 studies].

SOCIAL OPPORTUNITY
POLITICAL IDEOLOGY

6.2.2

Political ideology refers to people’s political beliefs and affiliations. It was measured either as a categorical variable in terms of political parties voted for or identified with or on scales associated with political spectrums (e.g., liberal to conservative; left to right) or even as a binary variable (e.g., left vs. right political orientation).

In total, five studies considered the association between political ideology and social distancing adherence. Of these, four found that political ideology was predictive of social distancing adherence and one found that it was not. Of the four studies that found political ideology was predictive of social distancing adherence, all found that right-wing or conservative voters were more likely to not adhere to social distancing measures.

Right-wing or conservative voters are more likely to not adhere to social distancing measures

Table 43: Studies evidencing that right-wing or conservative voters are more likely to not adhere to social distancing measures

	Study	Country	Region	Cultural Group	Income
1	Allcott et al. (2020)	United States	North America	Anglo	High Income
2	Gratz et al. (2021)	United States	North America	Anglo	High Income
3	Hills & Eraso (2021)	United Kingdom	Europe	Anglo	High Income
4	Pedersen & Favero (2020)	United States	North America	Anglo	High Income

United States, Allcott et al. (2020): Allcott et al. (2020) carried out an online cross-sectional survey with 2,000 participants across the United States with a broad range of participants in terms of political persuasion, age, gender and race. Social distance was measured via self-reported social distancing alongside political persuasion, beliefs about reported numbers and efficacy of social distancing.

Analysis was not conducted directly to explore the relationship between demographic factors and reported social distancing in this paper. Over time results indicated a greater reduction in contact for strong Democrats (72.1 per cent) compared with strong Republicans (67.8 per cent) with 0.18 SD reduction. Results for staying inside were similar with a difference of 0.23 SD between political persuasion.

United States, Gratz et al. (2021): Gratz et al. (2021) carried out a prospective cross-online survey at three time points (baseline, 1-month follow-up and 3-month follow-up) to explore psychological beliefs, trust and political persuasion on initial adherence and shifts in adherence to social distancing over time.

Measures included demographic characteristics (e.g., gender, age, ethnicity), pseudoscientific beliefs, beliefs in a just world, COVID risk perceptions, trust in government of the CDC, political persuasion and adherence to social distancing guidelines. Univariate and multivariate analyses explored the relationships between factors across the timeline of the surveys.

Political party affiliation was not associated with adherence at baseline or 1-month follow-up but was associated with a negative association with adherence at 3 months for Republicans ($p < 0.01$, $d = -0.12$) and was positively associated for Democrats ($p < 0.01$, $d = 0.12$). Hierarchical regression analysis over time showed that both Democrats ($d = 0.494$) and Independents ($d = 0.502$) were found to have a significantly lower decline in adherence rates compared with Republicans.

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules

(92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate and multivariate analyses were conducted to explore the independent relationships between factors.

There were no significant differences found in adherence to social distancing based on voting or not voting for the Conservative UK Government. However, for intentional non-adherence those who voted for the Conservative UK Government compared with not voting for it showed greater intention to non-adhere ($\beta = 0.461$, $p < 0.05$). The odds of intentionally not adhering to social distancing rules were 53.9 per cent lower when not having voted for the Government compared with voting for it.

United States, Pedersen and Favero (2020): In a representative sample of 1,449 people, Pedersen and Favero (2020) examined the individual-level factors that may define the observation of the variation both in social distancing behaviour and in the duration that people can see themselves maintaining social distancing.

Regression models with fewer independent, attitudinal variables showed a significant association with social distancing and political affiliation. Democrats reported a higher level of social distancing than either Republicans or those who identify with neither of the major US political parties ($r = 3.73$, $p < 0.01$).

Political ideology is not associated with social distancing adherence

Table 44: Studies evidencing that political ideology is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Masters et al. (2020)	United States	North America	Anglo	High Income

United States, Masters et al. (2020): Masters et al. (2020) examined the relationship of risk perceptions and adherence to social distancing recommendations in a convenience sample of 713 people. Multiple regression models were used and found that there were no statistically significant differences in social distancing behaviour by political affiliation.

Conclusions

Table 45: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Right-wing or conservative voters are more likely to not adhere to social distancing measures [n, %]	Left-wing or liberal voters are more likely to not adhere to social distancing measures [n, %]		
Studies	4 [80%]		1 [20%]	5
Studies	4 [80%]	0	1 [20%]	5
Region				
Europe	1 [100%]	0	0	1
North America	3 [75%]	0	1 [25%]	4
Asia	0	0	0	0
Oceania	0	0	0	0
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	4 [80%]	0	1 [20%]	5
Germanic Europe	0	0	0	0
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0

Income				
High Income	4 [80%]	0	1 [20%]	5
Upper Middle Income	0	0	0	0
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: Out of the studies that considered the association between political ideology and social distancing adherence, 80 per cent [4 out of 5] found that political ideology is predictive of social distancing adherence, such that it can be concluded with high confidence that political ideology is predictive of social distancing adherence. Of the four studies that found political ideology to be predictive of social distancing adherence, 100 per cent [4 out of 4] found that right-wing or conservative voters are more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that, when political ideology is predictive of social distancing adherence, right-wing or conservative voters are more likely to not adhere to social distancing measures. Out of all studies, 80 per cent [4 out of 5] found that right-wing or conservative voters are more likely to not adhere to social distancing measures, such that, overall, it can be concluded with high confidence that right-wing or conservative voters are more likely to not adhere to social distancing measures.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between political ideology and social distancing adherence are evident.

Region: Out of studies conducted in North American countries, 75 per cent [3 out of 4] found that right-wing or conservative voters are more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that in North American countries, right-wing or conservative voters are more likely to not adhere to social distancing measures.

There is insufficient evidence to make conclusions about the relationship between political ideology and social distancing adherence in the context of European countries [1 study].

There is no evidence to make conclusions about the relationship between political ideology and social distancing adherence in the contexts of Asian [0 studies], Oceanian [0 studies], South American [0 studies] and African [0 studies] countries.

Cultural Group: Out of studies conducted in Anglo cultural group countries, 80 per cent [4 out of 5] found that right-wing or conservative voters are more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that in Anglo cultural group countries, right-wing or conservative voters are more likely to not adhere to social distancing measures.

There is no evidence to make conclusions about the relationship between political ideology and social distancing adherence in the contexts of Germanic European [0 studies], Nordic European [0 studies], Eastern European [0 studies], Latin European [0 studies], Latin American [0 studies], Southern Asian [0 studies], Confucian Asian [0 studies], Sub-Saharan African [0 studies] and Middle Eastern cultural group countries.

Income: Out of studies conducted in high-income countries, 80 per cent [4 out of 5] found that right-wing or conservative voters are more likely to not adhere to social distancing measures, such that it can be concluded with high confidence that in high-income countries, right-wing or conservative voters are more likely to not adhere to social distancing measures.

