PREDICTORS OF SELF-ISOLATING TO PREVENT THE COMMUNITY SPREAD OF SARS-COV-2:

Who does not adhere to
self-isolation measures,
why and in what context?

A Rapid Evidence Assessment

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EXECUTIVE SUMMARY

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Background

Non-pharmaceutical interventions (NPIs), including self-isolation, 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 people delaying or refusing vaccination, vaccine nationalism, whereby high income nations have secured more vaccines than they need while lower income countries have struggled to access vaccines, the emergence of new variants and the delayed arrival of vaccinations for children. Therefore, NPIs, including self-isolation, have been retained as a protective measure against COVID-19.

Research questions

1. Who is more likely to not adhere to self-isolation measures?

2. Why are people more likely to not adhere to self-isolation measures?

3. In what contexts are people more likely to not adhere to self-isolation measures?

Conceptual framework

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

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 self-isolation 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 30 studies about self-isolation 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 seven unique studies to be included in this rapid evidence assessment (REA). These studies underwent thematic analysis to establish factors associated with self-isolation non-adherence before evidence was segmented by region, cultural groups and income of countries to establish the contexts in which factors were predictive of self-isolation non-adherence, using the COM-B model as a theoretical framework.

Who is more likely to not adhere to self-isolation measures and in what context?

Age: The relationship between age and self-isolation adherence is inconclusive [50 per cent of studies, 2 out of 4 found that age is not associated with self-isolation adherence; 50 per cent of studies, 2 out of 4 found that as age increases, self-isolation non-adherence increases].

Sex/gender: Sex/gender is not associated with self-isolation adherence [67 per cent of studies, 4 out of 6], as particularly evident in high income countries [80 per cent of studies, 4 out of 5].

Education: There is insufficient evidence to draw conclusions about the relationship between education and self-isolation adherence.

Why are people more likely to not adhere to self-isolation measures and in what context?

There was insufficient evidence to make any conclusions as to why people are more likely to not adhere with self-isolation measures. As such, it is recommended that this review be repeated when more evidence on this topic is available.

Policy implications

No need to target groups on the basis of sex/gender: Sex/gender was not associated with self-isolation adherence, so policymakers should not target specific support to groups on the basis of their sex/gender.

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 self-isolation, 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 self-isolation measures, why and in what context. It focuses on non-adherence, rather than adherence, to inform policies and interventions for those who require support to self-isolate.

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 delaying or refusing vaccination, social distancing and mask wearing.

Research questions

1. Who is more likely to not adhere to self-isolation measures?

2. Why are people more likely to not adhere to self-isolation measures?

3. In what contexts are people more likely to not adhere to self-isolation 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, individuals 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.

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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 passed through the peer review process so as 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 from 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 not adhering (or conversely adhering) to self-isolation measures. Studies about the efficacy of self-isolation are excluded, but studies about the efficacy of campaigns to increase self-isolation adherence

are included, if available. Evidence was first categorized by demographics (to answer who does not adhere to self-isolation measures) and then by explanatory factors (to answer why people do not adhere to self-isolation measures), which were then organized within the COM-B framework. Although there are pre-COVID-19 studies (e.g., SARS, Ebola, swine flu), studies in these contexts are excluded and only studies 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 lacking explanation of the methodology used or that 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 self-isolation non-adherence (or conversely, self-isolation adherence) Efficacy of campaigns or interventions to tackle self-isolation non-adherence	Not investigating factors associated with self-isolation non-adherence (or conversely, self-isolation adherence) Efficacy of self-isolation
Protective measure	Self-isolation	Not self-isolation

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: The following table provides a list of the keywords for the systematic search of studies via the study's title, abstract and keywords. Three layers of keywords are utilized so to reflect the inclusion criteria.

Table 2: Self-isolation keywords

Keywords 1	COVID; coronavirus
Keywords 2	Self-isolat* [isolation/isolating/isolate]; test* [testing]; trac* [trace/tracking]
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. Studies clearly not meeting the inclusion criteria, based on 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: Abstracts of the remaining studies were next screened for relevance against the inclusion criteria, using the greater information available in an abstract 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: The remaining studies 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 the study 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 on 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, so 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 should take steps to consider the local, socio-cultural factors that might affect the association between factors and adherence to COVID-19 interventions (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 the 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 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. As described above, the study should take steps to control for confounding variables, which are 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 so 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 adherence to self-isolation measures, but equally, an individual's adherence to self-isolation measures can just as plausibly be an independent variable in relation to perceived susceptibility to COVID-19, i.e., 'I am not adhering to self-isolation 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 rules 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: Using NVivo software, open coding was undertaken to identify predictors of self-isolation non-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 fear of COVID-19 and perceived vulnerability 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., self-isolation

