

BMJ Open Role of optimism in adolescent mental health: a protocol for a systematic review

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To cite: Rincón Uribe FA, Espejo CAN, Pedroso JdS. Role of optimism in adolescent mental health: a protocol for a systematic review. *BMJ Open* 2020;**10**:e036177. doi:10.1136/bmjopen-2019-036177

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2019-036177>).

Received 04 December 2019
Revised 26 February 2020
Accepted 01 June 2020



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ABSTRACT

Introduction Adolescence is a critical period of human development, where adaptive or maladaptive experiences can happen. These experiences are associated with psychological, social, biological and health factors. Previous empirical evidence suggests that mental health is associated with individual assets and positive states, whose presence may become a factor of protection and resistance to mental disorders. Among these, optimism could play a fundamental role in sustaining physical and mental well-being and in dealing with threats potentially harmful to health. Given the rise of research on optimism and its importance in the various health outcomes, it is necessary to initiate processes of compilation and synthesis of this evidence to facilitate the understanding of the importance of this variable on the mental health of adolescents.

Methods and analysis The included studies will be experimental, observational, cross-sectional and longitudinal focussed on the role of optimism on mental health in adolescents, regardless of whether they belong to clinical or non-clinical populations. This systematic review protocol will be carried out following the Cochrane Manual for systematic reviews and will follow the statement on systematic reviews and meta-analysis of PRISMA-P (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols). Searches will run from October 2019 to March 2020, and will be carried out from the following electronic databases: APA PsycNet, BVS (Biblioteca Virtual em Saúde), Web of Science, PubMed Central and Scopus. Two reviewers will obtain the eligible articles, published from January 2009 onward, to assess the quality of each study and extract the data. For the presentation of the results, a narrative and quantitative synthesis will be carried out that groups the data found.

Ethics and dissemination The approval of an ethics committee is not required for a systematic review protocol. The results will be presented at congresses in social sciences and psychology and will be published in a peer-reviewed social or health science journal.

PROSPERO registration number PROSPERO CRD42019142616.

INTRODUCTION

Mental health is a state of well-being in which the person performs his abilities and can cope with the normal stresses of life, work

Strengths and limitations of this study

- This review represents the first effort to collect empirical evidence that supports the association between mental health and optimism, which has been a field widely explored.
- This review will include studies in three languages: English, Portuguese and Spanish, with the purpose to collect the largest amount of studies as possible.
- A possible weakness of this review may be the non-inclusion of bibliographic material other than original research articles (dissertations, books, chapters, reports, conference material, opinion pieces, commentary and reviews).

productively and contribute to their community.¹ Approximately 10% of the world population and 20% of the children and adolescents are affected by some mental disorders.² In this way, mental disorders represent 10% of the global burden of morbidity and mortality and 30% of the non-fatal diseases.^{2,3} The high prevalence rates, increased morbidity and immense economic and human resources invested in the care of diseases and mental health problems have become a high burden for societies worldwide.³

Various difficulties that alter mental health in the general population tend to appear at the end of childhood and the beginning of adolescence,^{4,5} extending its prevalence until adulthood.^{6,7} The suffering of mental disorders can have important effects on overall health and adolescent development. It is associated with various psychosocial and health problems such as the consumption of psychoactive substances,⁸ risky sexual behaviours,⁹ violent behaviours,¹⁰ school mismatch¹¹ and criminal behaviours.¹² Similarly, studies have shown that adolescent mental health is associated with individual assets such as positive identity,¹³ social competence,¹⁴ the resilience¹⁵ and positive values.¹⁶ In recent decades, the rise of positive psychology as a scientific study

of positive experiences has highlighted the importance of positive states, such as optimism, in the construction of psychological, intellectual and social resources during the positive development of people,^{17 18} which can lead them to experience benefits and satisfaction in several domains of their vital functioning (work, physical and mental health, interpersonal relationships).^{19 20}

Optimism is a construct that has been empirically measured and validated in the field of study of positive psychology, which is considered a generally stable personality facet, of cognitive nature and related to motivation, that reflects the extent to which people have generalised favourable expectations for their future.^{21–23} Its relationship with various areas of human well-being has been explored in various contexts over the past 30 years.^{24 25} Evidence has indicated that levels of optimism in people influence how they face health threats^{26 27} therefore, it has been described as a factor of protection, resilience and coping mechanism against adversity and disease.^{28 29} In adolescence, the development of optimism occurs,³⁰ favouring the psychological and physical well-being of adolescents^{31 32} and thus becoming an active potential for the maintenance of mental and physical health.³³

