Intervention in Schools promoting mental health and well-being: a systematic review

Gina Tomé, Adriano Almeida, Lúcia Ramiro, Tania Gaspar, Margarida Gaspar de Matos

Keywords: Pupils; Mental health; Health Promotion; Whole School approach; Teachers; Social competence

Author Biographies: *Gina Tomé,* Education Psychologist, Clinical and Health Psychologist, Advanced Specialty in Psychotherapies and Community Psychology. Master in Behavioral and Cognitive Therapies, PhD in Educational Sciences, specializing in Health Education by the Faculty of Human Motricity (FMH, UL). Pos Doc researcher at FMH / ULisboa; Researcher of the "Social Adventure" project team, in the Mental Health, Resilience, Personal and Social Skills Promotion, Adolescence Risk Behaviors Promotion and Prevention, Adolescents Peer Group Relationships, areas. Coordinator of the ES´COOL Project - Mental Health Promotion in Schools / Aventura Social Team, FMH / ULisboa. Adjunct Professor at the Institute of Educational Sciences. *Adriano Almeida,* Graduated in Psychomotor Rehabilitation and Master's student in Psychomotor Rehabilitation at the Faculty of Human Kinetics/University of Lisbon, he is part of the Aventura Social (Social Adventure) project team as a researcher in the areas of education, family and mental health. Researcher in Institude of Environmental Health (ISAMB)/School of Medicine/University of Lisbon. *Lúcia Ramiro,* Post-Doctoral Researcher at Faculdade de Motricidade Humana/University of Lisbon (FMH/UL); researcher at Aventura Social Project and Researcher in Institute of Environmental Health (ISAMB)/ School of Medicine/ University of Lisbonin the areas of promotion of personal, social and emotional skills, health behaviour promotion and risk-behavior prevention in adolescence and youth, in particular sexuality and sexual health related topics. Executive coordinator of a study entitled Learning and Well-Being Ecossystems at FMH. Third grade and secondary school teacher at Escola Secundária Poeta Al Berto, Sines. *Tânia Gaspar,* Director of the Institute of Psychology and Educational Sciences of Lusíada University of Lisbon. Researcher of the Aventura Social (Social Adventure) project team and Researcher in Institute of Environmental Health (ISAMB)/ School of Medicine/ University of Lisbon, in the areas of mental health, school, family, promotion of personal and social skills, prevention of risk behaviors in adolescence and adolescents' relationship with the peer group. Principal Investigator of the Health Behaviour in School-Aged Children/World Health Organization (HBSC/WHO). *Margarida Gaspar de Matos*, is a clinical and health psychologist, psychotherapist and Full Professor (with Aggregation in International Health) at the Faculty of Human Movement, University of Lisbon (UL). Founder and coordinator of the Aventura Social Team, she is also the coordinator of Supportive Environments Group at the Center for Research on Environmental Health Institute, Faculty of Medicine of the UL. Member of the Scientific Committee of the EMCDDA (European

Monitoring Center for Drugs and Drug Addiction), also integrates the Board of Prevention and Intervention of EFPA (European Federation of Psychologists' Association) representing the Portuguese Psychological Association and the Steering Committee of EUPHA/ CAPH (European Public Health Association / Child and Adolescent Public Health). She is responsible for several national and international projects in Portugal within the scope of promoting the health of children and young people.

Corresponding Author: Gina Tomé, Education Psychologist, Clinical and Health Psychologist, Advanced Specialty in Psychotherapies and Community Psychology. Email: ginatome@sapo.pt.

Intervention in Schools promoting mental health and well-being: a systematic review

Schools have been identified as a main scenery for building social, emotional, and behavioural support among children because students spend a substantial amount of time there. This systematic review was developed and registered based on the PRISMA recommendations. The main objective was identifying school context interventions that focus on students' wellbeing and mental health. This review refers to papers focusing on young people ages 0 to 18 years old who attend school and had been the target audience for mental health and wellbeing promotion interventions. Inclusion criteria for this systematic review was that interventions must have been carried out within a school context. The results indicate that most studies (n=13; 68%) were conducted using quantitative methodology. The majority of articles intended to promote mental health in a school context, either involving the whole school or only students. Results highlight the importance of the involvement of the whole school in order to better promote mental health and wellbeing. Findings also indicate that after years of "stigma", mental health has become a main concern in school-aged population.