or test and trace) 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 self-isolation measures) where the outcome variable was most prevalent, whether a numerical association was positive (e.g., as age increases, likelihood of not adhering to self-isolation measures increases), negative (e.g., as age increases, likelihood of not adhering to self-isolation measures decreases), non-linear or non-significant (e.g., there was no association between age and self-isolation 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 predictor categories 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, first at the level of predictive vs. non-predictive whereby, for example, studies finding statistically significant associations, regardless of 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; where a category made up 60 per cent to 69 per cent of the evidence it was deemed to yield a confident conclusion

about the relationship; where a category made up 50 per cent to 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 category 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 self-isolation 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 from which to draw conclusions about the relationship between a predictor and outcome variable.

Themes by conceptual framework: Demographic predictors were identified to answer the 'who is more likely to not adhere to self-isolation' question. It was intended that the remaining predictors would then be organized 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 self-isolation?' question. However, there was not sufficient evidence for any themes relevant to the 'why are people more likely to not adhere to self-isolation?' question. Consequently, the only research question that this review could contribute to was 'who is more likely to adhere to self-isolation and in what context?'

04

Systematic search and screening results

The systematic search returned 41 studies about self-isolation. After duplicates were removed on Zotero software, the number of studies decreased to 30 (15 from Web of Science, 9 from Google Scholar and 6 from PubMed).

Title screening stage: Of the 30 unique studies returned from the systematic search, 11 studies were excluded at the title screening stage:

- 11 studies were excluded for not being relevant: not measuring factors associated with self-isolation.

Abstract screening stage: Of the 19 studies remaining after the title screening stage, 6 studies were excluded at the abstract screening stage:

- 6 studies were excluded for not being relevant: not measuring factors associated with self-isolation adherence.

Full text screening and quality appraisal stage: Of the 13 studies remaining after the abstract screening stage, 6 studies were excluded at the full text screening and quality appraisal stage:

- 6 studies were excluded for not being relevant: not measuring relevant outcomes.

Overview of self-isolation evidence

The final list of self-isolation adherence evidence to be reviewed consisted of seven studies, a summary of which follows:

Table 4: Summary of studies included in REA

	Study	Country	Region	Cultural Group	Income
1	Bodas and Peleg (2020a)	Israel	Asia	Middle East	High Income
2	Bodas and Peleg (2020b)	Israel	Asia	Middle East	High Income
3	Eraso and Hills (2021)	United Kingdom	Europe	Anglo	High Income
4	Kowalski et al. (2020)	Poland	Europe	Eastern Europe	Upper Middle Income
5	Petrocchi et al. (2021)	Switzerland	Europe	Germanic Europe	High Income
6	Shati et al. (2020)	Iran	Asia	Middle East	Upper Middle Income
7	Steens et al. (2020)	Norway	Europe	Nordic Europe	High Income

Region: Evidence was reviewed from two regions of the world, mostly from Europe [57 per cent], followed by Asia [43 per cent].

Cultural group: The most represented cultural group was the Middle East [43 per cent] with other cultural groups having no more than a single study reviewed.

Income: The majority of evidence reviewed was from high income countries [71 per cent], followed by upper middle income countries [29 per cent].

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

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

	Number	%
Region		
Europe	4	57%
North America	0	0%
Asia	3	43%
Oceania	0	0%
South America	0	0%

Africa	0	0%
Multi-regional	0	0%
Cultural group		
Anglo	1	14%
Germanic Europe	1	14%
Nordic Europe	1	14%
Eastern Europe	1	14%
Latin Europe	0	0%
Latin America	0	0%
Southern Asia	0	0%
Confucian Asia	0	0%
Sub-Saharan Africa	0	0%
Middle East	3	43%
Multi-cultural group	0	0%
Income		
High Income	5	71%
Upper Middle Income	2	29%
Lower Middle Income	0	0%
Low Income	0	0%
Multi-incomes	0	0%
Study Design		
Cross-sectional	7	100%
Conjoint experiment	0	0%
Qualitative	0	0%
Total	**7**	**100%**

WHO IS MORE LIKELY TO NOT ADHERE TO SELF-ISOLATION MEASURES AND IN WHAT CONTEXT?

05

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, four studies considered the association between age and self-isolation adherence. Of these, two found that age was predictive of self-isolation adherence and two found that age was not associated with self-isolation adherence. Of the two studies that found age was predictive of self-isolation adherence, both found that, as age increases, self-isolation non-adherence decreases (i.e., younger age groups are more likely to not adhere).