There is no evidence to make conclusions about the relationship between political ideology and social distancing adherence in the contexts of upper middle-income [0 studies], lower middle-income [0 studies] and low-income [0 studies] countries.

**REFLECTIVE MOTIVATION
PERCEIVED SUSCEPTIBILITY
TO COVID-19**

6.3.1

Perceived susceptibility to COVID-19 is the perceived chance of being infected with COVID-19, but does not confer the perceived risk of being harmed by it if infected. Perceived susceptibility was primarily measured as an ordinal variable (i.e., on a scale).

In total, eight studies considered the association between perceived susceptibility and social distancing adherence. Of these, four found that perceived susceptibility was predictive of social distancing adherence and four found that it was not associated with it. Of the four studies that found perceived susceptibility was predictive of social distancing adherence, all found that as perceived susceptibility increases, social distancing non-adherence decreases (i.e., those who perceive themselves to be less susceptible to COVID-19 are less adherent).

As perceived susceptibility increases, social distancing non-adherence decreases

Table 46: Studies evidencing that as perceived susceptibility increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Al-Hasan et al. (2020)	Multiple countries aggregated			High Income
2	Gouin et al. (2021)	Canada	North America	Anglo	High Income
3	Gratz et al. (2021)	United States	North America	Anglo	High Income
4	Hills and Eraso (2021)	United Kingdom	Europe	Anglo	High Income

Kuwait, South Korea, United States, Al-Hasan et al. (2020):

Al-Hasan et al. (2020) carried out a cross-sectional online survey to assess social distancing behaviours in 162 citizens of the United States, 185 of Kuwait and 71 of South Korea with a total sample size of 418. Adherence to social distancing was measured using self-reported intention to socially distance and beliefs about adherence including sheltering or social distancing measures: beliefs that sheltering or social distancing measures are effective at slowing the spread of COVID-19 and that the government

has the right to enforce sheltering (i.e., people must stay at home).

Regression analysis was used to explore the relationship between independent factors on reported adherence. Threat appraisal was determined by perceived severity and susceptibility. Threat appraisal was predictive of adherence to social distancing ($p < 0.001$). Individual country analysis showed a significant result in the United States ($p < 0.01$) and South Korea ($p < 0.001$) but not in Kuwait ($p = ns$).

Country comparison showed a stronger result in the United States compared with South Korea (χ^2 11.91, $p < 0.001$) and a significant difference between South Korea and Kuwait (χ^2 12.45, $p < 0.001$).

Canada, Gouin et al. (2021): Gouin et al. (2021) conducted a cross-sectional study with 1,003 participants using quota sampling to ensure representation based on age, gender and urbanicity. The online survey explored demographic, health, cognitive, emotional and social factors associated with social distancing.

Social distancing was measured based on adherence to government guidance around staying at home and minimizing non-essential journeys. Using a 5-point Likert scale, this included avoiding having guests in the house, refraining from social gatherings with more than two people and staying at least 2 metres away from others outside the home. Univariate analysis found that perceived susceptibility ($p < 0.05$, $d = -0.06$), perceived severity ($p < 0.01$, $d = 0.14$) and perceived susceptibility for others ($p < 0.05$, $d = 0.08$) were associated with social distancing. However multivariate analysis showed no significant results when accounting for demographic variations.

United States, Gratz et al. (2021): Gratz et al. (2021) carried out a prospective cross-online survey at three time points (baseline, 1-month follow-up and 3-month follow-up) to explore psychological beliefs, trust and political persuasion on initial adherence and shifts in adherence

to social distancing over time. Measures included demographic characteristics (e.g., gender, age, ethnicity), pseudoscientific beliefs, beliefs in a just world, COVID risk perceptions, political persuasion and adherence to social distancing guidelines.

Univariate analysis showed a positive association between risk perceptions and adherence rates ($p < 0.01$, $d = 0.11$), whilst government trust was significant at 1 month ($p < 0.05$, $d = 0.22$), which was also demonstrated in the hierarchical regression for all factors over time which showed higher risk perceptions were associated with lower decline in adherence levels ($p < 0.05$, $d = 1.51$).

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent).

Univariate analysis found an association between perceived susceptibility and adherence to all social distancing behaviour ($p < 0.05$) and also intentional non-adherence ($p < 0.01$) with high perceived risk associated with higher social distancing behaviours or intentions. Multivariate analysis using logistic regression found no association between perceived susceptibility and social distancing behaviours or intentional non-adherence.

Perceived susceptibility is not associated with social distancing adherence

Table 47: Studies evidencing that perceived susceptibility is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Beeckman et al. (2020)	Belgium	Europe	Germanic Europe	High Income
2	Masters et al. (2020)	United States	North America	Anglo	High Income
3	Tomczyk et al. (2020)	Germany	Europe	Germanic Europe	High Income
4	Zhang and Zhou (2021)	China	Asia	Confucian Asia	Upper Middle Income

Belgium, Beeckman et al. (2020): Beeckman et al. (2020) carried out two cross-sectional surveys among adults in Belgium. The first survey ($n = 2,379$) focused on adherence to physical distancing measures, whilst the second ($n = 805$) focused on difficulty with, and perseverance in, adhering to these measures. Measures of social distancing included staying at home (e.g., except for

essential activities) and keeping a physical distance of 1.5 metres.

Linear regression models were used to examine associations between a range of factors and adherence levels. Results in Study 1 found that perceived threat of COVID-19 was not significantly associated with recently

'keeping 1.5m distance' (p=ns), already adhering to keeping a distance of 1.5 metres (p=ns) nor having been adhering to COVID-19 physical distancing measures for a long time. The results in Study 2 were similar, with no association found with difficulty in adhering to either staying at home or keeping a distance of 1.5 metres.

United States, Masters et al. (2020): In a convenience sample of 713 people, Masters et al. (2020) examined the relationship of risk perceptions and adherence to social distancing recommendations. Masters et al. (2020) did not use a statistical analysis to analyse the data between social distancing and risk perception.

Germany, Tomczyk et al. (2020): In a German community sample of 157 German adults, Tomczyk et al. (2020) investigated social distancing adherence and age as well as other demographic factors. Tomczyk et al. (2020) used multinomial logistic regressions to predict adherence patterns by socio-demographic data and psychological

factors (stigmatizing attitudes, risk perception, preventative behaviour and subjective knowledge). The results showed that having a regard for social distancing and high adherence did not differ by risk perception.

China, Zhang and Zhou (2021): In a representative sample of 189 people, Zhang and Zhou (2021) examined the association of people's perceived risk of COVID-19 and their psychological stress; risk beliefs with regard to being outside; and safeguarding behaviours for being outside in the event of a pandemic.