Introduction

Schools have been identified as a main scenery for building social, emotional, and behavioural results because students spend a substantial amount of time there. The school provides a socialising context in which students are able to learn a range of life skills. The skills children and adolescents obtain from their time at school are associated with academic achievement. School is also considered an exclusive scenario within which young people's social and emotional wellbeing can be promoted and critical skills for, work and life can be trained and learned (Goldberg et al., 2019). School-based interventions yield most successful outcomes when they are integrated into daily practice and school culture, seek to engage all staff, reinforce skills outside of the classroom such as hallways and playgrounds, support parental engagement, and coordinate work with outside agencies, emphasizing the importance of adopting a whole school approach to improve the young people's social and emotional skills development (Barry & Dowling, 2017; Goldberg et al., 2019).

According to the Health Promoting Schools initiative (WHO, 1998), a whole school approach defines the entire school community as the unit of change and involves coordinated action between three interrelated components: 1) curriculum, teaching, and learning; 2) school ethos and environment; and 3) family and community partnerships. Emotional health and wellbeing promotion are a primary aspect of the WHO's Health Promoting Schools initiative. According to the World Health Organization, mental health is a "state of wellbeing in which the individual realizes his or her own abilities, can cope with the normal stress of life, can work productively and fruitfully, and is able to make a contribution to his or her own community" (WHO, 2013). Thus, it is assumed that adolescents wellbeing promoting requires the promotion of personal and social skills, transforming, especially the school environment, into a wellbeing environment, through the involvement of the community, family and everyone involved.

Cho & Shin (2013) affirm that are many reasons why effective mental health

interventions for adolescents should be developed, including: 1) Specific mental disorders occur at specific stages of a child and adolescent's development, screening programs and interventions for such disorders can be targeted to the stage at which they are most likely to appear; 2) there is a high degree of continuity between child and adolescent disorders into adulthood, early intervention could prevent or reduce the likelihood of long-term impairment; 3) effective interventions can reduce the burden of mental health disorders on the individual and the family (Cho & Shin, 2013).

There is evidence that mental health promotion programs in schools, especially those adopting a whole school approach lead to positive mental health, social and educational outcomes (Barry et al., 2013). School-based programs can extent a large number of young people from different family backgrounds. Baskaran, Sekar, and Kokilavani (2016) found that when student's mental health needs are properly addressed, the likelihood of school success increases. According to the authors high quality, effective school mental health promotion has been linked to increases in academic achievement and competence; decreases in incidence of problem behaviours; improvements in the relationships that surround each child; and substantive, positive changes in school and classroom climates.

So, the school context represents a natural and an interactive set of environments comprising both direct (e.g., family, peers, class, school) and more distal (e.g., cultural, political) settings (Bjorklund et al., 2014).

Goldberg et al. (2019) consider that at school, skills are strengthened in non-curriculum-based ways through policies, social relations, whole staff training, organisational structure, and daily school activities that are planned to promote a positive school environment, which helps young people to develop positively across academic, social, emotional, and behavioural areas. Embedding families

within a whole school approach reinforces the complementary roles of families and educators and extends opportunities for learning across the two contexts. Community partners provide links with external support and mental health services in the community, thereby ensuring there is access to services for students needing social and emotional support.

Preventive school-based interventions which reduce risk (associated with mental health) and enhance protective factors (that influence mental health) can limit the onset and progression of clinical disorder and promote good mental health. Schools represent an effective platform for the delivery of universal programs available to all pupils. Results found by Hudson, Lawton and Hugh-Jones (2020) suggest that school leadership is also the key construct to target at the outset in promoting the referred skills.

This work intended to conduct a systematic review in order to identify the school context interventions which aim to promote students' wellbeing and mental health.

Method

This systematic review was developed and registered based on the PRISMA diagram. The PRISMA Statement was developed by a group of 29 review authors, methodologists, clinicians, medical editors, and consumers. A consensus process that was informed by evidence, whenever possible, was used to develop a 27-item checklist and a four-phase flow diagram. Items deemed essential for transparent reporting of a systematic review were included in the checklist. After 11 revisions the group approved the checklist and flow diagram(Moher, Liberati, Tetzlaff, Altman, & PRISMA Group, 2009). The main objective was identifying school context interventions which focus on students' wellbeing and mental health.

Search and Sampling Strategy

In the research of school context interventions studies developed with focus

on youth wellbeing or mental health, three databases were searched: PubMed, SciElo and Web of Knowledge. The review limited the year of publication to articles published between 2014 and 2019. To identify the publications to be included, the Boolean terms AND / OR. were used. Search terms included terms associated with the study population: "mental health" OR "wellbeing" OR "pupils" OR "whole school approach" OR "whole school" AND search terms related to setting: "school-based intervention" OR "school based". Search filters were also inserted: free full text articles, written in English, Portuguese or Spanish and limited to the population between 0 and 18 years old.

