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CHAPTER 3

Benefits of Intergenerational Programs for children and adolescents with mental disorders risk factors: An integrative review

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ABSTRACT

Intergenerational programs provide interaction opportunities between younger and older generations in activities that promote both physical and mental well-being for those involved. Proposals investing in these projects in favor of preventive actions for childhood and adolescence mental health have already revealed the potential contribution of these practices for mental care prevention in this period of life. In this sense, the objective of the current study is to identify possible benefits of intergenerational programs for children and adolescents vulnerable to the development of mental disorders, using for this purpose an integrative review of the literature, as it allows the inclusion of experimental and non-experimental studies, combining theoretical data and empirical literature, for an expanded and current understanding of the topic under analysis. By means of searching LILACS, Cochrane, PsycINFO, PubMed and Web of Science databases and using the life cycle approach to risk factors for mental disorders, 283 articles were identified, from which only three were included. The selected studies described intergenerational programs which had positive outcomes for children and adolescents involved, such as increased self-esteem, improved interpersonal relationships, lower stress and greater life satisfaction. Using scientific correlations from well-established research, such outcomes could be interpreted as benefits for the mental health of children and adolescents with mental disorders risk factors. Thus, the review proposes a new point of view to deepen studies in future research on the role that intergenerational programs can play in mental health prevention of pediatric population.

Keywords: Intergenerational relations, Child, Adolescent, Mental health, Mental disorders.

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INTRODUCTION

Intergenerational programs are a form of social action that provides opportunities for the exchange of resources and learning between younger and older generations, enabling the creation of meaningful relationships and the emotional and social growth of participants by influencing both individual self-esteem and the capacity to fully participate in society (Giraudeau & Bailly, 2019; Kaplan, 2001). This definition is in alignment with the *International Consortium for Intergenerational Programs*, which is an organization founded in 1999 in the Netherlands aiming to place together policymakers, academics and practitioners in order to promote intergenerational practice (Kaplan, 2001).

Based on the perspective that family generational synergy can be reproduced in social models, intergenerational programs often involve older adults supporting or serving young people; young people supporting or serving older adults; older adults and young people collaborating on behalf of the community; or older adults and young people in shared activities. The means of organization varies according to the purpose. Some projects have artistic or leisure activities, such as gardening, music, reading, conversations and games. Others aim for educational purposes, such as developing academic knowledge and skills or promoting positive psychosocial changes in attitudes between generations. There are also health-related programs with the purpose of encouraging physical activities and/or improving the quality of life of participants (Giraudeau & Bailly, 2019).

The most common model of program is characterized by interaction with school-age children (Giraudeau & Bailly, 2019). An example is the *Project Together Old and Young – TOY*, which was developed between 2012 and 2014 in seven European Union countries: Ireland, Italy, Slovenia, Spain, the Netherlands, Poland and Portugal (TOY, 2016). The purpose of the initiative was to promote intergenerational learning among children aged zero to eight and the elderly in spaces such as bookstores, cultural and artistic centers, community gardens and schools. The project led way to the global movement *TOY Program,* with the objective to extend intergenerational learning activities to disadvantaged and segregated communities due to the benefits obtained from the project, such as improved feelings of well-being, reduced loneliness and greater social cohesion (TOY, 2016).

Regarding the benefits of intergenerational programs, it is worth highlighting a review published in 2015 about the effectiveness of the economic aspects of these initiatives in relation to the academic performance and psychosocial outcomes of children and young people (La Park, 2015). The study was conducted by La Park (2015) and covered the period between 1986 and mid-2014, analyzing 11 articles with interventions that took place in the United States of America (USA), Brazil and Canada. These studies were based on Randomized Clinical Trials (RCT), non-randomized and observational trials. La Park (2015) noted psychological and social outcomes for child and youth population: lower anxiety, greater self-esteem, improved communication skills and reduced social

distance in relationships between family and non-family members (La Park, 2015).

Additionally, a research project conducted by the University of New Mexico uncovers a new perspective for intergenerational initiatives regarding child and youth mental health by associating an action targeting local indigenous young people, *Zero Suicide*, with an intergenerational program called KICKS – *Katishtya Intergenerational Culture Knowledge Seminars* (Altschul & Fink, 2019). The goal of this project is to address risk factors related to the high rate of suicide among the local young indigenous American population, through intergenerational cultural teachings that provides opportunity to promote resilience among the young people involved. The reason for this is that resilience constitutes an important component of preventive actions in mental health, since it includes internal and external protective factors, in addition to emotional stability (Altschul & Fink, 2019).

Attempting to understand the data that reflects the current scenario of child and youth mental health, it is possible to highlight in the *Guidelines on mental health promotive and preventive interventions for adolescents: helping adolescents thrive*, published by the World Health Organization (WHO) in 2020, that the main cause of disability in young people is associated with mental disorders, with up to 50% of these problems starting before the age of 14 (WHO, 2020). In addition, the *United Nations International Children's Emergency Fund* (UNICEF), in a 2021 publication entitled *The State of the World's Children 2021; On My Mind: promoting, protecting and caring for children's mental health*, reinforces that mental health conditions and lack of care remain the most significant source of suffering for children and young people (UNICEF, 2021).

In this report, UNICEF (2021) comments that although 90% of the global adolescent population lives in low and middle-income countries, data on child mental health at these regions only covers around 2% of the group, which challenges obtaining accurate global estimative regarding issues associated with mental health, as well as makes the implementation of appropriate policies and programs to protect children and assist adolescents more difficult. This fact is due to the importance of data on prevalence, risk and protective factors for such planning. Nevertheless, UNICEF (2021) unravels some estimates regarding the global prevalence of mental disorders and suicide among adolescents. In 2019, the prevalence of mental disorders was 13,5% for boys and 11,2% for girls aged ten to 14; increasing to 14,1% and 13,9%, respectively, for young people aged 15 to 19. Concerning the issue of suicide, it was identified as the fifth most prevalent cause of death in the group aged ten to 19 and the fourth most prevalent in the group aged 15 to 19 (UNICEF, 2021).