Further, they explored the predictors for reporting concerns about COVID-19, social distancing and panic buying. Zhang and Zhou (2021) used one-way ANOVA to analyse the data and found the variables of perceived risk of COVID-19 and psychological stress had no significant predictive effects on respondents' reported social distancing by refusing to have visitors.

Conclusions

Table 48: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As perceived susceptibility increases, social distancing non-adherence decreases [n, %]	As perceived susceptibility increases, social distancing non-adherence increases [n, %]		
Studies	4 [50%]		4 [50%]	8
Studies	4 [50%]	0	4 [50%]	8
Region				
Europe	1 [33%]	0	2 [67%]	3
North America	2 [67%]	0	1 [33%]	3
Asia	0	0	1 [100%]	1
Oceania	0	0	0	0
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	3 [75%]	0	1 [25%]	4
Germanic Europe	0	0	2 [100%]	2

Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	1 [100%]	1
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	4 [57%]	0	3 [43%]	7
Upper Middle Income	0	0	1 [100%]	1
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: The overall relationship between perceived susceptibility and social distancing adherence is inconclusive: 50 per cent of studies [4 out of 8] found that perceived susceptibility was predictive of social distancing adherence, but equally 50 per cent of studies [4 out of 8] found that it was not associated with it. Also, 50 per cent of studies [4 out of 8] found that as perceived susceptibility increases, social distancing non-adherence decreases (i.e., those who perceive themselves to be less susceptible to COVID-19 are less adherent), but equally 50 per cent of studies [4 out of 8] found that perceived susceptibility was not associated with social distancing adherence.

In looking for patterns by region, cultural group and income of the countries in the studies, some associations between perceived susceptibility and social distancing adherence are evident when segmenting by cultural group and income, but there is insufficient evidence to draw any conclusions on the basis of region.

Cultural group: Out of studies conducted in countries in the Anglo cultural group, 75 per cent [3 out of 4] found that as perceived susceptibility increases, social distancing non-adherence decreases, such that it can be concluded with high confidence that in Anglo cultural group countries, as perceived susceptibility increases, social distancing non-adherence decreases.

There is insufficient evidence to make conclusions about the relationship between perceived susceptibility and

social distancing adherence in the contexts of Germanic European [2 studies] and Confucian Asian [1 study] cultural group countries.

There is no evidence to make conclusions about the relationship between perceived susceptibility and social distancing adherence in the contexts of Nordic European [0 studies], Eastern European [0 studies], Latin American [0 studies], Southern Asian [0 studies], Sub-Saharan African [0 studies] and Middle Eastern [0 studies] cultural group studies.

Income: Out of studies conducted in high-income countries, 57 per cent [4 out of 7] found that as perceived susceptibility increases, social distancing non-adherence decreases, such that it can be concluded with some confidence that in high-income countries, as perceived susceptibility increases, social distancing non-adherence decreases.

There is insufficient evidence to make conclusions about the relationship between perceived susceptibility and social distancing adherence in the context of upper middle-income countries [1 study].

There is no evidence to make conclusions about the relationship between perceived susceptibility and social distancing adherence in lower middle-income [0 studies] and low-income [0 studies] countries.

REFLECTIVE MOTIVATION
PERCEIVED BEHAVIOURAL
CONTROL

6.3.2

Perceived behavioural control is an individual's perception of the ease or difficulty in performing a behaviour, closely related to self-efficacy, which is an individual's perception of their ability and capacity to execute a behaviour. Perceived control over ability to socially distance was measured as an ordinal variable (i.e., on a scale).

In total, five studies considered the association between perceived behavioural control and social distancing adherence. Of these, all five found that perceived behavioural control was predictive of social distancing adherence. Of these five studies, all found that as perceived behavioural control increases, social distancing non-adherence decreases (i.e., those who perceive themselves to have less control over their social distancing are less adherent).

As perceived behavioural control increases, social distancing non-adherence decreases

Table 49: Studies evidencing that as perceived behavioural control increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Al-Hasan et al. (2020)	Multiple countries aggregated			High Income
2	Beeckman et al. (2020)	Belgium	Europe	Germanic Europe	High Income
3	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
		United States	North America	Anglo	High Income
4	Kasper (2020)	Germany	Europe	Germanic Europe	High Income
5	Taberner et al. (2020)	Spain	Europe	Latin Europe	High Income

Kuwait, South Korea, United States, Al-Hasan et al. (2020): Al-Hasan et al. (2020) carried out a cross-sectional online survey to assess social distancing behaviours in 162 citizens of the United States, 185 of Kuwait and 71 of South Korea with a total sample size of 418. Adherence to social distancing was measured using self-reported intention to socially distance and beliefs about adherence including sheltering or social distancing measures: beliefs that sheltering or social distancing measures are effective

at slowing the spread of COVID-19 and belief that the government has the right to enforce sheltering (i.e., people must stay at home).

Regression analysis was used to explore the relationship between independent factors on reported adherence. Coping appraisal was a combination of self-efficacy and response efficacy. Results found that the variable coping appraisal was a significant predictor of social distancing in

the United States ($\beta=0.344$, $p<0.01$), South Korea ($\beta=0.531$, $p=0.001$) and Kuwait ($\beta=0.536$, $p<0.001$). Results were also significant when taking into account other demographic and psychological variables.

Belgium, Beeckman et al. (2020): Beeckman et al. (2020) carried out two cross-sectional surveys among adults in Belgium. The first survey ($n=2,379$) focused on adherence to physical distancing measures, whilst the second ($n=805$) focused on difficulty with, and perseverance in, adhering to these measures. Measures of social distancing included staying at home (e.g., except for essential activities) and keeping a physical distance of 1.5 metres.

Linear regression models were used to examine associations between a range of factors and adherence levels. Psychological factors of relevance included self-efficacy, social support, intention, action planning and coping planning. Regression analysis in Study 1 found an association between self-efficacy ($\beta=0.28$, $p<0.05$), action planning ($\beta=0.33$, $p<0.05$) and coping planning ($\beta=0.29$, $p<0.05$) with social distancing.

Australia, United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian ($n=365$) and US ($n=440$) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour.

Structural equation modelling was used to explore the role of factors in social distancing. Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. Regression analysis found perceived behavioural control ($\beta=0.126$, $p<0.001$) had direct effects on social distancing behaviour in the Australian sample. These findings were replicated in the US sample for perceived behavioural control ($\beta=0.074$, $p<0.05$).

Germany, Kaspar (2020): Kaspar (2020) conducted an examination of four aspects relating to COVID protection which included motivation for social distancing, using a contact tracing app, providing infection status to a contact tracing app and using a Data Donation app. Here, results for motivation for social distancing will be explored as a representation of social distancing behaviour.

A mix of demographic and psychological factors including severity, vulnerability, rewards self-efficacy, response efficacy, response costs and trust were included in multiple regression analysis for motivation for social distancing ($R^2=0.547$, $p<0.001$). Regression analysis found that self-efficacy about social distancing ($\beta=0.211$, $p<0.001$) was associated with greater social distancing.