Criteria and data extraction process

Specific criteria for the inclusion of studies regarding school context interventions were based on the fulfillment of the following: (1) school-based intervention; (2) promotion of mental health and well-being student among students; and (3) whole-school. The verification of criteria fulfillment was performed and compared by four authors (G.T.; L.R; TG; A.A).

Data extraction was developed according to PRISMA diagram guidelines (Moher et al., 2009). Relevant data were extracted from the manuscript by three authors (G.T.; L.R; A.A.), who also performed their coding and were supervised by another author (M.G.M). Disagreements were solved through discussion among the authors (85% agreements). Data extracted included the following elements: author, year, study design, methodology (mixed, qualitative, quantitative), data type (focus group, interviews, survey, other), data source, duration of interventions, sample size, country and general recommendations.

Results

Literature search

The diagram of the studies included in this systematic review is presented in Figure 1. The research carried out returned a total of 1699 scientific articles relevant to this study, of which 1187 abstracts were accessed for eligibility after the exclusion of duplicates (n = 512). A total of 1114 articles were rejected after reading titles and abstracts. Subsequently, a total of 73 articles were considered as potentially relevant studies, but after a careful analysis, studies that were literature reviews and articles that had no description of the interventions were excluded (n = 52). At the end, 19 articles were included in the present study.

Included study characteristics

The characteristics of the 19 included studies are described in Table 2.

Table 2 shows that most studies have quantitative methodology (n=13). Participants differ in analyzed studies: whole school (n=6), only students (n= 7), and students and teachers (n=3) and miscellaneous (n= 3), e.g. only teachers (n=1), school and community (n=1) and staff (other education workers) and students (n=1).

Table 1
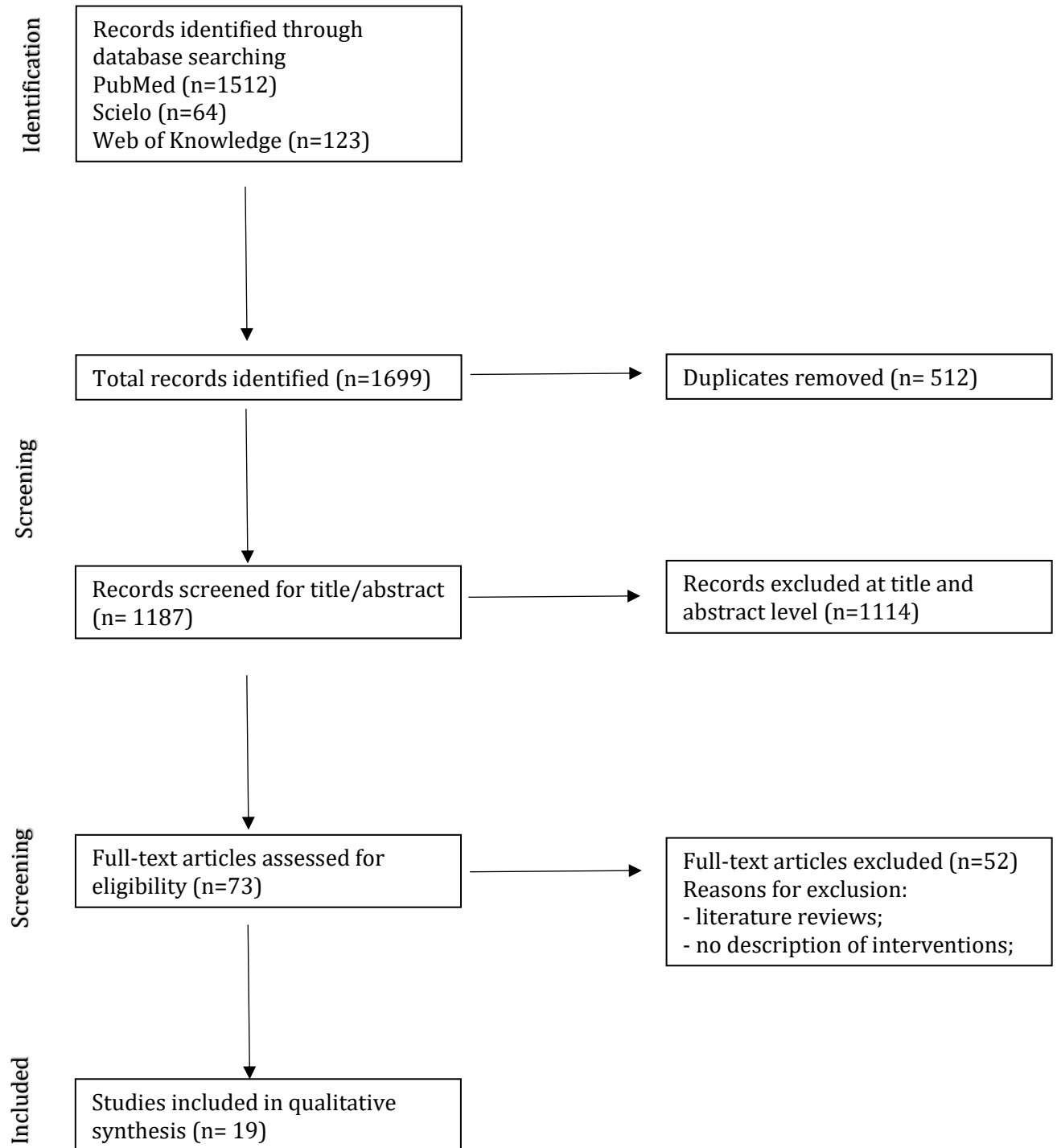*Identification, screening, eligibility and included studies*