As age increases, self-isolation non-adherence decreases

Table 6: Studies evidencing that, as age increases, self-isolation non-adherence decreases

	Study	Country	Region	Cultural Group	Income
1	Shati et al. (2020)	Iran	Asia	Middle East	Upper Middle Income
2	Bodas and Peleg (2020a)	Israel	Asia	Middle East	High Income

Iran, Shati et al. (2020): In a representative sample of 558 people, Shati et al. (2020) examined the relationship between age, gender, living condition and self-isolation adherence. Shati et al. (2020) used logistic regression and found a positive relationship between age group and self-isolation where older age groups showed higher probability to self-isolation adherence. This association, however, was only statistically significant for participants older than 80 years when compared to those younger than 70 years old [OR: 2.2, 95% CI: 1.2, 4.0].

Israel, Bodas and Peleg (2020a): A representative sample of 563 was investigated regarding the association of self-isolation (compensated, non-compensated) and age. Bodas and Peleg (2020a) used independent t-test and found that the older people (40.46 ± 14.46) were more likely to self-isolate than the younger [37.64 ± 13.44] people [t = – 3.15, df = 855.69, p = 0.001].

Age is not associated with self-isolation adherence

Table 7: Studies evidencing that age is not associated with self-isolation adherence

	Study	Country	Region	Cultural Group	Income
1	Eraso and Hills (2021)	United Kingdom	Europe	Anglo	High Income
2	Petrocchi et al. (2021)	Switzerland	Europe	Germanic Europe	High Income

United Kingdom, Eraso and Hills (2021): In a convenience sample of 681 people, Eraso and Hills (2021) investigated the association between adherence to self-isolation and psychological, health, housing, political, social and other demographic factors including age. However, further to descriptive statistics, age was tested with a logistic regression, but it was found to be a non-significant predictor for self-isolation.

Switzerland, Petrocchi et al. (2021): Petrocchi et al. (2021) examined in the first phase of their study whether a high level of affective empathy is a predictor of the acceptance of lockdowns, controlling for psychological distress, health status and socio-demographic characteristics. In the second phase of their study, they also added the evaluation of the risk exposure condition in three groups, categorized as high, moderate, and low risk. Age as a covariate was not significantly associated with the acceptance of physical isolation.

Conclusions

Table 8: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As age increases, self-isolation non-adherence decreases [n, %]	As age increases, self-isolation non-adherence increases [n, %]		
Studies	2 [50%]		2 [50%]	4
Studies	2 [50%]	0	2 [50%]	4
Region				
Europe	0	0	2 [100%]	2
North America	0	0	0	0
Asia	2 [100%]	0	0	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	0	0
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	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	2 [100%]	0	0	2
Income				
High Income	1 [33%]	0	2 [67%]	3
Upper Middle Income	1 [100%]	0	0	1
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Key

(green)	Conclusion of high confidence
(yellow)	Confident conclusion or conclusion of some confidence

Overall: The overall relationship between age and self-isolation adherence is inconclusive: 50 per cent of studies [2 out of 4] found age to be predictive of self-isolation adherence and 50 per cent of studies [2 out of 4] found that it is not, such that the relationship between age and self-isolation adherence is inconclusive. Of the two studies that found age to be predictive of self-isolation adherence, 100 per cent [2 out of 2] found that, as age increases, self-isolation non-adherence decreases (i.e., younger age groups are more likely to not adhere). However, out of all studies, only 50 per cent [2 out of 4] found that, as age increases, self-isolation non-adherence decreases (i.e., younger age groups are more likely to not adhere).

In looking for patterns by region, cultural group and income of the countries in the studies, no associations between age and self-isolation adherence are evident due to insufficient evidence.

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, six studies considered the association between sex/gender and self-isolation adherence. Of these, two found that sex/gender was predictive of self-isolation adherence and four found that sex/gender was not associated with self-isolation adherence. Of the two studies that found sex/gender was predictive of self-isolation adherence, both found that males are more likely to not adhere to self-isolation measures than females.

Males are more likely to not adhere to self-isolation measures

Table 9: Studies evidencing that males are more likely to not adhere to self-isolation measures

	Study	Country	Region	Cultural Group	Income
1	Shati et al. (2020)	Iran	Asia	Middle East	Upper Middle Income
2	Bodas and Peleg (2020a)	Israel	Asia	Middle East	High Income

Iran, Shati et al. (2020): In a representative sample of 558 people, Shati et al. (2020) examined the relationship between age, gender, living condition and self-isolation adherence; 54.4 per cent of the participants were females. Shati et al. (2020) used logistic regression and found a significant association between self-isolation compliance and gender [p < 0.0001]. Females had better self-isolation adherence than males. Females were twice more likely to comply to 'complete isolation' than males [OR complete vs. partial: 2.2, 95% CI: 1.5, 3.1].