According to the evidence, optimism works as a protective factor in mental health during adolescence.³⁴ Thus, for example, adolescents with high levels of optimism have a lower risk of experiencing depressive symptoms,³⁵ anxious episodes,³⁶ suicidal ideation and behaviour³⁷ and a lower tendency towards risk behaviours, such as consumption or abuse of psychoactive substances.³⁸ Similarly, some studies have identified the importance of optimism as a predictor of good socio-emotional adjustment and functioning³⁹ and positive adaptation to the negative impact of stress in adolescence.⁴⁰ Besides, its moderating effect has been reported among the results associated with psychological well-being in adolescents, in which, for example, high levels of optimism significantly moderate the relationship between low suffering and high psychological well-being.^{41 42}

To date, there have been several systematic reviews that report the underlying functions of optimism on health. These results include reviews on the importance of optimism in the treatment of chronic diseases,⁴³ in preventing the risk of acquiring a physical illness,⁴⁴ in its relationship with quality of life and well-being amid illness,⁴⁵ as a factor that contributes to adaptation to chronic diseases⁴⁶ and its role in post-traumatic growth related to physical illness.⁴⁷ Although these reviews report on the role of optimism in health, there are still few systematic reviews focussed on the relationship of optimism with mental health or some of its components (mental disorders, psychological well-being and psychosocial factors).^{48–50} However, their findings have focussed on understanding this relationship in clinical populations and mainly in adult subjects.

To contribute to the understanding of the role and underlying functions of optimism in mental health and thus fill these gaps, the present systematic review will be carried out, to understand the role of optimism on mental health in adolescence. This is to update existing

reviews and complement the empirical data collected through the incorporation of various mental health outcomes (psychological distress, lifestyles, psychological development and psychological well-being) related to optimism in adolescents. Furthermore, these results will facilitate the construction of early and evidence-based interventions for clinical care in mental health in adolescence. Therefore, the key questions of this protocol are the following: What is the role of optimism in adolescent mental health? What is the contribution of optimism in the prevention of psychological distress in adolescents?

OBJECTIVE

The objective is to prepare a protocol for a systematic review that determines the role of mental health optimism in adolescence, regardless of whether they belong to clinical or non-clinical populations, in empirical evidence published from 2009 onward.

METHODS AND ANALYSIS

This systematic review will be carried out following the Cochrane Manual for Systematic Reviews⁵¹ and the data obtained will be reported from the guidelines and recommendations of the model 'Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols' (PRISMA-P).⁵² Citations and references will be managed in Mendeley and the data will be extracted and managed in the tool Systematic Review Data Repository (SRDR) from the agency for Healthcare Research and Quality. This review has been registered in the International Prospective Registry of Systematic Reviews - PROSPERO.

Eligibility criteria

Types of studies

The type of studies included will be experimental studies (randomised controlled trials), observational studies (cohort and case-control), cross-sectional and longitudinal that examine the role of optimism in adolescent mental health. Likewise, the review will include full and available free of charge for downloads studies, published in Spanish, English or Portuguese from January 2009 onward. Dissertations, books, chapters, reports, conference material, opinion pieces, commentary and reviews will be excluded from the review, since this type of literature could contain anecdotal or reflexive evidence based on primary studies that could duplicate or skew the results found in the searches. Furthermore, the validation of instruments and scales will also be excluded. A new search will be conducted before the final analysis to retrieve other studies for review and possible inclusion.

Types of participants

This review will consider participants that are female or male adolescents, aged between 13 and 18, regardless of whether they belong to a clinical or non-clinical population.

Patient and public involvement

No patient involved.

Types of outcome measures

The results may represent an outcome that indicates or report on the relationship, influence or contribution of optimism on mental health in adolescence. Likewise, the review will consider outcome measure that examines the role of optimism in adolescence that includes at least one psychological distress outcome (p. for example, depression, stress, anxiety, negative emotions); patterns of behaviour and/or cognition (p. for example, risky or protective behaviours, disruptive or prosocial behaviours, dysfunctional and adaptive thoughts), lifestyles (eg, healthy habits and practices), psychological development (eg, self-esteem, self-concept, psychological processes) or psychological well-being (eg, positive affect and emotions, satisfaction or subjective well-being).

Search strategies

Electronic searches

The databases will be searched from October 2019 to March 2020 and will be carried out from the following electronic databases: APA PsycNet (American Psychological Association), BVS (Biblioteca Virtual em Saúde), Web of Science (Science and Social Science Citation Index), PubMed Central and Scopus.

Search criteria

The controlled vocabulary browser was used for the search strategy MeSH (Medical Subject Headings) for the establishment of the following keywords: *optimism*, *adolescent*, *mental health* and *adolescent's health*. Additionally, Boolean

operators were used to specifying the syntactic structure of the search terms, which were tested and established for all databases. [Table 1](#) presents the full search criteria.

Study records

Selection process

All search results will be imported into Mendeley software to manage data and eliminate duplicates. Two independent reviewers will make a preliminary selection of titles and summaries of the texts for inclusion and exclusion. Subsequently, the full text will be obtained and two reviewers will apply the inclusion and exclusion criteria to identify the relevant studies that will be included in the systematic review analysis. Discrepancies will be resolved in consensus with the intervention of the third reviewer.