Identification

Records identified through database searching
PubMed (n=1512)
Scielo (n=64)
Web of Knowledge (n=123)

Screening

Total records identified (n=1699) → Duplicates removed (n= 512)

Records screened for title/abstract (n= 1187) → Records excluded at title and abstract level (n=1114)

Screening

Full-text articles assessed for eligibility (n=73) → Full-text articles excluded (n=52)
Reasons for exclusion:
- literature reviews;
- no description of interventions;

Included

Studies included in qualitative synthesis (n= 19)

Table 2
Study Characteristics

Reference	Design	Methods	Data type	Focus Area	Sample	Students Age	Duration	Results reported	Country	General recommendations
Wu, Y., Chartier,M., Ly, G., Phanlouvong, A., Thomas, S., Weenusk, J., Murdock, N., Munro, G., & Sareen, J. (2019)	Case study	Qualitative	Semi-structured interviews	Mental health promotion	Whole school	Second and third cycle	4 months	Positive outcome	Canada	The whole school approach to implementing was viewed as an acceptable and feasible way to extend the intervention reach in order to promote the mental health of youth.
Ford,T., Hayes, R., Byford, S., Edwards, V., Fletcher, M., Logan, S., et al. (2019)	Randomized control trial (RCT)	Quantitative	Survey	Classroom management skills	Teacher and students	Primary education	6 months	Positive outcome	United Kingdom	Independent blind observations and qualitative feedback from teachers suggested that teachers' behaviour in the classroom changed as a result of attending training.
Eustache, E., Gerbasi, M., Severe, J., Fils-Aimé, J., Fawzi, M., Raviola, G., et al. (2017)	Prospective	Quantitative	Survey	Mental health promotion	Teacher and students	Secondary education	3 to 4 weeks	Positive outcome	United States	This accompaniment approach to mental health task-sharing with teachers provided a school-based opportunity for students with mental health need to discuss

										treatment and has potential relevance to other settings.
Kirkhaug, B., Drugli, M., Handegard, B., Lydersen, S., Asheim, M., & Fossum, S. (2016)	Quasi-experimental pre-post study	Quantitative	Survey	Classroom management skills	Students	Primary education	8-9 months	No positive outcome	Norway	No differences were found in change between the two conditions from baseline to follow-up in externalizing problems, social skills, internalizing problems and closeness with teacher. The intervention condition did however show advantageous development in terms of student-teacher conflicts and increased academic performances. Young school children with severe externalizing problems are in need of more comprehensive and tailored interventions.