The impact of the most recent scenario from coronavirus COVID-19 pandemic was also covered by UNICEF (2021). It was pointed out that although COVID-19 pandemic led to more discussions around the mental health of a generation of children, the associated repercussions perhaps have represented just the tip of an iceberg for long neglected (UNICEF, 2021). Furthermore,

a systematic review on the impact of the pandemic on children and adolescent mental health revealed that the most observed symptoms during this period included anxiety, depression, loneliness, stress and tension, standing out among these the importance of positive coping strategies with family and social support in order to achieve better outcomes (Theberath et al., 2022).

Considering the outlined setting and recognizing the potential contribution of intergenerational programs to the pediatric population mental health care, as well as the possible impact that its in-depth study may have on prevention strategies for this group, it is possible to note the relevance of grounding the thesis that intergenerational programs can present positive and meaningful outcomes for children and adolescents who exhibit risk factors for mental disorders. For that, it is essential to determine which factors symbolizes risks for the development of mental health problems.

The proposed life cycle approach to risk factors for mental disorders in childhood and adolescence present in Kieling et al. (2011) proves to be useful. The study analyzed the scenario of global evidence on child and youth mental health at the areas of epidemiology, intervention and implementation strategies in low resource contexts, considering the importance of assessing mental health problems and associated risk and protective factors in low and middle-income countries, as they are home to the majority of child and youth population (Kieling et al., 2011; UNICEF, 2021). Moreover, the research pointed out that the life cycle approach provides opportunity to build a model capable of mapping relevant risk factors in a chronological order that begins at the period prior to conception and follow until the next generation (Kieling et al., 2011).

In this model, risks with incidence throughout life are represented at the center and comprehend questions such as: genetics; physical health problems and nutritional status of the child; physical and mental health of caregivers; loss of caregivers or orphanhood; growth within an institution; precariousness of psychosocial and educational environments; exposure to harmful substances and toxins; violence; armed conflicts and wars; forced displacement; immigrant status; natural disasters; gender disparities; severe physical punishment; and abuse or neglect. Surrounding these risks are those specific to each age, typical of each stage of life: the pre-conception period; the pre-natal and perinatal periods; childhood; and school period (Kieling et al., 2011).

Based on the approach portrayed in Kieling et al. (2011), it is possible to more easily identify the intergenerational projects that include among their participants the pediatric population with the risk profile for mental disorders, according to each age group and period of life, in order to highlight the positive effects of these programs that can be interpreted as benefits for the mental health of children and adolescents (Kieling et al., 2011). Therefore, the objective of the current study is to identify possible benefits of intergenerational programs for children and adolescents vulnerable to the development of mental disorders, using for this purpose an integrative review of the literature, as

it allows the inclusion of experimental and non-experimental studies, combining theoretical data and empirical literature, for an expanded and current understanding of the topic under analysis (M. T. De Souza et al., 2010).

METHODOLOGY

An integrative review of the literature was conducted, following the six stages proposed by Botelho et al. (2011). The stages included: elaborating the research question and choosing the databases and descriptors; determining the inclusion and exclusion criteria and searching the databases; building the search strategy flow diagram to detect the pre-selected and selected records; categorizing the selected articles in the synthesis matrix for a methodological data analysis and subsequent interpretation of results; discussing the results; writing the conclusion and final considerations and presenting the work in a scientific paper (Botelho et al., 2011).

As a resource for elaborating the research question, for the definition of inclusion and exclusion criteria and for the analysis of evidence levels from the selected studies, it was used the instrument associated with Evidence-Based Practice (EBP), which is present in the book *Johns Hopkins evidence-based practice for nurses and healthcare professionals: Model and guidelines* (Dang et al., 2022). Access to the electronic *form appendices was requested through the Copyright Permission Form* at the online address of the *Institute for Johns Hopkins Nursing* (IJHN, 2022).

FORMULATION OF THE RESEARCH QUESTION

In the first stage, the research question was elaborated clearly and precisely, based on the defined theme. The Johns Hopkins EBP instrument was used (Dang et al., 2022). This tool proposes to use PICO strategy for developing the question and search terms: P for patient, population or problem; I for intervention; C for comparison; and O for outcomes (Dang et al., 2022). As the current work aims to understand the state of the art of the topic under study, the question outlined is considered in accordance with what the Johns Hopkins tool proposes: a “background question” and, therefore, the non-inclusion of search term C, which would more appropriated for studies with a “foreground question”. Based on that, the question was formulated: “What are the benefits of intergenerational programs for children and adolescents with mental disorders risk factors?”. For search term P, the match was “children and adolescents with mental disorders risk factors”; for I, “intergenerational programs”; and for O, “benefits”.

Once the question was assembled, the descriptors and databases were chosen. Databases included: LILACS, Cochrane, PsycINFO, PubMed and Web of Science. To establish the descriptors, John Hopkins EBP tool suggests its selection from PICO elements (Dang et al., 2022). Thus, the descriptors were initially formed based on element P, which is “children and adolescents with mental

disorders risk factors"; and element I, which is "intergenerational programs". As the risk factors used as parameters in this review come from a specific study, they were included as inclusion criteria and not as descriptors, and therefore are described in the criteria development stage.

Based on the search for PubMed indexed terms beginning with "*intergenerational*", it was possible to identify the following terms applied with truncation operators: *"intergenerational activit*", "intergenerational practice*", "intergenerational project*", "intergenerational initiative*", "intergenerational experience*", "intergenerational intervention*", "intergenerational volunteer*", "intergenerational mentoring"* e *"intergenerational learning"*. It is also worth considering that the Descriptors in Health Sciences/Medical Subject Headings (DeCS/MeSH) related to the term "*intergenerational*" were researched as well, from what the DeCS/MeSH "*intergenerational relations/ethnology*" was selected.