Israel, Bodas and Peleg (2020a): A representative sample of 563 was investigated regarding the association of self-isolation (compensated and non-compensated) and age. Bodas and Peleg (2020a) used independent t-test for statistical analysis, and they did not find statistical significance regarding gender association with self-isolation. Bodas and Peleg (2020a) used univariate analysis which showed that gender is associated with the intent to comply with self-isolation. Specifically, females (67.2%) were more likely to self-isolate than males (60.2%) (β_2 = 5.675, df = 1, p = 0.017) without being compensated.

Sex/gender is not associated with self-isolation adherence

Table 10: Studies evidencing that sex/gender is not associated with self-isolation adherence

	Study	Country	Region	Cultural Group	Income
1	Bodas and Peleg (2020a)	Israel	Asia	Middle East	High Income

2	Petrocchi et al. (2021)	Switzerland	Europe	Germanic Europe	High Income
3	Steens et al. (2020)	Norway	Europe	Nordic Europe	High Income
4	Eraso and Hills (2021)	United Kingdom	Europe	Anglo	High Income

Israel, Bodas and Peleg (2020a): In the first study, conducted in February 2020, a convenience sample of 563 adults took part. Bodas and Peleg (2020a) examined the relationship between age, gender, religion, religiosity, residence, family status, having children, education, income, employment status and the intention of compensated and non-compensated self-isolation. Chi-square tests showed that gender was not a significant predictor for self-isolation.

Switzerland, Petrocchi et al. (2021): Petrocchi et al. (2021) examined in the first phase of their study whether a high level of affective empathy is a predictor of the acceptance of lockdowns, controlling for psychological distress, health status and socio-demographic characteristics. In the second phase of their study, they also added the evaluation of the risk exposure condition in three groups categorized as high, moderate, and low risk. Petrocchi et al. (2021) used non-parametric comparisons to examine the association

between sex and self-isolation, but the results were not significant.

Norway, Steens et al. (2020): In a sample of 1,704 people in Norway, Steens et al. (2020) investigated the association between age, gender, COVID-19 symptoms and self-isolation within four waves of timeline. Using regression models, they found that gender was not a significant predictor for self-isolation.

United Kingdom, Eraso and Hills (2021): In a convenience sample of 681 people, Eraso and Hills (2021) investigated the association between adherence to self-isolation and psychological, health, housing, political, social and other demographic factors including gender; 82.7% of the participants were females. Eraso and Hills (2021) used logistic regression for statistical analysis, but gender was not found to be a significant predictor for self-isolation.

Conclusions

Table 11: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	Males are more likely to not adhere to self-isolation measures [n, %]	**Females are more likely to not adhere to self-isolation measures [n, %]**		
Studies	2 [33%]		4 [67%]	6
Studies	2 [33%]	0	4 [67%]	6
Region				
Europe	0	0	3 [100%]	3
North America	0	0	0	0
Asia	2 [67%]	0	1 [33%]	3
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	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	0	0	0	0
Sub-Saharan Africa	0	0	0	0
Middle East	2 [67%]	0	1 [33%]	3
Income				
High Income	1 [20%]	0	4 [80%]	5
Upper Middle Income	1 [100%]	0	0	1
Lower Middle Income	0	0	0	0
Low Income	0	0	0	0

Overall: Of the studies that considered the association between sex/gender and self-isolation adherence, 67 per cent [4 out of 6] found that sex/gender is not predictive of self-isolation adherence. As such, it can be confidently concluded that sex/gender is not associated with self-isolation adherence. Of the two studies that found sex/gender to be predictive of self-isolation adherence, 100 per cent [2 out of 2] found that males are more likely to not adhere to self-isolation measures.

In looking for patterns by region, cultural group and income of the countries in the studies, an association between sex/gender and self-isolation 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: Of the studies conducted in high income countries, 80 per cent [4 out of 5] found that sex/gender is not predictive of self-isolation adherence. As such, it can be concluded with high confidence that in high income countries, sex/gender is not associated with self-isolation adherence.

There is insufficient evidence to draw conclusions about the relationship between sex/gender and self-isolation adherence in upper middle income countries [1 study].