Ojio, Y., Yonehara, H., Taneichi, S., Yamasaki, S., Ando, S., Togo, F., et al., (2015)	Quasi-experimental pre-post study	Quantitative	Survey	Mental health promotion	Students	Secondary education	2-weeks	Positive outcome	Japan	Knowledge and beliefs about mental health/illnesses and their treatment and also the intention to seek help and to support their peers with mental health problems were significantly elevated following the program. A concise program may have a significant effect on the improvement of MHL in secondary school students.
Gaspar, T., Cerqueira, A., Branquinho, C., & Matos, M.G. (2018)	Quasi-experimental pre-post study	Quantitative	Survey	Social and emotional skills promotion	Students	Primary education, Second and third cycle and Secondary education	6 months	Positive outcome	Portugal	The results reveal significant differences in the intervention group related to the competences before and after the intervention, namely in the interpersonal relationships and definition of goal related skills, while in the waiting list group there were no significant

										differences in the moment before and after the intervention.
Nash, R., Elmer, S., Thomas, K., Osborne, R., Maclntyre, K., Shelley, B., et al., (2018)	Quasi-experimental pre-post study	Mixed	Survey; focus groups	Mental health promotion	Whole school	Primary education	3 months	Positive outcome	Australia	The protocol describes a solution to health literacy that is designed by a community in response to the specific health literacy needs of its members in their specific context. It will provide new opportunities for characters outside the health sector to contribute to awareness raising and supporting the health literacy of individuals. Seeks to enhance the health literacy responsiveness of individuals, schools, families and communities. This multidimensional approach will translate into long term benefits. Most importantly it will provide answers to

									inform collective health literacy solutions. With minor modification this protocol is scalable to multiple schools and transferable globally.
Kidger, J., Stone, T., Tilling, K., Brockman, R., Campbell, R. Ford, T., et al. (2016)	RCT	Quantitative	Survey	Mental health promotion	Staff and students	Second and third cycle	2 weeks	Positive outcome	England	Findings indicate that both the adult and youth courses were considered relevant to the mental health of both staff and students, and were effective at improving knowledge, attitudes, confidence and skills in supporting others. A peer support service was established in all intervention schools and was perceived to be helpful in supporting individuals in difficulty – for example through listening, and signposting to other services - and

										raising the profile of mental health at a whole school level. Barriers to use included lack of knowledge about the service, concerns about confidentiality and a preference for accessing support from pre-existing networks.
Bonell, C., Allen, E., Opondo, C., Warren, E., Elbourne, D., Sturgess, J., et al. (2019)	RCT	Quantitative	Survey	Mental health promotion	Whole school	Second and third cycle	36 months	Positive outcome	England	The study provides the first evidence from a trial that whole-school interventions may work by modifying school environments and student relationships.
Jayman, M., Ohl, M., Hughes, B., & Fox, P. (2019)	Quasi-experimental pre-post study	Mixed	Survey, Interviews	Mental health promotion	Teacher and students	Second and third cycle	10 weeks	Positive outcome	England	Findings from informants and self-reports identified significant improvements in total difficulties and on pertinent SDQ subscales (e.g., emotional symptoms and peer relationship problems) at post-

										test. Comparison pupils demonstrated minimal change over time. Thematic analysis of qualitative data supported the quantitative findings and provided valuable insights into experience.
Campos, L., Dias, P., Duarte, A., Veiga, E; Dias, C., & Pallha, F. (2018)	Quasi-experimental pre-post study	Quantitative	Survey	Mental health promotion	Students	Second and third cycle	2 weeks	Positive outcome	Portugal	Significantly higher improvement in mental health literacy from pre intervention to follow-up. Overall, "Finding Space for Mental Health" showed efficacy as a short-term promotion program for improving mental health literacy in schools.
Dray, J., Bowman, J., Campbell, E., Freund, M., Hodder, R., Wolfenden, L., et al. (2017)	RCT	Qualitative	Survey	Mental health promotion	Whole school	Second and third cycle	4 months	No positive outcomes	Australia	There were no significant differences between groups at follow-up for three mental health

										outcomes: total SDQ, internalising problems, and prosocial behaviour. A small statistically significant difference in favour of the control group was found for externalising problems. Findings highlight the continued difficulties in developing effective, school-based prevention programs for mental health problems in adolescents.
Yang, J., Cervera, R., Tye, S., Ekker, S., & Pierret, C. (2018)	Quasi-experimental pre-post study	Quantitative	Survey	Mental health promotion	Students	Second and third cycle	3 weeks	Positive outcome	United States	Curricular-based efforts focused on mental illness in an alternative school setting are feasible and integrated well into general curricula. Preliminary data suggest the existence of unique help-seeking barriers in at-risk youth. Increased focus upon