Regarding the descriptors originated from PICO elements "children" and "adolescents", the used DeCS/MeSH terms were "child" and "adolescent". Qualifiers were not used in order to widen search possibilities among the articles that addressed intergenerational projects. Also, for this reason, the choice of terms in addition to the mentioned DeCS/MeSH was considered relating to the possible denominations of the age group of interest in the current review, having the following descriptors been selected: *"infant*", "toddler*", "preschool*", "school*", "child*", "adolescent*", "teen*" e "youth*"*. The targeted age range was under 19 years old (up to 18 years and 11 months) and is better explained in the inclusion criteria stage.

INCLUSION AND EXCLUSION CRITERIA

In the second stage, the inclusion and exclusion criteria were established and the databases search was conducted. The inclusion criteria were: period of publication between 2011 and 2021; language of articles be in English, Spanish or Portuguese; studies that evaluated a specific intergenerational program between a non-family older person and a child and/or adolescent; children and/or adolescents under 19 years old (up to 18 years and 11 months); presence of at least one risk factor for mental disorders in the children and adolescents involved in the programs, considering as risk factors those focused on the life cycle approach portrayed by Kieling et al. (2011); studies that aimed to include the evaluation of the impact of intergenerational programs on children and/or adolescents; studies in which family members, staff, social workers, caregivers, nurses, school or daycare teachers, volunteers or others participated only as facilitators or evaluators/informants of the interaction; studies in which the older person was within the WHO classification for elderly (Machado, 2022); and articles in which at least one of the researchers would be from the healthcare field, considering that this review proposal is to direct the conclusions to the work of mental healthcare professionals specialized in childhood and adolescence.

The age range criterion for young participants was determined based on WHO definitions of children and adolescents. These designations are, respectively: a person under 18 years old (definition adopted by the *Convention on the Rights of the Child*); and a person between ten and 19 years old (WHO, 2024). This reference was adopted in order to universalize the standard of analysis, since the designation of each one of these ages varies according to the legal specifications of each country, fact that also implies differences in the age group considered as pediatric in each location. It is also worth noting that although WHO defines other age groups in addition to those already mentioned, such as "youth", between 15 and 24 years old (WHO, 2024), this concept was not considered in the review. Nonetheless, as it is an alternative term for "adolescent", DeCS/MeSH "youth" was adopted as a descriptor.

Regarding the inclusion criteria, the established ones were: studies in which relationships associated with family were the main focus; themes other than non-family intergenerational relationships within a specific intergenerational program; those that did not specify the young participants age or only provided the mean age value, without the standard deviation; studies whose young participants were over 19 years old; those involving participants in the main interaction other than non-family adults classified as older people and facilitators or evaluators/ informants of the program; those whose objectives were other than the effects on young participants; studies that did not involve the risk factors for the development of mental disorders portrayed in Kieling et al. (2011); those that did not specify results for the group of interest; those that involved older people under 60 years old; studies in which the age groups within the program were divided into different groups; and articles that did not involve any healthcare researcher.

Thus, in general, the following descriptors and Boolean operators were used:

(*"intergenerational program*" OR "intergenerational activit*" OR "intergenerational practice*" OR "intergenerational project*" OR "intergenerational initiative*" OR "intergenerational experience*" OR "intergenerational intervention*" OR "intergenerational volunteer*" OR "intergenerational mentoring" OR "intergenerational learning" OR "intergenerational relations/ethnology"[MeSH]) AND ("child"[MeSH] OR "adolescent"[MeSH] OR infant* OR toddler* OR preschool* OR school* OR child* OR adolescent* OR teen* OR youth*) AND ("older adult*" OR elder* OR senior* OR retired* OR resident* OR aged*) NOT (famil* OR parent* OR mother* OR father* OR maternal* OR paternal* OR filial* OR offspring* OR son OR daughter* OR sibling* OR brother* OR sister* OR relative* OR spouse* OR marriage*) NOT ("intergenerational mobilit*" OR "intergenerational social mobilit*" OR "intergenerational transfer*" OR "transgenerational*"*)

SEARCH STRATEGIES

The third stage consisted of screening the studies by title, abstract and full text, based on the inclusion and exclusion criteria. To organize the screening process, a search strategy flow diagram was created based on PRISMA 2020 (Page et al., 2021). This choice was made due to PRISMA 2020 be the more up to date one. Furthermore, according to *The PRISMA 2020 statement: an updated guideline for reporting systematic reviews*, the referred PRISMA replaces the previous one, from 2009, and the guidance is that the latter should no longer be used (Page et al., 2021). Although PRISMA flow diagram was created for systematic reviews, several integrative reviews have already used of this instrument, adapting it to the search structure. Thus, PRISMA 2020 was adapted for the current study.

SYNTHESIS MATRIX

Subsequently, in the fourth stage, the John Hopkins EBP tool (Dang et al. 2022) was used in order to identify the level of evidence and quality classification of the included studies. Also at this stage, the synthesis matrix was created, which constitutes an important tool for enabling the analysis of each article at a methodological and outcomes level (Botelho et al., 2011). The parameters used for its elaboration were obtained from a broad collection of data on: title; publication periodic; year of publication; database in which the article was found; publication language; country in which the study took place; area of professional activity of the researchers; objective(s) of the study; study design; type of methodological approach; method of data collection and analysis; participants sample and their characteristics (such as quantity, age, sex, health status and inclusion and exclusion criteria of subjects); purpose of the program; place of implementation of the project; quality of activities and interactions (types of activities, number, frequency and length); findings on the children and adolescents participants; and researchers' considerations.

DATA ANALYSIS

In the fifth and penultimate stage, the results from studies were discussed, aiming a better comprehension of how the benefits of intergenerational programs for the pediatric population with the mental disorders risk factors identified in the literature can be interpreted as positive mental health outcomes.

