Aug 12, 2022

Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health

lauromarchionatti[1], Anastasia Koumoula[2], Arthur Caye[1], Vasiliki Eirini Karagiorga[3], Julia Luiza Schafer[1], Giovanni Abrahão Salum Júnior[1]

[1]Child and Adolescent Mental Health Initiative (CAMHI), Child Mind Institute, Universidade Federal d o Rio Grande do Sul (UFRGS);

[2]Child and Adolescent Mental Health Initiative (CAMHI);

[3]Child and Adolescent Mental Health Initiative (CAMHI), Child Mind Institute

dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

Lauro Estivalete Marchionatti

ABSTRACT

This is a landscape analysis of scientific literature to map available resources and trace research priorities on child and adolescent mental health in Greece. We describe a nation-wide systematic review of prevalence surveys, assessment instruments, and interventions for mental health conditions among children and adolescents within the country. A multi-step search procedure with English and Greek terms retrieves studies from several electronic databases (Medline, Web of Science, PsycINFO, IATPOTEK, and Google scholar), which are then classified into each research area according to inclusion criteria. Snowballing inclusion and expert consulting complements the set of studies. Different extraction procedures and data synthesis strategies are described for prevalence studies, assessment instrument studies, and interventions studies. The methodological quality is ascertained with specific tools for each study design.

DOI

dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

PROTOCOL CITATION

lauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni Abrahão Salum Júnior 2022. Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health. **protocols.io** https://protocols.io/view/protocol-for-a-nationwide-systematic-review-of-the-ce8fthtn

FUNDERS ACKNOWLEDGEMENT

The Stavros Niarchos Foundation.

CREATED

Aug 12, 2022

LAST MODIFIED

Aug 12, 2022

PROTOCOL INTEGER ID

68583

1 Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health

Authors and Affiliations

Anastasia Koumoula[1], Lauro Estivalete Marchionatti[1,2,3] MD, Arthur Caye[1,2,3] MD PhD, Vasiliki Eirini Karagiorga[1,2], Julia Luiza Schafer[1,2,3] PhD, Giovanni Abrahão Salum Júnior[1,2,3] MD PhD

[1] Child and Adolescent Mental Health Initiative (CAMHI), Stavros Niarchos Foundation & Child Mind Institute

[2] Child Mind Institute, New York, United States of America

[3] Department of Psychiatry, Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil

Funding

The Stavros Niarchos Foundation.

Conflicts of interest

AC has acted as a consultant for Knight Therapeutics in 2021. All other authors declare no competing interests.

Citation: lauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

2 1) Introduction

This is a landscape analysis of scientific literature to map available resources and trace research priorities on child and adolescent mental health in Greece. We describe a systematic review of prevalence surveys, assessment instruments, and interventions for mental health conditions among children and adolescents within the country.

3 2) Methods

2.1) Guidelines

We will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement.[1]

2.2) Protocol registration

This study is being registered after initiation of data extraction. As a nation-based systematic review with a broad scope, the extraction tables were expected to require adaptations, and the best strategies for data synthesis could not be a priori set. Therefore, we opted to register the protocol after an overview of extracted data, which allowed us to define appropriate methods for data synthesis.

2.3) Search strategy

We employed a comprehensive, multi-step search procedure from inception to December 16th, 2021, without restrictions of language:

1) Medline (via PubMed), Web of Science and PsycINFO using English terms that associate mental health conditions, children and adolescents, and Greece, as in the following query:

BLOCK A: children and adolescents
((((((((((((((((((((((((adolesc[Title]) OR preadolesc*[Title]) OR pre-adolesc*[Title]) OR child*[Title]) OR boy*[Title]) OR girl*[Title]) OR infant*[Title]) OR juvenil*[Title]) OR minors[Title]) OR paediatri*[Title]) OR pediatri*[Title]) OR pubescen*[Title]) OR puberty[Title]) OR school*[Title]) OR student*[Title]) OR teen*[Title]) OR young[Title]) OR youth*[Title]) OR class*[Title]) OR orphan*[Title]) OR high-school[Title]) OR "high school"[Title]) OR preschool*[Title]) OR pre-school*[Title])*

+ BLOCK B: Greece
("Greece" or "Greek")