										community-based programming has potential to bridge gaps in translation, bringing this critical population to clinical care in pursuit of improved mental health for all.
Garmy, P., Berg, A., & Clausson, E. (2015)	Qualitative	Qualitative	Focus group	Mental health promotion	Students	Secondary education	10 weeks	Positive outcome	Sweden	The school-based mental health program was perceived as beneficial and meaningful on both individual and group levels, but students expressed a desire for a more health-promoting approach.
Gigantesco, A., Del Re, D., Cascavilla, I., Palumbo, G., De Mei, B., Cattanco, C., et al. (2015)	Quasi-experimental pre-post study	Quantitative	Survey	Mental health promotion	Student	---	2 months	Positive outcome	Italy	The results showed an improvement in self-efficacy in regulating negative affect, overall psychological well-being, and satisfaction with life. These results demonstrate that the programme produced significant positive effects on the

										mental health status of participating students.
Shinde, S., Pereira, B., Khandeparkar, P., Sharma, A., Patton, G., Ross, D., et al. (2017)	RCT	Quantitative	Survey	Mental health promotion	Students	Secondary education	24 months	Positive outcome	India	The study demonstrated generally good acceptability and feasibility of the intervention, though the coverage of intervention activities was lower in the teacher delivery schools due to competing teaching commitments, the participation of male students was lower than that of females, and one school dropped out because of concerns regarding the reproductive and sexual health content of the intervention. This approach provides a framework for adolescent health promotion in secondary schools

									in low-resource settings.
Kiviruusu, O., Björklund, K., Koskinen, H., Liski, A., Lindblom, J., Kuoppamäki, H. (2016)	RCT	Quantitative	Survey	Mental health promotion	Whole school	Primary education	6 months	No positive effects	Finland	These first, short-term results did not show any main effects on children's socio-emotional skills or psychological problems. This lack of effects may be due to the relatively short follow-up period given the universal, whole school-based approach of the program. The results suggest that the grade level where the intervention is started might be a factor in the program's effectiveness. Moreover, the results also suggest that for this type of intervention program to be effective, it needs to be delivered with a high enough dosage.

Hawe, P., Bond, L., Ghali, L., Perry, R., Davison, C., Casey, D., et al. (2015)	Quasi-experimental pre-post study	Quantitative	Survey	Risk behaviors reduction	Whole school	Secondary education	24 months	Positive outcome	Canada	A non-specific, risk protective intervention in the social environment of the school had a significant impact on a cluster of risk behaviours for girls. Results were remarkably like reports from similar school environment interventions elsewhere, albeit with different behaviours being affected. It may be that this type of intervention activates change processes that interact highly with context, impacting different risks differently, according to the prevalence, salience and distribution of the risk and the interconnectivity of relationships between staff and students.

| Morris, J., Lummis, G., Lock, G., Ferguson, C., Hill, S. & Nykiel, A. (2019) | Quasi-experimental pre-post study | Mixed | Survey, focus group | School culture promotion | Whole school and community | --- | 24 months | Positive outcome | Australia | After a range of interventions, findings from both post-test surveys and qualitative data suggested a change in leadership style was a key factor of school cultural change across all factors. The study highlights a number of visible strategies that were employed to increase morale and improve staff wellbeing. |

Notes: --- means that this information is missing

The age range of students participating in the interventions also differs among analyzed studies: primary education (n=4), second and/or third cycles (grades 5 to 9) (n=7), secondary education (n=5), all school years (n=3).

As for the interventions, the themes they addressed were: mental health promotion (n=14), classroom management (n=2), reduction of risk behaviors (n=1), promotion of school culture (n=1) and promotion of social and emotional skills (n=1); the types of interventions were training and implementation of mental health promotion programs (which included seminars, workshops, information sessions, among other strategies directed at participants) (n=19).

Considering the research characteristics among studies, case study/prospective (n=2), RCT (n=6) and quasi-experimental pre-post study (n=11) were observed regarding study design As for the data collection procedure, it was verified that some studies use more than one data collection procedure, e.g., focus group (n=4), interviews (n=2) and survey (n=17). Most interventions last less than 12 months (n=15) and are carried out in several countries: Canada (n=2), Portugal (n=3), United States (n=2), United Kingdom (n=1), Norway (n=1), Japan (n=1), Australia (n=3), England (n=3), Sweden (n=1), Italy (n=1), India (n=1) and Finland (n=1) (see table 3)

Table 3
Research characteristics among studies

Research characteristics	N
Study design	
Case study/Prospective	2
RCT	6
Quasi-experimental pre-post study	11
Methods	
Mixed	3
Qualitative	3
Quantitative	13
Data type	
Focus group	4
Interviews	2
Survey	17
Duration of the intervention	
≤ 12 months	15
12 months – 24 months	3
24 months – 36 months	1
Sample characteristics	
Country	
Canada	2
Portugal	2
United States	2
United Kingdom	1
Norway	1
Japan	1
Australia	3
England	3
Sweden	1
Italy	1
India	1
Finland	1

Included sample characteristics

Papers selected for this review focused on young people aged up to 18 years old who attend school and had been the target for mental health and wellbeing promotion interventions. The interventions must have been carried out in a school context.