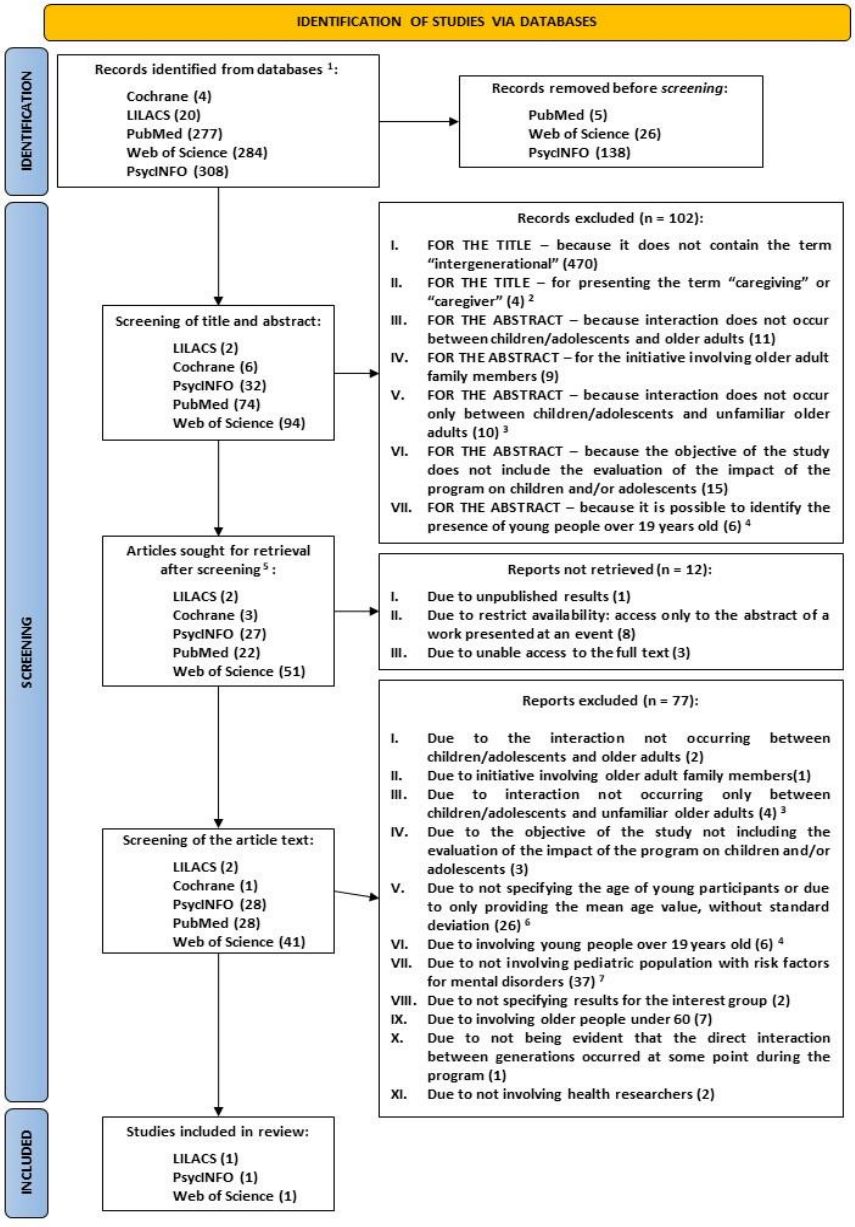
CONCLUSION OF THE REVIEW

Finally, the sixth and final stage consisted of writing the final considerations.

RESULTS

From the search in databases with descriptors, Boolean operators and year and language filters, 283 records were identified. After removing duplicates and screening by title, abstract and full text based on the established inclusion and exclusion criteria, only three studies were considered for analysis of the results, according to the adapted PRISMA 2020 flow diagram portrayed in the following Figure 1.

Figure 1 – Flow diagram of studies selection.



[1]The search was conducted using the Boolean descriptors and operators that best met the inclusion and exclusion criteria.

[2]Studies with themes other than non-family intergenerational relationships within a specific program were excluded.

[3]Studies that involved family members, staff, social workers, caregivers, nurses, school or daycare teachers, volunteers, or others acting as facilitators or evaluators/informants of the interaction were considered suitable for inclusion.

[4] Over 19 years of age, in this review, refers to people over 18 years and 11 months.

[5]"Reports sought for retrieval" is the stage of checking the availability of the full text.

[6]Studies that did not specify or only provided the average age (without standard deviation) were not considered.

[7]Risk factors for mental disorders were based on the life cycle approach portrayed in Kieling et al. (2011).

Source: Adapted from PRISMA (2020).

Despite ten studies had involved children and adolescents under 19 years of age (up to 18 years and 11 months) and presented risk factors for mental disorders development, four of them did not specify the older people age or had, among the older adults, individuals under 60 years of age. Furthermore, among the six remaining articles, only four included at least one healthcare professional and, among these, one separated the age groups into different interaction teams during the program. Finally, only three studies have fully met the eligibility criteria.

Sequentially, Table 1 summarizes some of the parameters used to elaborate the synthesis matrix of the three included articles.

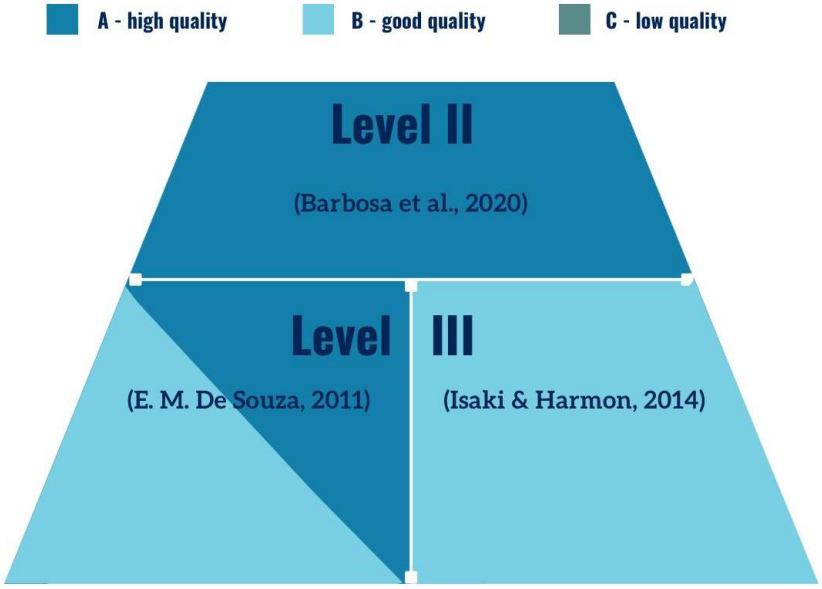
Table 1 – Synthesis matrix summary, with characterization of the study title, year and country of publication, professional category of authors, objective of the intergenerational program, profile of the participants sample and quality of activities and interactions.