+ BLOCK C: Mental health
("Mental disorders"[Mesh terms] OR Autism OR Enuresis OR Encopresis OR ADHD OR "Intellectual disability" OR "Mental retardation" OR "Oppositional Defiant Disorder" OR "Conduct Disorder" OR "Depression" OR "Bipolar" OR "Disruptive Mood Dysregulation Disorder" OR "Suicide" OR "Suicidality" OR "Self-harm" OR "Obsessive-compulsive disorder" OR "Trauma" OR "PTSD" OR "Mutism" OR "Substance abuse" OR "Cannabis" OR "Alcohol" OR

Citation: lauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

"Drug abuse" OR "Anorexia" OR "Bulimia" OR "Eating disorder" OR "Borderline" OR "Personality disorder" OR "Schizophrenia" OR "Psychosis" OR "Mental health" OR "Quality of life" OR "Well-being")

2) IATPOTEK database using corresponding Greek terms (as a source of local literature).

3) Google scholar database using English and Greek terms. This was added to reach gray literature and to scan for new inclusions. In this part, results were independently inspected by two authors until reaching a hundred sequential studies without novel inclusions.

4) Reference list of studies was consulted for snowballing inclusion

5) Local experts were consulted for additional references

Deduplication was automatically performed using the software EPPI-Reviewer 4.0.[2] The studies have been uploaded to the platform Rayyan,[3] which is employed to manage the systematic review.

2.4) Review scope

After retrieving a set of studies, they were screened and sorted in one of the following areas of research: prevalence estimates, assessment instruments, or interventions. For each area, we describe different inclusion criteria and methods for data extraction and synthesis.

2.5) Inclusion criteria

2.5.1) Prevalence studies

We included studies meeting all the following criteria:

- Reporting surveys on community-based, school-based, or other representative samples
- The population surveyed consists of children and adolescents in Greece (in the case of multi-country or general population studies, separated results for this population must be presented)
- Assessing the prevalence of mental health conditions (diagnosed by clinical or structured interviews using ICD or DSM coding, or indicated by validated cut-offs in screening instruments) OR the levels of mental health symptoms (using standardized instruments) OR the levels of mental well-being/quality of life (using standardized instruments)

We excluded studies meeting any of the following criteria:

- Surveys on clinical or non-representative samples (e.g., quality of life among leukemia patients)
- Conference abstracts

If studies reported the same dataset, only the most comprehensive or most recent was

Citation: Iauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

included. Literature reviews were included for reference consulting. Dissertation thesis, academic letters and book chapters were eligible.

2.5.2) Instrument studies

We included studies meeting all the following criteria:

- Studies reporting instruments for screening, clinical assessment, or diagnosis of child and adolescent mental health outcomes
- The studies must develop, translate, validate or apply the instruments in child and adolescents in Greece (in the case of multi-country or general population studies, separated results for this population must be presented)

We excluded studies meeting any of the following criteria:

- Studies on instruments that were not relevant for mental health
- Conference abstracts

If two studies reported information on the same instrument, they were both included if different information was presented. If the same information (e.g.: two internal consistency reports) were reported, we only included the most powered study. Literature reviews were included for reference consulting. Dissertation thesis, academic letters and book chapters were eligible.

2.5.3) Intervention studies

We included studies meeting all the following criteria:

- Reporting interventions for mental health conditions or for mental health promotion
- The targeted population is children and adolescents in Greece (in the case of multi-country or general population studies, separated results for this population must be presented)
- Experimental designs (from pre-post uncontrolled studies to randomized clinical trials) or studies aiming to translate or adapt interventions that proved effective in other settings

We excluded studies meeting any of the following criteria:

- Conference abstracts

If the same trial was reported in more than two studies, we included the most recent one. Literature reviews were included for reference consulting. Dissertation thesis, academic letters and book chapters were eligible.

2.6) Screening process

Primary screening: for databases searched with English terms, two authors independently assess results. For databases searched with Greek terms, only one native-speaker author assesses the studies.

Citation: Iauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

Secondary screening: a single reviewer assesses full-text articles, discussing doubts within the research team. Cross-group inclusions (from one to other research area) are possible during secondary screening.