Main findings

According to the presented results, it can be seen that most of the analyzed articles intend to promote mental health in a school context and the great majority (84%; n=16) reported positive outcomes. Most of the studies (75%) involved either the whole school or whole school and community (n = 7) or focused only on students (n = 7).

The majority (37%) of the studies (n=7) refer to grades 5 to 9, have a quasi-experimental pre-post study design (58%; n=11), used a quantitative methodology (68%; n=13), and last less than 12 months of intervention (79%; n=15). Moreover, they were implemented in European countries (53%; n=10).

These results show the importance of the involvement, not only of students and teachers, but of the whole school, in order to promote mental health and wellbeing in schools. They also highlight that after years

of "stigma", mental health is a main concern in school aged population.

Discussion

School-based approaches seem to be more effective when they include the entire school, when they use a social skills promotion model, when they include peer education, when they favour student participation and initiative, when they use interactive and participated methodologies, and when they last several years and become a part of school culture (Person et al, 2012; Jané.Llopis, 2007; Matos et al, 2012).

It is also referred in literature that new programs should be integrated into previously existing ones, and partnerships and networking with structures within the community are encouraged. Higher levels of participation are also advised, such as the 'entire school' and 'entire community' approach is associated with a public health perspective,based on positive psychology that privileges the development of positive traits (positive emotions, resilience and optimism) (Lhopis-Jané, 2005; Matos et al, 2012).

Interventions that increase protection through protective legislation (price increase in specific products such as tobacco and alcohol) may be dissuasive for a while, but they only allow permanent positive changes within a "whole school, positive, global, participative framework, allowing for a comprehensive and concerted action.(Corrieri et al, 2013).

Some authors argue that interventions must be systematically evaluated so that they may be presented as evidence based, and even when results point out that school and municipal intervention programs have no or little effect (which is already a progress compared with having no assessment), the implementation conditions must be checked, in particular the technician's profile and experience, duration of the program, its supervision and how it was evaluated (Corrieri et al, 2013; Stallard,

2013; Matos, 2019).

Overall, programs applied in the area of mental health seem to have positive effects (but small). Anxiety seems to respond better than depression. Programs appear to function better when there is a medium level of depression, and boys and girls respond differently to these interventions (Stallard, 2013). Investigations on psycho-education are understudied, and despite the fact that the school setting is 'practical', it is not yet clear if these interventions fit their setting. One of the reasons is the potential harmful effect of "stigma related to poor academic performance" that may put away students that do not like school (Matos et al, 2016), or the fact that teachers may be themselves a source of problems in need for urgent action (Tomé, Matos, Camacho & Gomes, 2019).

In the period included in the present systematic review, the situation is similar: schools seem to be a relevant context to implement programs in the area of mental health and well-being promotion, and it is commonly accepted that whole -school programs are the most effective.

Literature reviews on the effectiveness of intervention programs is undermined or at least biased by the fact that most of the non-effective programs tend not to be published. Most of the interventions focused on students even if the recommendation was a whole school approach, which is a much more ambitious intervention design that most teams can't afford. Most of the programs lasted one year or less, when the previous recommendation was more than one year to allow for a change in the school culture.

It is strongly recommended to implement school-based intervention programs in the mental health area, with a long-term follow-up, an effective monitoring of the quality of its implementation (and adequate training of the intervention team). An effective multi-source evaluation of the intervention should be included, along with family sessions.

In the last five years, as a follow-up to less recent literature reviews, several authors (Pearson et al, 2012; Corrieri et al, 2013) pointed out the urge and relevance of interventions in the area of mental health promotion in schools. It is also quite plausible that most of the promotional programs are neither published nor adequately evaluated. This delays substantially the knowledge in these areas, even if it is generally agreed that it is difficult to fit the urges of the professionals in the field (a lot of work, low support and close to zero funding), and the requests for a quality scientific publication.

Two messages for the public policies: one is about cheering initiatives to design and implement mental health programs in school arenas and the other is about favouring the connection between professionals that undergo field interventions and researchers that can provide an adequate design, supervision, evaluation, data analysis and adequate dissemination.