Data extraction process

The data will be extracted by two reviewers using a standardised extraction form previously designed in the SRDR. The following data will be collected: type of study (randomised controlled trials, cross-sectional, longitudinal, prospective, cohort and case-control); objective and purposes of the research process; characteristics of the participants; context (clinical, academical, public health, judicial—penitentiary, sport environment, other); methods of each study (design, notified and observed methodological limitations, recruitment allocation, data collection and analysis methods); primary and secondary outcomes and the main conclusions of the study. After extracting the data, two of the reviewers will deal with any disagreement through consensus and, if necessary, with the involvement of a third reviewer.

Table 1 Full search criteria for electronic databases

Keywords	Numeration	Search criteria
Optimism	1.	Optimism*
	2.	MeSH descriptor Optimism (this term only)
	3.	#1 OR #2
Adolescent	4.	Adolescent*
	5.	MeSH descriptor Adolescent (this term only)
	6.	Teenager*
	7.	pre-teen*
	8.	Young*
	9.	#5 OR #6 OR #7 OR #8
	10.	#3 AND #9
Adolescent health	11.	Adolescent* Health
	12.	MeSH descriptor Adolescent Health (this term only)
Mental Health	13.	MeSH descriptor Mental Health (this term only)
	14.	State* Mental*
	15.	#11 OR #12 OR #13 OR 14
	16.	#3 AND #9 AND #15

MeSH, Medical Subject Headings.

Quality assessment

The quality assessment of the studies will be assessed using the Newcastle-Ottawa Scale and adapted version for cross-sectional and observational studies.^{53 54} For randomised controlled trials, quality will be performed using the Cochrane Collaboration's risk of bias tool (RoB 2).⁵⁵ Two reviewers will independently evaluate each study and a third reviewer will be included to resolve any discrepancies.

Data synthesis

In this review, findings will be presented and synthesised using a narrative and thematic synthesis approach. The synthesis will present detailed comments and interpretations of the extracted data, having found the measures described in the section of the process of gathering and extracting the information. Thus, categories of analysis will be structured according to the central theme of the review which, will allow mainly the understanding of the role of optimism on the mental health of adolescents.

After performing the systematic review, if data are pertinent for quantitative analysis, we will use a meta-analytical approach. Depending on the results of heterogeneity assessment between studies, we will select the fixed model or random effects model. The I^2 statistic (and 95% CI) will be used to assess the heterogeneity of the studies. This statistic will be interpreted using the following suggested classification: low (25% to 49%), moderate (50% to 74%) and high ($\geq 75\%$) heterogeneity.⁵⁶ The significance of the heterogeneity will be calculated using the χ^2 test with Cochran's Q statistic ($p < 0.05$).⁵⁷ Additionally, if meta-analysis is feasible we will conduct a subgroup analysis based on participant characteristics such as: sex, ethnicity, outcome measures, care setting and intervention characteristics. All statistical analyses will be performed using the Cochrane Collaboration's software (RevMan V.5.3).⁵⁸

Ethics and dissemination

The review will search and evaluate primary sources obtained in previous researches; therefore, no formal approval from an ethics committee is required. The results of the systematic review will be published in an international peer-reviewed journal. Likewise, the authors will plan a presentation at possible national or international conferences to disseminate the results among the academic community.

DISCUSSION

Optimism has been increasingly explored in health research, finding relevant data on its relationship with results of interest in the medical and psychological field. The results of this systematic review are expected to provide a detailed and synthesised description of the role of optimism in mental health in adolescence. The determination of the influence of positive individual assets such as optimism in the mental health of adolescents will have important implications for the development of early

interventions and the configuration of clinical and public health practices based on scientific evidence.

The proposed systematic review will be reported following the systematic statement and meta-analysis of PRISMA-P (2015). Any correction or improvement made to this protocol during the development of the study will be reported in PROSPERO and will be indicated in the final report. The strengths of this review are: the inclusion of studies applied in the adolescent population and different human contexts (clinical, sports, educational, public health) and the inclusion of studies in three languages: English, Portuguese and Spanish from January 2009 onward. On the other hand, the main limitation of this review is the non-inclusion of grey literature (dissertations, books, chapters, reports, conference material, opinion pieces, commentary and reviews), which could omit important information that could contribute to the development of this review. However, due to the accumulation of published empirical data, resulting from basic research on the subject in question, its collection may be representative of the review.

Contributors FARU contributed to the conception of this systematic review. The manuscript of the protocol was drafted by FARU and CANE and revised by JdSP. All authors developed to search and assessment strategies. All authors read and commented critically on each draft of the manuscript. Finally, all authors approved the final manuscript.

Funding This systematic review is supported by the Universidade Federal do Pará, Brasil/Pró-Reitoria de Pesquisa e Pós-graduação (PROPEP) and the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – CAPES (financed code 001).

Competing interests None declared.

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

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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