Title	Year/ country of publication/ Professional category of authors	Objective of the intergenerational program	Profile of participants sample	Quality of activities and interactions
Intergenerational integration, social capital and health: a theoretical framework and results from a qualitative study	2011 Brazil Medicine	Promote intergenerational interaction between adolescents and elderly people through reminiscence processes (memory activation).	The adolescents involved aged 12 to 18 years old and belonged to five classes from the 7th and 8th grades of high school, with each class having an average of 23 students; the elderly were 32 in total and aged 60 years old or over.	Activities aimed to activate memories and included interviews, photographs and old objects. In each session there were discussions of topics, workshops and joint celebrations. Meetings lasted around two hours, weekly, with an average of 14 sessions, between July and November of 2002.
Children and Adults Reading Interactively: The Social Benefits of an Exploratory Intergenerational Program	2014 EUA Audiology and Speech-Language Pathology	Encourage engagement and support the development of children's language and reading skills through shared reading with older adults and story retellings.	There were 12 children in total, five girls and seven boys, aged eight to 11, and had difficulties in academic performance associated with language and reading. There were six elderly participants in total, institutionalized, between 72 and 88 years old; diagnosed with mild dementia or mild cognitive impairment, but able to read and communicate verbally. A postgraduate student clinician in Speech-language pathology acted as a facilitator of the interaction.	The meetings were within a weekly frequency and occurred in the assisted living facility. The entire project length was eight weeks and each session lasted 45 minutes. Participants were divided into three groups with one elderly person, two children and one postgraduate student clinician in each. Eight narrative storybooks were selected based on themes of interest to school-age children and having an engaging content. Eight images were selected from each book to facilitate temporal sequence in the moments of retelling the stories. To encourage conversation, a weekly artistic activity was also implemented in association with the story or an upcoming holiday.
"Give and Receive": The Impact of an Intergenerational Program on Institutionalized Children and Older Adults	2020 Portugal Psychology	Promote interaction between institutionalized children and elderly by reading an excerpt from the book "*The Little Prince*", by Antoine de Saint-Exupéry.	There were 12 boys, six in the intervention group, six in the control one; between seven and 11 years old in the intervention group and between six and 11 years old in the control. Children unable to participate due to schedule incompatibility remained in control group. The elderly were women; also lived in an institution; ages varied between 75 and 87 in the intervention group and between 72 and 90 in the control one, with six elderly women in each. The conditions for participating were: being institutionalized, having high levels of loneliness and weak social networks.	The program was conducted during the year of 2015, with monthly two-hour meetings. The sessions took place in the elderly women's own institution, as well as in unusual spaces for both participants. There were 12 meetings in total and the highlight of each session was an excerpt from the book "*The Little Prince*". The activities were based on Erikson's Theory of Psychosocial Development and the topics covered included: tame; positivity; emotions; sharing; care giving; gratitude; representations of youth/old age; affections; integrity; happiness; and friendship, which was the farewell integration.

Source: Self-Authored.

Regarding the assessment of evidence level and quality classification for each article using the John Hopkins EBP tool, it was possible to identify the hierarchy outlined in the following Figure 2: level III and classification A/B, of high/good quality, for the study of E. M. De Souza (2011); level III and classification B, of good quality, for the article of Isaki and Harmon (2014); and level II and classification A, of high quality, for the article of Barbosa et al. (2020).

Figure 2 - Schematization of evidence levels and quality classification for each article.



Source: Self-Authored.

THE PROJECT WITH THE ADOLESCENTS FROM CEILÂNDIA

The inclusion of the study conducted by E. M. De Souza (2011) was possible due to the identification of some risk factors for the development of mental disorders in the adolescents involved in the program. The observed risk factors were: “exposure to violence”, “family problems”, “academic difficulties” and “deficiencies in the psychosocial environment”.

The project took place in a high school in the city of Ceilândia, which corresponds to an administrative region of the Federal District, in Brazil. According to the researcher, it was a low-income urban area with conditions that could predispose the local population to low levels of interaction, reflecting a demand for interventions that would promote social cohesion. (E. M. De Souza, 2011).

The program lasted from July to November 2002. The adolescents involved aged 12 to 18 years old and belonged to five classes from the 7th and 8th grades of high school, with each class having an average of 23 students; the elderly were 32 in total and aged 60 years old or over. All participants were randomly selected. Meetings lasted around two hours, weekly, with an average of 14 sessions. Each group had approximately ten adolescents and two elders. Activities aimed to

activate memories and included interviews, photographs and old objects. In each session there were discussions of topics, workshops and joint celebrations (E. M. De Souza, 2011).

The evaluation method used was the focus groups of study one. Carried out at the referred school, the focus groups were 14 in total. Ten were conducted with the adolescents and four with the elderly. The adolescents' group was made up of five girls and five boys, with an average of nine participants in each. The groups addressed the influence of the project on life aspects of participants, such as: health, family relationships, trust in others and norms of reciprocity. Each group had a facilitator and an observer, who was also responsible for transcribing the tape recordings. Therefore, observations were noted and preliminary codes were created, with quotes to illustrate results. As a study validation strategy, E. M. De Souza (2011) used the triangulation method.