Spain, Taberero et al. (2020): A total of 1,324 people took part in Taberero et al.'s (2020) study that investigated the analysis of psychosocial factors associated with the performance of both physical distancing adherence and self-interested consumption behaviours carried out during the first 10 days of confinement in Spain. The individual perception of the capacity to carry out each of the specific self-care and normative acts was evaluated using 13 items (e.g., 'To what extent do you feel capable of remaining at home for the period determined by the government?').

Participants were required to reflect on their levels of confidence using a 6-point scale, where response scores ranged from 1=not at all confident to 6=totally confident. The Cronbach's alpha for this scale was 0.84. Taberero et al. (2020) used a univariate analysis and found that in relation to physical distancing behaviours self-efficacy in coping ($r=0.29$, $p<0.01$) and self-protection self-efficacy ($r=0.26$, $p<0.01$) were significant. These relationships were also sustained in structural equation modelling analysis.

Conclusions

Table 50: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As perceived behavioural control increases, social distancing non-adherence decreases [n, %]	As perceived behavioural control increases, social distancing non-adherence increases [n, %]		
Studies	5 [100%]		0	5
Studies	5 [100%]	0	0	5
Region				
Europe	3 [100%]	0	0	3
North America	1 [100%]	0	0	1
Asia	0	0	0	0
Oceania	1 [100%]	0	0	1
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	2 [100%]	0	0	2
Germanic Europe	2 [100%]	0	0	2
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	1 [100%]	0	0	1
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0

Income				
High Income	6 [100%]	0	0	6
Upper Middle Income	0	0	0	0
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: Out of the studies that considered the association between perceived behavioural control and social distancing adherence, 100 per cent [5 out of 5] found that perceived behavioural control is predictive of social distancing adherence, such that it can be concluded with high confidence that perceived behavioural control is predictive of social distancing adherence.

Of the five studies that found perceived behavioural control to be predictive of social distancing adherence, 100 per cent [5 out of 5] found that as perceived behavioural control increases, social distancing non-adherence decreases (i.e., those who perceive themselves to have less control over their social distancing are less adherent), such that it can be concluded with high confidence that, when perceived behavioural control is predictive of social distancing adherence, as perceived behavioural control increases, social distancing non-adherence decreases.

Out of all studies, 100 per cent [5 out of 5] found that as perceived behavioural control increases, social distancing non-adherence decreases, such that, overall, it can be concluded with high confidence that as perceived

behavioural control increases, social distancing non-adherence decreases.

In looking for patterns by region, cultural group and income of the countries in the studies, an association between perceived susceptibility and social distancing adherence is evident when segmenting by income, but there is insufficient evidence to draw any conclusions on the basis of region and cultural group.

Income: Out of studies conducted in high-income countries, 100 per cent [6 out of 6] found that as perceived behavioural control increases, social distancing non-adherence decreases, such that it can be concluded with high confidence that in high-income countries, as perceived behavioural control increases, social distancing non-adherence decreases.

There is no evidence to make conclusions about the relationship between perceived behavioural control and social distancing adherence in upper middle-income [0 studies], lower middle-income [0 studies] and low-income [0 studies] countries.

REFLECTIVE MOTIVATION
BEHAVIOURAL
INTENTION

6.3.3

Behavioural intention is an individual's readiness to perform a behaviour. Intention to socially distance was measured as an ordinal variable (i.e., on a scale).

In total, three studies considered the association between behavioural intention and social distancing adherence. Of these, all three found that behavioural intention was predictive of social distancing adherence. Of these three studies, all found that as behavioural intention increases, social distancing non-adherence decreases (i.e., those who do not intend to socially distance are less adherent).

As behavioural intention increases, social distancing non-adherence decreases

Table 51: Studies evidencing that as behavioural intention increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Beeckman et al. (2020)	Belgium	Europe	Germanic Europe	High Income
2	Hagger et al. (2020)	Australia	Oceania	Anglo	High Income
		United States	North America	Anglo	High Income
3	Hills and Eraso (2021)	United Kingdom	Europe	Anglo	High Income

Belgium, Beeckman et al. (2020): Beeckman et al. (2020) carried out two cross-sectional surveys among adults in Belgium. The first survey (n=2,379) focused on adherence to physical distancing measures, whilst the second (n=805) focused on difficulty with, and perseverance in, adhering to these measures. Measures of social distancing included staying at home (e.g., except for essential activities) and keeping a physical distance of 1.5 metres.

Linear regression models were used to examine associations between a range of factors and adherence levels. Psychological factors of relevance included self-efficacy, social support, intention, action planning and

coping planning. Other factors are not discussed here due to lack of identification in other papers. Of the sample, 98 per cent reported adhering to social distancing measures of 'staying at home' and maintaining a physical distance of 1.5 metres.

However, 38 per cent reported great difficulty for staying at home and 31 per cent reported great difficulty for maintaining a physical distance of 1.5 metres reported. Also, 39 per cent reported not being able to persevere staying at home in the long term and 31 per cent reported not being able to persevere maintaining a physical distance in the long term. Results in Study 1 found that higher

scores on intention were associated with recently ‘keeping 1.5m distance’ ($\beta=0.55$, [0.41, 0.70]) and already adhering to this ($\beta=0.74$, [0.61, 0.88]). Further, higher intention was associated with adhering to ‘keeping 1.5m distance for a longer time’ ($\beta=0.19$, [0.15, 0.24]).

In Study 2 results shown for intention to socially distance found lower intention for those with greater difficulty adhering to ‘staying at home’ ($\beta=-0.23$, 95 per cent CI [-0.31, -0.16]) and ‘keeping 1.5m distance’ ($\beta= 0.17$, [0.25, 0.09]). For those who indicated that they could not persevere as long as needed, intention was lower for ‘staying at home’ ($\beta=-0.36$, [-0.44, -0.28]) and ‘keeping 1.5m distance’ ($\beta=-0.42$, [-0.50, -0.34]).

Australia, United States, Hagger et al. (2020): Hagger et al. (2020) conducted a prospective cross-sectional survey of Australian (n=365) and US (n=440) participants. The study explored the influence of social cognition constructs from the Theory of Planned Behaviour alongside past behaviours, behavioural intentions, planning, habit and action planning on social distancing behaviour. Structural equation modelling was used to explore the role of factors in social distancing.

Social distancing was assessed via frequency of social distancing behaviours in the previous seven days. Univariate analysis was conducted for all variables including socio-demographic factors whilst structural equation modelling was used to determine the impact of Theory of Planned Behaviour factors on behaviour. The Theory of Planned Behaviour contains the following factors: social and moral norms, anticipated regret,

perceived behavioural control, action planning as well as intention. Results found that intention ($\beta=0.220$, $p<0.001$) had direct effects on social distancing behaviour in the Australian sample. Indirect effects of moral norms ($\beta=0.068$, $p<0.05$) via intention were found, and habits over time ($\beta=0.078$, $p<0.01$) and past behaviour ($\beta=0.081$, $p<0.05$) affected social distancing behaviour.