References

Barry, M.M., Clarke, A.M., & Dowling, K. (2017). Promoting social and emotional wellbeing in schools. Health Education, 117(5), 434–451.

Barry, M. M., Clarke, A. M., Jenkins, R., & Patel, V. (2013). A systematic review of the effectiveness of mental health promotion interventions for young people in low and middle income countries. *BMC Public Health, 13*, 835. doi: 10.1186/1471-2458-13-835

Baskaran, M., Sekar, U., & Kokilavani, N. (2016). Pilot Study of Mental Health Programme on Promoting Mental Health Characteristics among Adolescents in PSG Schools, Coimbatore. *International Journal of Nursing Education, 8*(4), 161-161-166. doi:10.5958/0974-9357.2016.00145.8

Bjorklund, K., Liski, A., Samposalo, H., Lindblom, J., Hella, J., Huhtinen, H., Santalahti, P. (2014). "Together at school"--a school-based intervention program to promote socio-emotional skills and mental health in children: study protocol for a cluster randomized controlled trial. *BMC Public Health, 14*, 1042. doi: 10.1186/1471-2458-14-1042.

Cho, S. M., & Shin, Y. M. (2013). The promotion of mental health and the prevention of mental health problems in child and adolescent. *Korean J Pediatr, 56*(11), 459-464. doi:10.3345/kjp.2013.56.11.459.

Corrieri, S; Heider, D. Conrad I; Heller, S (2013) School-based prevention programs for depression and anxiety in adolescence: a systematic review. *Health Promotion International, 3*, 1-15.

Goldberg, J., Sklad, M., Elfrink, T., Schreurs, K., Bohlmeijer, E., & Clarke, A. (2019). Effectiveness of interventions adopting a whole school approach to enhancing social and emotional development: a meta-analysis. European Journal of Psychology of Education, 34, 755-782. doi: 10.1007/s10212-018-0406-9

Hudson, K., Lawton, R., & Hugh-Jones, S. (2020). Factors affecting the implementation of a whole school mindfulness program: a qualitative study using the consolidated framework for implementation research. *BMC Health Services Research, 20*(133). doi.org/10.1186/s12913-020-4942-z.

Jané-Llopis E.(2007). Mental health promotion: concepts and strategies for reaching the population. *Health Promot J Austr,18(3),*191-7.

Lhopis-Jané, E., Barry, M., Hosman, C. & Patel, V. (2005). What makes mental health promotion effective?. *IUHPE, Promotion and education supplement, 2,* 9-25.

Matos, MG (2019). *The dream teens: navigating life like a protagonist throughout adolescence.* Beau Bassin: Lambert Academic Publishing.

Matos, M. G., Camacho, I., Reis, M., Tomé, G., Branquinho, C. & Ramiro, L. (2017). Is truth in the eyes of the beholder? Or are Portuguese schools, as viewed by Portuguese pupils, mismatching with what the educational system offers? *Vulnerable Children and Youth Studies,* 1-11. doi: 10.1080/17450128.2017.1363447.

Matos, M. G., Gaspar, T., Ferreira, M., Tomé, G., Camacho, I., Reis, M., Melo, P., Simões, C., Machado, R., Ramiro, L., & Equipa Aventura Social (2012). Keeping a focus on self-regulation and competence: "find your own style", A school based program targeting at risk adolescents. *Journal of Cognitive and Behavioral Psychotherapies, 12(1),* 39-48.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. PLoS Med, 6(7), e1000097. doi: 10.1371/journal.pmed.1000097.

Pearson, M., Chilton, R., Woods, H., Wyatt, K., Ford, T., Abraham, C. & Anderson, R. (2012). Implementing health promotion in schools: protocol for a realist systematic review of research and experience in the United Kingdom (UK). *Systematic Reviews, 1*, 48. doi: 10.1186/2046-4053-148.

Stallard, P. (2013). School based interventions for depression and anxiety in children and adolescents. *Evid Based mental health, 16*, 60-61.

Tomé, G., Matos, M.G., Camacho, I., & Gomes, P. (2019). Promoting Wellbeing and Mental Health in Adolescents. *Cientific Journal of Neurology, 1(1),* 2-7.

World Health Organization (WHO). (1998). Health Promoting evaluation: recommendations for Policy-Makers, report of the WHO European Working Group on Health Promotion Evaluation. Copenhagen: WHO.

WHO (2013). Mental health action plan 2013-2020. Geneva: WHO http://apps.who.int/iris/bitstream/10665/89966/1/9789241506021_eng.pdf