Based on the results obtained, five main themes were elaborated: what was the impression of the project; what was the impact on family relationships; what were the effects on health status; what were the cognitive components of social capital; and which people and institutions would the participants recommend the project to. As the group of interest for the current review is the pediatric population, only findings considered as beneficial to this group were highlighted. (E. M. De Souza, 2011).

With regard to the adolescents' impression on the project, the answers were about the perceived opportunities for self-expression and mutual learning, as well as learning about the past and about respect for elders. (E. M. De Souza, 2011).

Concerning the perceived effects on family relationships, adolescents reported a better understanding of their parents and grandparents, valuing them more and accepting their opinions. The adolescents also recognized the insufficient importance they gave to their own lives, starting to feel fortunate after the project for being able to access schools and amenities considered rare in the past (E. M. De Souza, 2011).

On the subject of health status, the adolescents mentioned that the dialogue with the elderly and the resulting reflections made them feel joyful, less shy and less stressed about school, family and financial issues. The changes in terms of better understanding of reality and the psychological strengthening of adolescents were also significant, especially with regard to awareness of personal value (self-worth) (E. M. De Souza, 2011).

Regarding the cognitive components of social capital, E. M. De Souza (2011) noticed few changes on the adolescents' perspective in terms of trusting people outside of family. The researcher highlighted that it was possible to observe the existence of fixed beliefs in this regard, such as distrust in friends when it came to money. For reciprocity names, however, a strengthening was noticed with young people becoming more friendly, especially with parents, grandparents and elderly

people. Regarding reciprocity, mutual respect and understanding were observed. (E. M. De Souza, 2011).

In the matter of recommending the project to other people and institutions, the young participants showed interest in suggesting it to the elderly, believing it could help them feel useful. The adolescents also recommended the program for young people, especially for the development of activities aiming the prevention of delinquency and drug abuse. This is because the adolescents imagined that young offenders, upon hearing the stories of the elderly, would be inspired by their examples, comparing the conditions older people used to live in with their own lives. The recommendation was also oriented to parents, believing these ones would become more understanding and respectful of their children, also learning to express themselves when discussing sensitive issues. Finally, they suggested the implementation of this type of initiative in orphanages, considering the potential of the interaction with elderly in alleviating feelings of abandonment and establishing family ties, an experience that the young participants themselves lived (E. M. De Souza, 2011).

CARI PROGRAM: READING TO DEVELOP

Regarding the study by Isaki and Harmon (2014), contextualized in the USA, the risk factor for mental disorders in childhood and adolescence identified was “academic difficulties”. According to the information collected, the intergenerational program young participants profile was school-age children whose performance did not correspond to the designated grade, in terms of language or reading skills. In this sense, thinking about the challenges in interpersonal relationships of students with language deficits, the researchers developed the CARI project – *Children and Adults Reading Interactively*, with the aim of harnessing the potential of shared reading with story retelling to encourage interaction between two different groups, so that children's language and reading skills could be nourished (Isaki & Harmon, 2014).

The young participants were 12 in total, five girls and seven boys, aged eight to 11 years old. The selection method to include them in the study occurred based on the teachers' opinion regarding the children’s academic performance in terms of language and reading, with no prior formal assessments nor special educational support. Thus, the researchers limited themselves only to the subjective considerations of the participants’ teachers. The difficulties described were: hesitation in communicating or reading; restricted reading fluency skills; aversion to the process of reading aloud; difficulty retelling parts of a story; and challenges related to the ability to answer questions linked to what was read (Isaki & Harmon, 2014).

There were six elderly participants, between 72 and 88 years old, diagnosed with mild dementia or mild cognitive impairment, according to data provided to the researchers. Cognitive

deficits were one of the reasons for including the elderly in the program, and it was also taken into consideration the condition of residency in an assisted living institution with few opportunities for interaction. All the elderly were able to read and communicate verbally, reveal humor in conversations and form non-verbal facial expressions. No inappropriate social behaviors were observed. There were mobility restrictions for this group (Isaki & Harmon, 2014).

The meetings were within a weekly frequency and occurred in the assisted living facility. The entire project length was eight weeks and each session lasted 45 minutes. The participants were divided into three groups, each consisting of an elder, two children and a postgraduate student in Speech-language pathology. This postgraduate student participation was limited to acting as the interaction facilitator, being responsible for discussing new vocabulary, repeating comments and questions asked by the elderly to the children, and formulating questions that would engage all members of the group in answering. In addition, the postgraduate also had the role of reading the book in advance, as soon as the children arrived, in order to reduce any anxiety when reading with the elderly (Isaki & Harmon, 2014).

With regards to the details of the activities developed, eight narrative storybooks were selected based on themes of interest to school-age children and having an engaging content, as well as temporal sequence and high word frequency. The books were below the students' school level, so that interest in reading would be more feasible. Moreover, eight images were selected from each book to facilitate temporal sequence in the moments of retelling the stories. Additionally, a weekly artistic activity associated with reading the story or an upcoming holiday was implemented. The objective of this activity was to stimulate conversation between the child, the elderly and the facilitator. (Isaki & Harmon, 2014).

As for the evaluation method, considering the interest group of the current review, only the process of analyzing the children was highlighted. For this process, a scale on the perception of older people applied using questions selected from Section III of *Children's Views on Aging* (CVoA). Additionally, the five-point *Likert scale* was employed to define changes in children's perception. Teachers' reports on possible changes in children's reading behavior in classroom after the end of the program were also considered. Furthermore, during the project, comments and observations from the children and the elderly were collected (Isaki & Harmon, 2014).

The answers to the questions selected on Section III of CVoA were converted into scores from one to five, with one being “very negative” and five being “very positive”. The aspects described were more positive. In addition, a two-tailed t-test indicated significant findings for CVoA scores before and after the program. Regarding the feedback from teachers, months after the project it was possible to observe that the children became more confident readers. Parents also reported positive

feelings about their children's experience in the program, having noticed a change in hesitation when reading (Isaki & Harmon, 2014).