2.7) Data Extraction and Synthesis

2.7.1) Prevalence studies

We consulted the procedures from a highly-cited systematic review and meta-analysis on the prevalence of child and adolescent mental health conditions to build a data extraction sheet.4 The following data were extracted: first author, year of publication, study description, region that the study attempts to be representative of, year of data collection, description of sampling/representativeness, age range, percentage of males, details of screening and diagnostic sample procedures (screening sample size, screening response rate, screening instrument, screening informant, method for screening selection, diagnostic sample size, diagnostic response rate), diagnostic domain, condition or construct, assessment instrument, if instrument includes interview, informants, diagnostic criteria, if diagnosis requires functional impairment, definition of functional impairment, prevalence estimate and its standard deviation (SD) or 95% confidence interval (CI), mean score and its standard deviation (SD). A validated quality assessment tool for prevalence studies was used to evaluate the risk of bias5. In a summary table, we copied the following information: author and year, region, age range, sample size, diagnostic domain, condition or construct, instrument, informants, prevalence and SD or CI 95%, mean score and SD.

We aggregated the extracted information into a synthesis table containing the following information for each mental condition: regions, number of studies, total number of participants, assessment instruments, informants, lowest prevalence reported, and highest prevalence reported. This table only concerned mental health conditions and did not include information on quality of life and relatable constructs of mental well-being.

2.7.2) Instrument studies

The Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN) guidelines were followed to extract data and to evaluate the methodological quality of findings.[6] If the manual did not include an important aspect of data extraction, we consulted literature on the area to adapt an extraction strategy.
In a data sheet, the following information was extracted from the studies: first author, year of publication, name of the instrument, diagnostic domain, construct evaluated, original language, target population, informer/rater, recall period, number of items, response options, estimated time of application, sample size, age mean/range, percentage of females, diagnosed conditions, setting, response rate, proposed cut-off, percentage of missing items, floor and ceiling effects. In the same data sheet, we extracted information on sampling and psychometric properties. In a multi-choice field we marked the procedures of the study (“develops an instrument”, “translates an instrument”, “validates an instrument”, “translates and validates an instrument”, “solely applies an instrument”; this is

Citation: lauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

not contemplated in the COSMIN manual and was included for organizing purposes). If the study contained information on instrument translation, we marked whether it contemplated a back-and-forth translation procedure (this procedure is also not contemplated in COSMIN, as the manual does not concern instrument translation). For studies reporting instrument development, we marked the methodological quality of the items “development quality” and “content validity quality” according to the following categories: very good, adequate, doubtful, inadequate, or not applicable. For psychometric validation procedures (structural validity, internal consistency, cross-cultural validity, interrater reliability, test-retest reliability, measurement error, criterion validity, construct validity, or responsiveness), we extracted the sample size for each validation, the methodological quality (according to the aforementioned categories), and the results of the validation. This last field contained specific information according to each psychometric property: for structural analysis, the kind of analysis, how many factors explained how much of the variance, and resulting statistics. For internal consistency, Cronbach's alpha or corresponding measures. For cross-cultural validity, the results of multi-group confirmatory factor analysis with measurement invariance evaluation. For inter-rater reliability and for test-retest reliability, statistics such as intraclass correlation coefficient, pearson or spearman correlation, or kappa score. For measurement error, the patient’s score error statistics. For criterion validity, the statistics of the performance of the instrument against a gold standard. For construct validity, the correlation coefficients with other instruments. For responsiveness, if the instrument detected statistically significant differences over time.

In a summary table, we presented information of the psychometric properties of each instrument in each study according to a coding provided in COSMIN: “+”, for sufficient; “-”, for insufficient; and “?”, for indeterminate. The criteria were adapted for instrument translation/development (as it is not contemplated in COSMIN) and for responsiveness (the COSMIN used the area under the curve as the parameter for the coding, but this statistic was not available in any of the studies we included; for this reason, we rated as sufficient evidence of responsiveness whenever an instrument detected statistically significant differences in clinical trials, rating as indeterminate when differences were not found). The following tables contain a summarized view of the criteria for coding (a detailed version can be consulted in the manual):

+	The property was measured and the study provides positive evidence according to standard definitions from COSMIN, except for adapted definition for responsiveness • **Structural validity** with CFA with CFI >0.95/RMSEA <0.06 • **Internal consistency** with Cronbach's alpha > 0.7 • **Cross-cultural validity** with no differences between group factors; reliability with ICC or Kappa >= 0.70 • **Measurement error** with SDC or LoA < MIC • **Criterion validity** with correlation with gold standard >= 0.70 • **Construct validity** with correlations superior 0.10 or 0.5, depending on the hypothesis • **Responsiveness** statistically significant differences between time-points
-	The property was measured and the study provides negative evidence according to standard definitions (e.g., Cronbach's alpha < 0.7 for internal consistency, confirmatory factor analyses with CFI <0.95/RMSEA >0.06 for structural validity)
?	The property was not measured or there is not enough information reported.