For the United States sample, the study found that intention ($\beta=0.142$, $p<0.001$) had direct effects on social distancing even taking into account past behaviour, which was also found to be significant ($\beta=0.673$, $p<0.001$). Indirect effects of social norms ($\beta=0.072$, $p<0.05$), moral norms ($\beta=0.212$, $p<0.001$) and perceived behavioural control ($\beta=0.088$, $p<0.001$) via intention were found, and habits over time ($\beta=0.166$, $p<0.001$), past behaviour indirectly via habits ($\beta=0.068$, $p<0.001$) and past behaviour ($\beta=0.178$, $p<0.001$) affected social distancing behaviour.

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also measured (48.6 per cent). Univariate and multivariate analyses were conducted to explore independent relationships between factors. The odds of intentionally not adhering to social distancing rules increased if a participant had a lower intention to socially distance [$\beta=0.468$]. Therefore, higher intention was associated with greater reported behaviour around social distancing.

Conclusions

Table 52: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As behavioural intention increases, social distancing non-adherence decreases [n, %]	As behavioural intention increases, social distancing non-adherence increases [n, %]		
Studies	3 [100%]		0	3
Studies	3 [100%]	0	0	3
Region				
Europe	2 [100%]	0	0	2
North America	1 [100%]	0	0	1

Asia	0	0	0	0
Oceania	1 [100%]	0	0	1
South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	3 [100%]	0	0	3
Germanic Europe	1 [100%]	0	0	1
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	4 [100%]	0	0	4
Upper Middle Income	0	0	0	0
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: There is insufficient evidence to make overall conclusions about the relationship between behavioural intention and social distancing adherence.

In looking for patterns by region, cultural group and income of the countries in the studies, an association between behavioural intention and social distancing adherence is evident when segmenting by income, but there is insufficient evidence to draw any conclusions on the basis of region and cultural group.

Income: Out of studies conducted in high-income countries, 100 per cent [4 out of 4] found that as behavioural intention increases, social distancing non-adherence decreases,

such that it can be concluded with high confidence that in high-income countries, as behavioural intention increases, social distancing non-adherence decreases.

There is no evidence to make conclusions about the relationship between behavioural intention and social distancing adherence in upper middle-income [0 studies], lower middle-income [0 studies] and low-income [0 studies] countries.

REFLECTIVE MOTIVATION
TRUST IN GOVERNMENT

6.3.4

Trust in government is the belief in the reliability and integrity of the government. It is most frequently measured as an ordinal variable (i.e., on a scale).

In total, three studies considered the relationship between trust in government and social distancing adherence. Of these, two found that trust in government was predictive of social distancing adherence and one found that it was not associated with it. Of the two studies that found that trust in government was predictive of social distancing adherence, both found that as trust in government increases, social distancing non-adherence decreases (i.e., those who have less trust in government are less adherent).

As trust in government increases, social distancing non-adherence decreases

Table 53: Studies evidencing that as trust in government increases, social distancing non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Fridman et al. (2020)	United States	North America	Anglo	High Income
2	Gratz et al. (2021)	United States	North America	Anglo	High Income

United States, Fridman et al. (2020): Fridman et al. (2020) conducted a cross-sectional survey (n=1,243), using a stratified recruitment procedure by US region and demographics. Outcome variables included trust in information sources about COVID-19, frequency of accessing information, knowledge of COVID-19 and adherence to social distancing measures. Adherence was measured based on participants adhering to seven specific social distancing behaviours.

Overall, 32 per cent adhered to all seven behaviours. Trust was explored for government sources, private sources and social networking ones. Chi-square analysis found an association between social distancing adherence and trust of the following sources of government information: CDC and the Food and Drug Administration (FDA) (p<0.001), local health department (p<0.001) and World Health

Organization (p<0.05), but no association with trust of the White House as a source (p=ns). A positive association between social distancing adherence and trust of private sources was found for Reuters (p<0.05) and The Hill (p<0.01) news sources, but not for other TV/news stations.

There were negative associations between social distancing adherence and trust in social media networks for Facebook (p<0.01), Twitter (p<0.01) and other social media sources (p<0.001). Regression analysis found that trust in the government sources of the CDC and FDA predicted social distancing adherence ($\beta=0.50$, p<0.01) directly and also when knowledge was added to the analysis ($\beta=0.35$, p<0.05). Knowledge partially mediated the relationship between trust and adherence.

United States, Gratz et al. (2021): Gratz et al. (2021) carried out a prospective cross-online survey at three time points (baseline, 1-month follow-up and 3-month follow-up) to explore the influence of psychological beliefs, trust and political persuasion on initial adherence and shifts in adhering to social distancing over time. Measures included demographic characteristics (e.g., gender, age, ethnicity), pseudoscientific beliefs, beliefs in a just world, COVID risk perceptions, political persuasion and adherence to social distancing guidelines. Univariate analysis found that there

were variations depending on the trust of the organization. Dispositional trust was associated with social distancing at baseline ($p < 0.04$, $d = 0.11$), whilst government trust was significant at 1 month ($p < 0.05$, $d = 0.13$) and CDC trust was significant at 3 months ($p < 0.05$, $d = 0.13$).

Hierarchical regression found that lower trust in government ($p < 0.01$, $d = 0.022$) and, surprisingly, greater trust in the CDC ($p < 0.05$, $d = -0.127$) were significantly associated with lower adherence at baseline.

Trust in government is not associated with social distancing adherence

Table 54: Studies evidencing that trust in government is not associated with social distancing adherence

	Study	Country	Region	Cultural Group	Income
1	Hills and Eraso (2021)	United Kingdom	Europe	Anglo	High Income

United Kingdom, Hills and Eraso (2021): Hills and Eraso (2021) carried out a cross-sectional survey of 681 residents of North London on adherence to social distancing rules and intentional non-adherence. Non-adherence was measured as not adhering to all social distancing rules (92.8 per cent) whilst intentional non-adherence was also

measured (48.6 per cent). Univariate and multivariate analysis found that there was not a statistically significant difference based on trust in government for those intentionally not adhering to social distancing rules ($p > 0.05$).