Some observations highlighted by Isaki and Harmon (2014) included: greater eye-to-eye contact between the children and the elderly; increase in questions asked by children to the elderly over time; children holding the older participants hands during conversations; and hugs at the end of several sessions. According to the researchers, as the program progressed, the children began to feel more comfortable with the elderly, and several positive comments were noted (Isaki & Harmon, 2014).

From the researchers' perspective, the data resulting from the study suggested that the use of intergenerational initiatives for therapeutic purposes with two populations with communication disorders is viable. For the children involved, the interaction provided the opportunity to practice reading and retelling stories in a free environment, with no pressure or judgment, condition that impacted their attitudes towards the elderly with cognitive deficits (Isaki & Harmon, 2014).

Although data were not collected to evaluate the project effect on each child in terms of reading and language performance, clinicians and supervisors noticed an increase in the confidence when reading aloud and retelling stories. Such perception was reinforced by comments from parents and teachers, and the reduction in children's hesitation and aversion to reading experiences was also highlighted (Isaki & Harmon, 2014).

INTERACTING WITH "THE LITTLE PRINCE"

The risk factors for the development of mental disorders in childhood and adolescence observed in Barbosa et al. (2020) were: "family dysfunction", "exposure to neglect", "loss of carers or being orphaned", "being raised in institutions" and "deficiencies in the psychosocial environment".

In the program studied by Barbosa et al. (2020), the youngest participants were children with a family history of: parents with risky behaviors; parents considered unfit to educate their children; or deceased parents. For these reasons, all the children lived in a charity institution located in a city in the north of Portugal. The legal guardian (tutor) of these children was, in this case, a psychologist. The purpose of the tutor's work was to ensure the education and integral development of the assisted child, enabling access to school and medical care, for example (Barbosa et al., 2020).

Thus, the program was conducted with the children from the referred institution, being a total of 12 boys: six in the intervention group; six in the control one. The age range varied from seven to 11 years old in the intervention group and from six to 11 years old in the control group. The control group included children who were unable to participate in the program due to scheduling incompatibility. The interaction was established with a group of elderly women, also in special

conditions regarding their living place, since all of them also lived in an institution in north of Portugal. Ages ranged between 75 and 87 years old in the intervention group and between 72 and 90 years old in the control group, with six elderly women in each one. The conditions for participating were: being institutionalized, having high levels of loneliness and weak social networks (Barbosa et al., 2020).

The program was conducted during the year of 2015, with monthly two-hour meetings. The sessions took place in the elderly women's own institution, as well as in unusual spaces for both participants. There were 12 meetings in total and the highlight of each session was an excerpt from the book "*The Little Prince*", by Antoine de Saint-Exupéry. The book was used in order to nurture the importance of building meaningful bonds between people (Barbosa et al., 2020).

The activities developed were based on Erikson's Theory of Psychosocial Development. The researchers used this theoretical model considering the possibility of evaluating the development throughout the life cycle, so that both childhood and senescence could be analyzed. Activity themes included: tame; positivity; emotions; sharing; care giving; gratitude; representations of youth and old age; affections; integrity; happiness; and friendship, being this last one the integration for the farewell (Barbosa et al., 2020).

The evaluation method employed in the study was a mixed approach – quantitative and qualitative – and sequential one. A pre-test/post-test quasi-experimental design with a non-equivalent control group was used. The select of most similar groups possible was preferred, in order to fairly compare the experimental part with the control one. Thus, the levels of self-esteem, loneliness, depression and happiness in boys and elderly women were measured. Quantitative measures of self-esteem and happiness were estimated from scales applied to both age groups: the *Rosenberg scale* and the *Subjective Happiness Scale*, respectively. Concerning depression and loneliness, these were analyzed separately, with different instruments, adapted to the specificities of each generation: the *Childhood Depression Inventory* and the *Loneliness Scale* (Barbosa et al., 2020).

Findings regarding the children in the first assessment did not indicate significant statistical differences for the considered variables. Regarding the lack of statistical power for some results due to the small sample size, researchers concluded that the groups (control and intervention ones) were similar in the pre-intervention phase. In the last meeting evaluation, the *Mann-Whitney U Test* showed no statistically significant differences between the groups for loneliness, depression, happiness and self-esteem after the intervention. The researchers again justified these outcomes due to the small sample size and the consequent low statistical power of the values, concluding that the measure considered most relevant for analysis was the effect size r. Therefore, the most relevant score was obtained for self-esteem, which showed a large effect size. Given these results, researchers

considered that the short period between assessments may have been insufficient to detect deeper changes (Barbosa et al., 2020).

For the qualitative analysis, in addition to examining the field notes during research, two focus groups were conducted: one among the children and other among the elderly. The groups took place one month after the end of the program, in each of the institutions, lasting around 45 minutes for the children's group. Two semi-structured interviews were also conducted with a psychologist from the children's institution and a social worker from the elderly facility, lasting approximately one hour. Both focus groups and interviews were recorded and transcribed. The procedure used for such evaluation was the content analysis technique, with systematic coding and subsequent comparison of codes/themes for each classification/coder. (Barbosa et al., 2020).

The researchers' aim was to verify the subjective impact of the project on participants, using the following questions: "How would you describe the impact of this program?" and "What were the main difficulties/challenges you experienced?" Regarding the first one, all participants evaluated the initiative positively. Affects were highlighted as important, with more visible affective displays. According to the technicians at the children's institution, one of the most obvious signs for the children was a photo of "my old" in their rooms, showing the emotional bond that was built. Regarding the second question, researchers highlighted that the involvement of institutionalized people represented a challenge in planning and implementing the program (Barbosa et al., 2020).