There is no evidence to draw conclusions about the relationship between sex/gender and self-isolation adherence in lower middle income [0 studies] and low income [0 studies] countries.

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, three studies considered the association between education and self-isolation adherence. Of these, all three found that education was not predictive of self-isolation adherence.

Education is not associated with self-isolation adherence

Table 12: Studies evidencing that education is not associated with self-isolation adherence

	Study	Country	Region	Cultural Group	Income
1	Bodas and Peleg (2020b)	Israel	Asia	Middle East	High Income
2	Petrocchi et al. (2021)	Switzerland	Europe	Germanic Europe	High Income
3	Eraso and Hills (2021)	United Kingdom	Europe	Anglo	High Income

Israel, Bodas and Peleg (2020b): In the first study, conducted in February 2020, a convenience sample of 563 adults took part. Bodas and Peleg (2020b) examined the relationship between age, gender, religion, religiosity, residence, family status, having children, education, income, employment status and the intention of compensated and non-compensated self-isolation. Bodas and Peleg (2020b) used independent chi-square test and found that education level is not a significant predictor for self-isolation.

Switzerland, Petrocchi et al. (2021): Petrocchi et al. (2021) examined in the first phase of their study whether a high level of affective empathy is a predictor of the acceptance of lockdowns, controlling for psychological distress, health status and socio-demographic characteristics. In the

second phase of their study, they also added the evaluation of the risk exposure condition in three groups categorized as high, moderate, and low risk. Mediation analysis showed that education level was not a significant predictor for self-isolation adherence.

United Kingdom, Eraso and Hills (2021): In a convenience sample of 681 people, Eraso and Hills (2021) investigated the association between adherence to self-isolation and psychological, health, housing, political, social and other demographic factors including education level. Eraso and Hills used a binary logistic regression model to measure the associations between self-isolation and educational qualifications. The level of education was not a significant factor for self-isolation.

Conclusions

Table 13: Analysis of evidence by findings, region, cultural group and income

	Predictive [n, %]		Non-predictive [n, %]	Total
	As education level increases, self-isolation non-adherence decreases [n, %]	**As education level increases, self-isolation non-adherence increases [n, %]**		
Studies	0		3 [100%]	3
Studies	0	0	3 [100%]	3
Region				
Europe	0	0	2 [100%]	2
North America	0	0	0	0
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	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	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	1 [100%]	1
Income				
High Income	0	0	3 [100%]	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 draw conclusions about the relationship between education and self-isolation adherence, including when looking for patterns by region, cultural group and income of the countries in the studies.

06

WHO IS MORE LIKELY TO NOT ADHERE TO SELF-ISOLATION MEASURES AND IN WHAT CONTEXT?

6.1

Age

The relationship between age and self-isolation adherence is inconclusive.

Overall, the relationship between age and self-isolation adherence is inconclusive [50 per cent of studies, 2 out of 4 found that age is not associated with social distancing adherence; 50 per cent of studies, 2 out of 4 found that as age increases, self-isolation non-adherence increases].

Sex/gender

Sex/gender is not associated with self-isolation adherence.

Overall, it can be confidently concluded that sex/gender is not predictive of self-isolation adherence [67 per cent of studies; 4 out of 6].

Income context: It can be concluded with high confidence that in high income countries sex/gender is not predictive of self-isolation adherence [80 per cent of studies, 4 out of 5].

Education

There is insufficient evidence to draw conclusions about the relationship between education and self-isolation 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].

WHY ARE PEOPLE MORE LIKELY TO NOT ADHERE TO SELF-ISOLATION MEASURES AND IN WHAT CONTEXT?

6.2

Capability (psychological)

Nothing identified in the rapid evidence review in regard to psychological capability.

Capability (physical)

Nothing identified in the rapid evidence review in regard to physical capability.

Opportunity (social)

Nothing identified in the rapid evidence review in regard to physical capability.

Opportunity (physical)

Nothing identified in the rapid evidence review in regard to physical opportunity.

Motivation (reflective)

Nothing identified in the rapid evidence review in regard to physical capability.

Motivation (automatic)

Nothing identified in the rapid evidence review in regard to automatic motivation.

Implication

Given that there was not sufficient evidence available to draw any conclusions for this research question, it is recommended that this review be repeated at a later date when there is sufficient evidence from which to draw conclusions.

07

TARGETING THOSE MORE LIKELY TO NOT ADHERE TO SELF-ISOLATION MEASURES

7.1

Sex/gender

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

Sex/gender was not associated with self-isolation adherence, so policymakers should not target specific support to groups on the basis of their sex/gender.

08

REA References

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