

Online misinformation: A protocol for a systematic review exploring the efficacy of existing interventions for adolescents and young adults

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Piloting of the study selection process.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 February 2024 and was last updated on 12 February 2024.

INTRODUCTION

Review question / Objective The objectives of the review were to 1) examine existing interventions for online misinformation; 2) analyse the efficacy of these interventions; and 3) use the findings to develop an intervention that can be used in a sample of young people to educate about and reduce the effects of exposure to misinformation.

Rationale Online misinformation on social media is an issue that until recent years has not been a topic of research interest. However, after the COVID-19 pandemic as well as other areas where misleading content spread such as the 2020 US election, more research has started to look at the effects of misinformation as well as interventions to reduce the spread and likelihood of individuals falling for the content.

A growing number of studies aim to test interventions where most of the misleading content is seen, online and on social media platforms. On these platforms, exposure to misinformation may be more subtle; mixed with posts shared by friends, family and peers as well as other pages followed such as trusted news sites. Younger people are more commonly users of social media sites for news consumption (according to Ofcom (2023), 71% of users between 16-24 fall into this category) and they also may be more vulnerable if crucial cognitive capacities are less developed (Livingstone et al., 2019). This means that exposure to misinformation or misleading content may not be realised. Cohen et al. (2012) reported that 84% of young people said that they thought that they would benefit from education on discerning true and false news online. In the decade since this research, the need for this education has only grown. The TES magazine has

recently reported that 90% of teachers want education about media literacy to feature in the curriculum (Mason, 2022). The current review aims to provide background knowledge on the efficacy of different interventions that can then be applied when designing an intervention that can be used by young people. As interventions can be used at multiple different stages of exposure to misinformation, such as before, during or after, different types are needed to be the most effective at either protecting or reversing the effect of exposure.

Previous reviews regarding misinformation interventions have created a framework (Johansson et al., 2022) that this review aims to add to. Instead of using own knowledge of the subject area and manually searching for representative research examples of interventions to explain each section of the framework, this review aims to build on the findings by applying studies captured to the framework to see which areas are used more frequently and are more successful when designing misinformation interventions.

Condition being studied The efficacy of misinformation interventions.

METHODS

Participant or population Adolescents and young adults who use the Internet.

Intervention Interventions for misinformation and the effectiveness of those found.

Comparator N/A.

Study designs to be included Due to the exploratory nature of the review, all study designs collected from the search will be included. This includes both quantitative and qualitative studies.

Eligibility criteria Original research studies that offered an intervention for online misinformation were included in the data collection. This also includes studies that test interventions offline (ie. not using technology to collect data). The review will use studies from 2008 to present day (2024) to capture articles conducted in the age of Web 2.0. Exclusion criteria included studies not published in English, or studies where there was insufficient information to accurately assess the quality (such as when a full text was not available) and will also exclude texts that are not articles (for example, books and book chapters).

Information sources Articles will be taken from electronic databases provided by the university's library resources. Having spoken with the psychology librarian at the university, these databases include EBSCOhost (using PsychInfo, Psychology and Behavioural Sciences Collection, and SocINDEX with Full Text), Web of Science and Scopus. Google scholar, PsyArXiv and the university library catalogue will also be used to capture grey literature that may also be relevant.

Main outcome(s) The main outcomes of the systematic review is to explore examples of interventions for online misinformation and the success rate of these interventions when used by young adults and adolescents.

Additional outcome(s) None.

Data management Data was recorded and stored in a Mendeley reference management software account to manage articles, remove duplicates and for the screening processes. When screening the articles, any discrepancies between researchers will be resolved by a discussion. If these still cannot be resolved, a third reader will be consulted.

Quality assessment / Risk of bias analysis

Studies that meet the inclusion criteria will be assessed using the Appraisal Tool for Cross Sectional Studies (AXIS; Downes et al., 2016). AXIS contains 20 items that are designed to evaluate the reliability of the study by reviewing the methodology and reporting that is used by the authors, including the suitability of the study design, the sample size, and discussions about the study such as limitations and whether claims made by the author can be justified. AXIS was used as it can be used across disciplines, useful when considering online misinformation interventions; as psychological, educational and political studies may be captured and therefore can all be assessed using the same tool. The tool also does not utilise a numerical scale which is beneficial as it allows for the assessment of individual aspects of the articles to give an overall assessment. This gives the assessor more flexibility when judging the quality of reporting. Assessment will be conducted by the lead researcher with the assistance of a second reviewer to ensure objectivity. Discrepancies will be resolved via discussion in the same manner as the screening process. All literature will be subjected to the same quality check, however when assessing grey literature, it will be taken into consideration that quality may be lower.

Strategy of data synthesis As multiple different study designs may form the final data set, the use of a narrative synthesis was applied to allow for the diverse methodologies that are likely to be applied in the articles.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction Studies originally in English were included.

Country(ies) involved United Kingdom.

Keywords Online misinformation; disinformation; young people; adolescents; intervention.

Dissemination plans The systematic review will be disseminated through publication in a peer-reviewed academic journal, as well as using the findings to create an intervention appropriate for adolescents and young adults.

Contributions of each author

Author 1 - Emma Burgess - Wrote the protocol for the systematic review, conducted the literature search and screening, extracted necessary data and carried out the quality assessment, and wrote and made changes to the manuscript.

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Author 2 - Simon Wood - Assisted in screening articles and the quality assessment of select articles to ensure objectivity.

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Author 3 - Claire Jones - Acted as a third reader in case discrepancies could not be resolved, reviewed the manuscript and provided supervision to the project.

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Author 4 - James Rees - Provided supervision of the project and reviewed the final manuscript.

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