Citation: lauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health
https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

+	A translation process was undertaken within the study with at least a back-and-forth translation procedure.
-	A translation process was undertaken within the study with no back-and-forth translation procedure.
P	The study uses a previously translated instrument.
D	The study develops a new instrument.
G	The study uses an instrument that was developed originally in Greek.

In a synthesis table, we aggregated the following information on each instrument from the previous tables: instrument's name, target population, setting, informers/raters, number of studies reporting on the instrument, psychometric properties (development or translation, structural validity, internal consistency, cross-cultural validity, interrater reliability, test-retest reliability, measurement error, criterion validity, construct validity, or responsiveness). For psychometric properties, we used the same coding employed in the summary table, now considering a property as sufficient ("+") whenever at least one study provided evidence for such.

2.7.3) Intervention studies

The Cochrane manual for systematic reviews of intervention studies was consulted for building an extraction table containing the following data:[7] first author, year of publication, sample size, experimental intervention, control intervention, diagnostic domain, target construct/disorder, primary outcome, primary outcome measurement, secondary outcome, secondary outcome measurement, population description, age range/mean, percentage of females, ethnicity, inclusion criteria, exclusion criteria, recruitment method, allocation method, unit of allocation (individuals, clusters), duration of intervention, number of participants randomized by treatment arm, withdrawals and exclusions, other treatments received, subgroups, time points measured, person measuring/reporting, main results, funding, and conflicts of interest. We calculated controlled and uncontrolled effect sizes using reported means and standard deviations before and after the intervention using the software R version 3.6.2.[8]

The methodological quality was ascertained using specific instruments for each study design: for randomized clinical trials, we used the Cochrane risk-of-bias tool for randomized trials (RoB 2)[9], and for non-randomized designs, we used the Joanna Briggs Institute (JBI) checklist assessment tool.[10]
In a summary table, we provided the following data: study's author and year of publication, diagnostic domain, interventions, number of participants in intervention and in control, methodological design, primary outcome, whether it demonstrated efficacy, uncontrolled effect size, controlled effect size and risk of bias score.
A synthesis table was not built in this area of research, as there were fewer studies compared to other areas. This way, an overview of the results could be pictured using the

Citation: Iauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health
https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1

summary and extraction tables.

4 3) References

1 - Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021; 372. DOI:10.1136/bmj.n71.

2 - Thomas, Brunton, Graziosi. EPPI-Reviewer 4.0: software for research synthesis. EPPI-Centre Software London 2010. https://hero.epa.gov/hero/index.cfm/reference/details/reference_id/5915935.

3 - Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan—a web and mobile app for systematic reviews. Syst Rev 2016; 5: 210.

4 - Polanczyk GV, Salum GA, Sugaya LS, Caye A, Rohde LA. Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. J Child Psychol Psychiatry 2015; 56: 345–65.

5 - Hoy D, Brooks P, Woolf A, et al. Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. J Clin Epidemiol 2012; 65: 934–9.

6 - Prinsen CAC, Mokkink LB, Bouter LM, et al. COSMIN guideline for systematic reviews of patient-reported outcome measures. Qual Life Res 2018; 27: 1147–57.

7 - Higgins JPT, Thomas J, Chandler J, et al. Cochrane Handbook for Systematic Reviews of Interventions. John Wiley & Sons, 2019.

8 - R Core Team. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. http://www R-project.org/ 2013. https://ci.nii.ac.jp/naid/20001692429/.

9 - Sterne JAC, Savović J, Page MJ, et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. BMJ. 2019; 366: l4898.

10 - Aromataris E, Stern C, Lockwood C, et al. JBI series paper 2: tailored evidence synthesis approaches are required to answer diverse questions: a pragmatic evidence synthesis toolkit from JBI. J Clin Epidemiol 2022; published online April 14. DOI:10.1016/j.jclinepi.2022.04.006.

Citation: lauromarchionatti, Anastasia Koumoula, Arthur Caye, Vasiliki Eirini Karagiorga, Julia Luiza Schafer, Giovanni AbrahÃÂ£o Salum JÃÂºnior Protocol for a nationwide systematic review of the Greek literature on child and adolescent mental health https://dx.doi.org/10.17504/protocols.io.n92ldzo3nv5b/v1