Conclusions

Table 55: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As trust in government increases, social distancing non-adherence decreases [n, %]	As trust in government increases, social distancing non-adherence increases [n, %]		
Studies	2 [67%]		1 [33%]	3
Studies	2 [67%]	0	1 [33%]	3
Region				
Europe	0	0	1 [100%]	1
North America	2 [100%]	0	0	2
Asia	0	0	0	0
Oceania	0	0	0	0

South America	0	0	0	0
Africa	0	0	0	0
Cultural Group				
Anglo	2 [67%]	0	1 [33%]	3
Germanic Europe	0	0	0	0
Nordic Europe	0	0	0	0
Eastern Europe	0	0	0	0
Latin Europe	0	0	0	0
Latin America	0	0	0	0
Southern Asia	0	0	0	0
Confucian Asia	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	0	0	0	0
Income				
High Income	2 [67%]	0	1 [33%]	3
Upper Middle Income	0	0	0	0
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: There is insufficient evidence to make conclusions about the relationship between trust in government and social distancing adherence, including when looking for patterns by region, cultural group and income of the countries in the studies.

CONCLUSIONS

07

WHO IS MORE LIKELY TO NOT ADHERE TO SOCIAL DISTANCING MEASURES AND IN WHAT CONTEXT?

7.1

Age

Younger age groups are more likely to not adhere to social distancing measures.

Overall, it can be concluded with some confidence that as age increases, social distancing non-adherence decreases [59 per cent of studies, 13 out of 22].

Regional context: It can be concluded with high confidence that in countries in Asia, age is not associated with social distancing adherence [80 per cent of studies, 4 out of 5].

It can be concluded with high confidence that in North American countries, as age increases, social distancing non-adherence decreases [78 per cent of studies, 7 out of 9].

Cultural group context: It can be concluded with high confidence that in countries in the Anglo cultural group, as age increases, social distancing non-adherence decreases [77 per cent of studies, 10 out of 13].

Sex/gender

The relationship between sex/gender and social distancing adherence is inconclusive.

Overall, the relationship between sex/gender and social distancing adherence is inconclusive [52 per cent of studies, 11 out of 21, found that sex/gender is not associated with social distancing adherence; 48 per cent of studies, 10 out of 21, found that males are more likely to not adhere to social distancing measures].

Regional context: It can be concluded with high confidence that in Asian countries, males are more likely to not adhere to social distancing measures [75 per cent of studies, 3 out of 4].

Income

Amount of income is not associated with social distancing adherence.

Overall, it can be concluded with high confidence that income is not associated with social distancing adherence [75 per cent of studies, 6 out of 8].

Regional context: It can be concluded with high confidence that in North American countries, income is not associated with social distancing adherence [80 per cent of studies, 4 out of 5].

Cultural group context: It can be concluded with high confidence that in Anglo cultural group countries, income is not associated with social distancing adherence [75 per cent of studies, 6 out of 8].

Income context: It can be concluded with high confidence that in high-income countries income is not associated with social distancing adherence [78 per cent of studies, 7 out of 9].

Education

Level of education is not associated with social distancing adherence.

Overall, it can be concluded with some confidence that education is not associated with social distancing adherence [54 per cent of studies, 7 out of 13].

Race/ethnicity

Race/ethnicity is not associated with social distancing adherence.

Overall, it can be concluded with high confidence that race/ethnicity is not associated with social distancing adherence [71 per cent of studies, 5 out of 7].

Cultural group context: It can be concluded with high confidence that in Anglo cultural group countries, race/ethnicity is not associated with social distancing adherence [75 per cent of studies, 6 out of 8].

Income context: It can be concluded with high confidence that in high-income countries race/ethnicity is not associated with social distancing adherence [75 per cent of studies, 6 out of 8].

Marital status

There is insufficient evidence to make conclusions about the relationship between marital status and social distancing adherence.

Living area

Whether someone is a rural or urban dweller is not associated with social distancing adherence.

Overall, it can be concluded with high confidence that living area is not associated with social distancing adherence [100 per cent of studies, 4 out of 4].

Essential worker status

Essential workers are more likely to not adhere to social distancing measures.

Overall, it can be concluded with high confidence that essential workers are more likely to not adhere to social distancing measures [75 per cent of studies, 3 out of 4].

Cultural group context: It can be concluded with high confidence that in Anglo cultural group countries, essential workers are more likely to not adhere to social distancing measures [75 per cent of studies, 3 out of 4].

Income context: It can be concluded with high confidence that in high-income countries, essential workers are more likely to not adhere to social distancing measures [75 per cent of studies, 3 out of 4].

**WHY ARE PEOPLE MORE LIKELY
TO NOT ADHERE TO SOCIAL
DISTANCING MEASURES
AND IN WHAT CONTEXT?**

7.2

Capability (psychological)

Mental health

The relationship between mental health and social distancing adherence is inconclusive.

Overall, the relationship between mental health and social distancing adherence is inconclusive [38 per cent of studies, 3 out of 8, found that mental health sufferers are more likely to not adhere to social distancing measures; 38 per cent of studies, 3 out of 8, found that mental health was not associated with not adhering to social distancing measures].

COVID-19 knowledge

People with less COVID-19 knowledge or who believe COVID-19 conspiracy theories are more likely to not adhere to social distancing.

Overall, it can be concluded with high confidence that as COVID-19 knowledge increases, social distancing non-adherence decreases [80 per cent of studies, 4 out of 5].

Income context: It can be concluded with high confidence that in high-income countries, as COVID-19 knowledge increases, social distancing non-adherence decreases [75 per cent of studies, 3 out of 4].

Social Media

There is insufficient evidence to make conclusions about the relationship between social media use and social distancing adherence.

Capability (physical)

Nothing was identified in the REA in regard to physical capability.

Opportunity (social)

Perceived social normative pressure

There is insufficient evidence to make overall conclusions about the relationship between perceived social normative pressure and social distancing adherence.

Political ideology

Right-wing or conservative voters are more likely to not adhere to social distancing measures.

Overall, it can be concluded with high confidence that right-wing or conservative voters are more likely to not adhere to social distancing measures [80 per cent of studies, 4 out of 5].

Regional context: It can be concluded with high confidence that in North American countries, right-wing or conservative voters are more likely to not adhere to social distancing measures [75 per cent of studies, 3 out of 4].

Cultural group context: It can be concluded with high confidence that in Anglo cultural group countries, right-wing or conservative voters are more likely to not adhere to social distancing measures [80 per cent of studies, 4 out of 5].

Income context: It can be concluded with high confidence that in high-income countries, right-wing or conservative voters are more likely to not adhere to social distancing measures [80 per cent of studies, 4 out of 5].

Opportunity (physical)

Nothing was identified in the REA in regard to physical opportunity.

Motivation (reflective)

Perceived susceptibility

The relationship between perceived susceptibility to COVID-19 and social distancing adherence is inconclusive.

Overall, the relationship between perceived susceptibility to COVID-19 and social distancing adherence is inconclusive [50 per cent of studies, 4 out of 8, found that as perceived susceptibility increases, social distancing non-adherence decreases; 50 per cent of studies, 4 out of 8, found that as perceived susceptibility increases, social distancing non-adherence increases].

Cultural group context: It can be concluded with high confidence that in Anglo cultural group countries, as perceived susceptibility increases, social distancing non-adherence decreases [75 per cent of studies, 3 out of 4].

Perceived behavioural control

People who perceive themselves to have less control over their social distancing are more likely to not adhere to social distancing measures.

Overall, it can be concluded with high confidence that, as perceived behavioural control increases, social distancing non-adherence decreases [100 per cent of studies, 5 out of 5].

Income context: It can be concluded with high confidence that in high-income countries, as perceived behavioural control increases, social distancing non-adherence decreases [100 per cent of studies, 5 out of 5].

Behavioural intention

There is insufficient evidence to make overall conclusions about the relationship between behavioural intention and social distancing adherence.

Income context: It can be concluded with high confidence that in high-income countries, as behavioural intention increases, social distancing non-adherence decreases [100 per cent of studies, 4 out of 4].

Trust in government

There is insufficient evidence to make conclusions about the relationship between trust in government and social distancing adherence.

Motivation (automatic)

Nothing was identified in the REA with regard to automatic motivation.

POLICY IMPLICATIONS

08

TARGETING THOSE MORE LIKELY TO NOT ADHERE TO SOCIAL DISTANCING MEASURES

8.1

Age

Support younger age groups to socially distance

Policy makers, certainly in Asian and North American countries and countries belonging to the Anglo cultural group, should support younger age groups in adhering with social distancing rules.

Further research is required to understand why younger age groups are more likely to not adhere to social distancing measures so as to inform the design of interventions and policies that can support them to be adherent with social distancing rules. For example, younger age groups may feel less vulnerable to COVID-19 and have greater fear of missing out, such that they are more inclined to risk catching the virus.

Essential worker status

Support essential workers to socially distance

Policy makers, certainly in countries belonging to the Anglo cultural group and high-income countries, should support essential workers to adhere to social distancing rules.

Further research is required to understand why essential workers are more likely to not adhere to social distancing measures so as to inform the design of interventions and policies that can support them to be adherent with social distancing rules. This said, it can be assumed that, given that essential workers are required to continue their work in person when other workers are either not required to work or are able to work from home, essential workers are less able to socially distance.

Environmental restructuring

Where possible, managers of essential workers should undertake restructuring of their work environment, so as to minimize contact with others, wherever possible.

Training

Where possible, managers of essential workers should train essential workers on how to undertake their role whilst minimizing their contact with others.

Sex/gender

No need to target groups on the basis of sex/gender except in Asia

Other than in Asian countries, sex/gender was not associated with social distancing adherence, so policy makers should not target specific support to males or females.

Policy makers in Asian countries should support males in adhering with social distancing rules. Further research is required to understand why males in Asian countries are more likely to not adhere to social distancing measures so as to inform the design of interventions and policies that can support them to be adherent with social distancing rules.

Education

No need to target groups on the basis of education

Education was not associated with social distancing adherence, so policy makers should not target specific support to groups on the basis of their education level.

Income

No need to target groups on the basis of income

Income was not associated with social distancing adherence, so policy makers should not target specific support to groups on the basis of their income level or socio-economic status.

Race/ethnicity

No need to target groups on the basis of race/ethnicity

Race/ethnicity was not associated with social distancing adherence, so policy makers should not target specific support to groups on the basis of racial or ethnic group.

Living area

No need to target groups on the basis of living area

Living area was not associated with social distancing adherence, so policy makers should not target specific support to rural or urban dwellers.

IMPROVING PSYCHOLOGICAL CAPABILITY

8.2

COVID-19 knowledge

Increase COVID-19 knowledge and reduce acceptance of COVID-19 conspiracy theories

Increasing COVID-19 knowledge and reducing acceptance of COVID-19 conspiracy theories, certainly in high-income countries, would reduce social distancing non-adherence.

Regulation

Continued regulation of COVID-19 conspiracy theories on social media and other channels can help to limit the spread of information that is eroding COVID-19 knowledge.

Education

However, a more sustainable approach is empowering people to be able to think critically about information, so as to be able to distinguish fact from fiction. Schools should place an emphasis on teaching critical thinking.

Moreover, social marketing campaigns should be used to educate populations on how to maintain social distancing and to highlight the evidence of the effectiveness of social distancing in limiting the spread of COVID-19, using quality information presented by reliable and respected sources.

IMPROVING SOCIAL OPPORTUNITY

8.3

Political ideology

Depoliticize COVID-19 and diversify messengers promoting protective measures

That political ideology is predictive of social distancing non-adherence suggests a need to depoliticize COVID-19 and the associated protective measures, certainly in North American countries, Anglo cultural group ones and high-income ones.

Regulation

Lockdown measures and removal of freedoms serve to strengthen the political divide and should be avoided wherever possible.

Communication and modelling

There is a need to diversify the messengers, using non-political figures to promote the importance of protective measures. Also, given that right-wing and conservative voters are more likely to not adhere to social distancing measures, right-wing and conservative leaders (especially when not in government) should be involved in promoting protective behaviours, including social distancing.

IMPROVING REFLECTIVE MOTIVATION

8.4

Perceived behavioural control

Provide space and choice to enable accessing work and essential services

Increasing control over social distancing, certainly in high-income countries, can improve adherence with social distancing rules.

Regulation

Where possible, require that employers provide their employees with the option of working from home.

Restrict the number of people permitted to access certain locations, so that there remains space for people to have control over their social distancing.

Enablement

Ensure capacity of delivery services for essential goods, such as groceries and medicine, so that people can control their need to be out in public.

Environmental restructuring

Provide environmental cues, such as signs and visual markers on the floor, use barriers to separate people and implement one-way systems to increase capability to socially distance.

Perceived susceptibility to COVID-19

Challenge beliefs to insusceptibility in Anglo cultural group countries

Given that a lack of perceived susceptibility is associated with social distancing non-adherence in Anglo cultural group countries, policy makers in Anglo-speaking countries can increase adherence with social distancing rules by educating their populations on the contagiousness of COVID-19 and, therefore, the susceptibility of their populations to the virus.

Communication

Regular and meaningful communication of infection rates can challenge perceptions of insusceptibility. For example, for given locations at a given point in time, provide information on how many people are infected.

09

REA References

- Al-Hasan, A., Khuntia, J. and Yim D., 'Threat, coping, and social distance adherence during COVID-19: cross-continental comparison using an online cross-sectional survey', *Journal of Medical Internet Research*, 18 November 2020, 22(11):e23019.
- Allcott, H., et al., 'Polarization and public health: Partisan differences in social distancing during the coronavirus pandemic', *Journal of public economics*, 1 November 2020, 191:104254.
- Anderson, K.M. and Stockman, J.K., 'Staying home, distancing, and face masks: COVID-19 prevention among US women in The COPE study', *International journal of environmental research and public health*, January 2021, 18(1):180.
- Beeckman, M., et al., 'Adherence to the physical distancing measures during the COVID-19 pandemic: A HAPA-based perspective', *Applied Psychology: Health and Well Being*, December 2020, 12(4):1224-43.
- Bourassa, K.J., et al., 'Social distancing as a health behavior: County-level movement in the United States during the COVID-19 pandemic is associated with conventional health behaviors', *Annals of Behavioral Medicine*, August 2020, 54(8):548-56.
- Christner, N., et al., 'Prevention for oneself or others? Psychological and social factors that explain social distancing during the COVID-19 pandemic', *Journal of Health Psychology*, December 2020, 10:135910532098079.
- Coroiu, A., et al., 'Barriers and facilitators of adherence to social distancing recommendations during COVID-19 among a large international sample of adults', *PLoS one*, 7 October 2020, 15(10):e0239795.
- Ebrahimi, O.V., Hoffart, A. and Johnson, S.U., 'Physical distancing and mental health during the COVID-19 pandemic: Factors associated with psychological symptoms and adherence to pandemic mitigation strategies', *Clinical Psychological Science*, May 2021, 9(3):489-506.
- Einberger, C., Graupensperger, S. and Lee, C.M., 'Young adults' physical distancing behaviors during the initial months of the COVID-19 pandemic: Adherence to guidelines and associations with alcohol use behavior', *Emerging Adulthood*, October 2021, 9(5):541-9.
- Fridman, I., et al., 'Association between public knowledge about COVID-19, trust in information sources, and adherence to social distancing: cross-sectional survey', *JMIR public health and surveillance*, 15 September 2020, 6(3):e22060.
- Gouin, J.P., et al., 'Socio-demographic, social, cognitive, and emotional correlates of adherence to physical distancing during the COVID-19 pandemic: a cross-sectional study', *Canadian Journal of Public Health*, February 2021, 112:17-28.
- Gratz, K.L., et al., 'Adherence to social distancing guidelines throughout the COVID-19 pandemic: The roles of pseudoscientific beliefs, trust, political party affiliation, and risk perceptions', *Annals of Behavioral Medicine*, May 2021, 55(5):399-412.
- Gray, L., et al., 'Factors influencing individual ability to follow physical distancing recommendations in Aotearoa New Zealand during the COVID-19 pandemic: a population survey', *Journal of the Royal Society of New Zealand*, 31 May 2021, 51(sup1):S107-26.
- Guo, Y., et al., 'Factors influencing social distancing to prevent the community spread of COVID-19 among Chinese adults', *Preventive Medicine*, 1 February 2021, 143:106385.
- Hagger, M.S., et al., 'Predicting social distancing intention and behavior during the COVID-19 pandemic: An integrated social cognition model', *Annals of Behavioral Medicine*, October 2020, 54(10):713-27.
- Hills, S. and Eraso, Y. 'Factors associated with non-adherence to social distancing rules during the COVID-19 pandemic: a logistic regression analysis', *BMC Public Health*, December 2021, 21(1):1-25.
- Kaspar, K., 'Motivations for social distancing and app use as complementary measures to combat the COVID-19 pandemic: quantitative survey study', *Journal of medical Internet research*, 27 August 2020, 22(8):e21613.

- Masters, N.B., et al., 'Social distancing in response to the novel coronavirus (COVID-19) in the United States', *PloS one*, 11 September 2020, 15(9):e0239025.
- Megreya, A.M., et al., 'The COVID-19-related lockdown in Qatar: Associations among demographics, social distancing, mood changes, and quality of life', *International Journal of Mental Health and Addiction*, October 2022, 20(5):2635-51.
- Norton, J.O., et al., 'Why do people (not) engage in social distancing? Proximate and ultimate analyses of norm-following during the COVID-19 pandemic', *Frontiers in psychology*, 23 June 2021, 12:648206.
- Pedersen, M.J. and Favero, N., 'Social distancing during the COVID-19 pandemic: Who are the present and future noncompliers?', *Public administration review*, September 2020, 80(5):805-14.
- Qazi, A., et al., 'Analyzing situational awareness through public opinion to predict adoption of social distancing amid pandemic COVID-19', *Journal of medical virology*, July 2020, 92(7):849-55.
- Seiter, J.S. and Curran, T., 'Social-distancing fatigue during the COVID-19 pandemic: a mediation analysis of cognitive flexibility, fatigue, depression, and adherence to CDC guidelines', *Communication Research Reports*, 1 January 2021, 38(1):68-78.
- Sturman, D., Auton, J.C. and Thacker, J., 'Knowledge of social distancing measures and adherence to restrictions during the COVID-19 pandemic', *Health Promotion Journal of Australia*, April 2021, 32(2):344-51.
- Taberner, C., et al., 'Social values, self-and collective efficacy explaining behaviours in coping with Covid-19: Self-interested consumption and physical distancing in the first 10 days of confinement in Spain', *PloS one*, 17 September 2020, 15(9):e0238682.
- Taylor, S., et al., 'Reactions to COVID-19: Differential predictors of distress, avoidance, and disregard for social distancing', *Journal of affective disorders*, 1 December 2020, 277:94-8.
- Tomczyk, S., Rahn, M. and Schmidt, S., 'Social distancing and stigma: Association between compliance with behavioral recommendations, risk perception, and stigmatizing attitudes during the COVID-19 outbreak', *Frontiers in psychology*, 11 August 2020, 11:1821.
- Xie, K., et al., 'The impact of risk perception on social distancing during the COVID-19 pandemic in China', *International journal of environmental research and public health*, September 2020, 17(17):6256.
- Zhang, Y. and Zhou, R. 'Promoting social distancing and preventing panic buying during the epidemic of COVID-19: The contributions of people's psychological and behavioural factors', *Journal of Public Health*, March 2021, 21:1-5.

Document References

1. Burgess, R.A., et al., 'The COVID-19 vaccines rush: Participatory community engagement matters more than ever', *The Lancet*, 10 December 2020 (epub ahead of print), 397(10268):8–10.
2. Ashwanden, C., 'Five reasons why COVID herd immunity is probably impossible', *Nature*, 18 March 2021, 591(7851):520–522.
3. Michie, S., van Stralen, M.M., and West, R., 'The behaviour change wheel: A new method for characterising and designing behaviour change interventions', *Implementation Science*, 23 April 2011, 6:42.
4. UK Department for International Development, 'Assessing the strength of evidence', March 2014, <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291982/HTN-strength-evidence-march2014.pdf>, accessed 1 June 2021.
5. House, R.J., et al., eds, 'Culture, leadership, and organizations: The GLOBE study of 62 societies', Sage Publications, Thousand Oaks, Calif., 2004.

for every child, answers

UNICEF Innocenti – Global Office of
Research and Foresight
Via degli Alfani 58
50121 Florence, Italy
Tel: +39 055 20330
Fax: +39 055 2033220
researchpublications@unicef.org
www.unicef-irc.org
@UNICEFInnocenti on Twitter, LinkedIn,
Facebook, Instagram and YouTube