DISCUSSION

In order to contextualize the current study proposal, some interpretations of the data collected are worth highlighting. In this sense, regarding the countries in which the research was conducted, it is important to state the fact that, despite these countries having medium-high income and high income (World Bank, 2024), some of the projects carried out took place in regions with socioeconomic disadvantage. Considering this, it can be highlighted that the analysis of such contexts from the life cycle approach to risk factors was useful. This is because, although the study by Kieling et al. (2011) focused on the reality of low and middle-income countries, low-resource regions of high-income countries were also regarded. Thus, it is expected that the analysis applied to the studies is at least partially aligned with the reality of children and adolescents at risk in the world, providing an opportunity to understand how intergenerational programs can help in the promotion and prevention of mental health.

Concerning the risk factors for the development of mental disorders in childhood and adolescence, it was possible to observe that the most frequent included: "deficiencies in the psychosocial environment", "family problems" or "family dysfunction" and "academic difficulties". An article on the relationship between psychosocial stressors and the prognosis of major depressive

disorder, by Gilman et al. (2012), the characterization of a psychosocial or environmental problem is noted: a negative event that happened in a person's life; an environmental difficulty or deficiency; stress in interpersonal relationships, whether family or other social relationships; inadequacy of social support or personal resources; or other problem associated with the context in which a person's difficulties developed. These problems may play a role in the genesis or exacerbation of a mental disorder (Gilman et al., 2012).

Another study, by Grazuleviciene et al. (2017), on the impact of psychosocial environment on the emotional and behavioral difficulties of young children, it was observed that the psychosocial environment in early childhood has an influence on health and well-being, and may be significantly relevant in the development of such difficulties in the future. Factors as family socioeconomic status and parental stress can also impact (Grazuleviciene et al., 2017). In this sense, it is possible to understand how family problems and dysfunctions can affect children's mental health.

The family environment, according to the aforementioned study (Grazuleviciene et al., 2017), has a significant role on the development of behavioral difficulties in children. There is some evidence that repercussions of stressful behavior from parents on children's mental health may be associated with biological components through the secretion of stress hormones and genetic sensitivity. Stress and unfavorable environmental exposures can trigger epigenetic changes, resulting in modification of metabolic pathways involved in the etiology of chronic diseases (Grazuleviciene et al., 2017).

Regarding the influence of academic difficulties, an article by Dias and Seabra (2020), entitled *Mental health, cognition and academic performance in the 1st year of elementary education*, when referencing other studies, sheds more light on the relationship between academic difficulties and mental health. Authors mention that the simultaneous occurrence of behavioral problems and learning difficulties seems to be common and, as an example, make a reference to another study that reveals, among a group of children referred for care due to learning difficulties, two thirds had emotional and/or associated behaviors. The authors also emphasize that the occurrence of low academic performance and behavioral problems exposes children to a situation of psychosocial risk, leading to a worse prognosis and greater frequency of comorbidity with psychiatric disorders (Dias & Seabra, 2020).

BENEFITS TO CHILDREN AND ADOLESCENTS' MENTAL HEALTH

It is possible to note that the studies' results included in this review add to previous findings from works that did not aim at the proposal currently outlined.

The study by La Park (2015), for example, already discussed the benefits of intergenerational programs for the mental health of children and adolescents (La Park, 2015). However, it is worth

adding that, observing La Park (2015) analyzes from the perspective of risk factors addressed from the life cycle approach, it is possible to perceive positive mental health outcomes for the pediatric population with risk factors, although these have not been identified in that way. This is because La Park (2015) describes some programs that, under the interpretation of the current review, denote such peculiarities.

One of the projects analyzed by La Park (2015) involved young African-Americans aged 12 to 17 years old with emotional and behavioral problems and presented positive results such as: group cohesion, transmission of interpersonal skills, hope and altruism. Another initiative, also in the USA, had significant repercussions on the level of anxiety of children, who had inadequate social skills and low self-esteem, increasing the risk of academic failure (La Park, 2015).

Therefore, to understand this new perspective, it is important to correlate results of the current review with already proven benefits for children and adolescents' mental health. In this sense, it was possible to find evidence in Psychiatry and Psychology literature, especially in Positive Psychotherapy studies, which supports the feasibility of correlating intergenerational programs' effects on children and adolescents with benefits for the mental health of this population.

In the book entitled *Psicologia Positiva e Psiquiatria Positiva: A Ciência da Felicidade na Prática Clínica* (Machado & Matsumoto, 2020), it is possible to understand the mental health benefits of many findings specified in the current review. This book was organized by professors Leonardo Machado and Lina Matsumoto, respectively from the Federal University of Pernambuco (UFPE) and the Federal University of São Paulo (USP), receiving contributions from several authors. The preface was written by psychiatrist Dilip Jeste, a pioneer in the Positive Psychiatry movement (Machado & Matsumoto, 2020).

In 2015, Dilip Jeste, then president of the *American Psychiatric Association* (APA), published the article *Positive Psychiatry: Its Time Has Come* (Jeste et al., 2015). In this study, the identification of some of the findings of the articles included in the current review among Positive Psychiatry components is notable. Because Positive Psychiatry is a practice applicable to all subspecialties, including those that work with child and youth population, it is possible to consider being relevant the correlation found.

Furthermore, knowing that Positive Psychiatry is a science centered on biopsychosocial studies to understand and promote well-being and health, not only in diagnosed people, but also in those at high risk of developing mental or physical disorders, the recognition of some of the findings of the articles among the components of this area of psychiatry helps to direct the results' discussion towards the perspective of prevention in mental health (Jeste, 2018; Jeste et al., 2015).

In this sense, it is worth highlighting that the components of Positive Psychiatry that address some of the positive effects of highlighted intergenerational programs include positive psychosocial

characteristics and positive mental health outcomes (Jeste et al., 2015).

Positive psychosocial characteristics encompass psychological traits and environmental factors. Psychological traits involve resilience, optimism, personal mastery, coping for self-efficacy, social engagement, spirituality and religiosity, in addition to wisdom, which includes compassion, empathy, altruism, social decision-making, insight, determination, recognition of uncertainty, emotional regulation, tolerance of divergent value systems, openness to new experiences and a sense of humor. Environmental factors consider family dynamics and support, social support and other environmental determinants of health (Jeste et al., 2015).

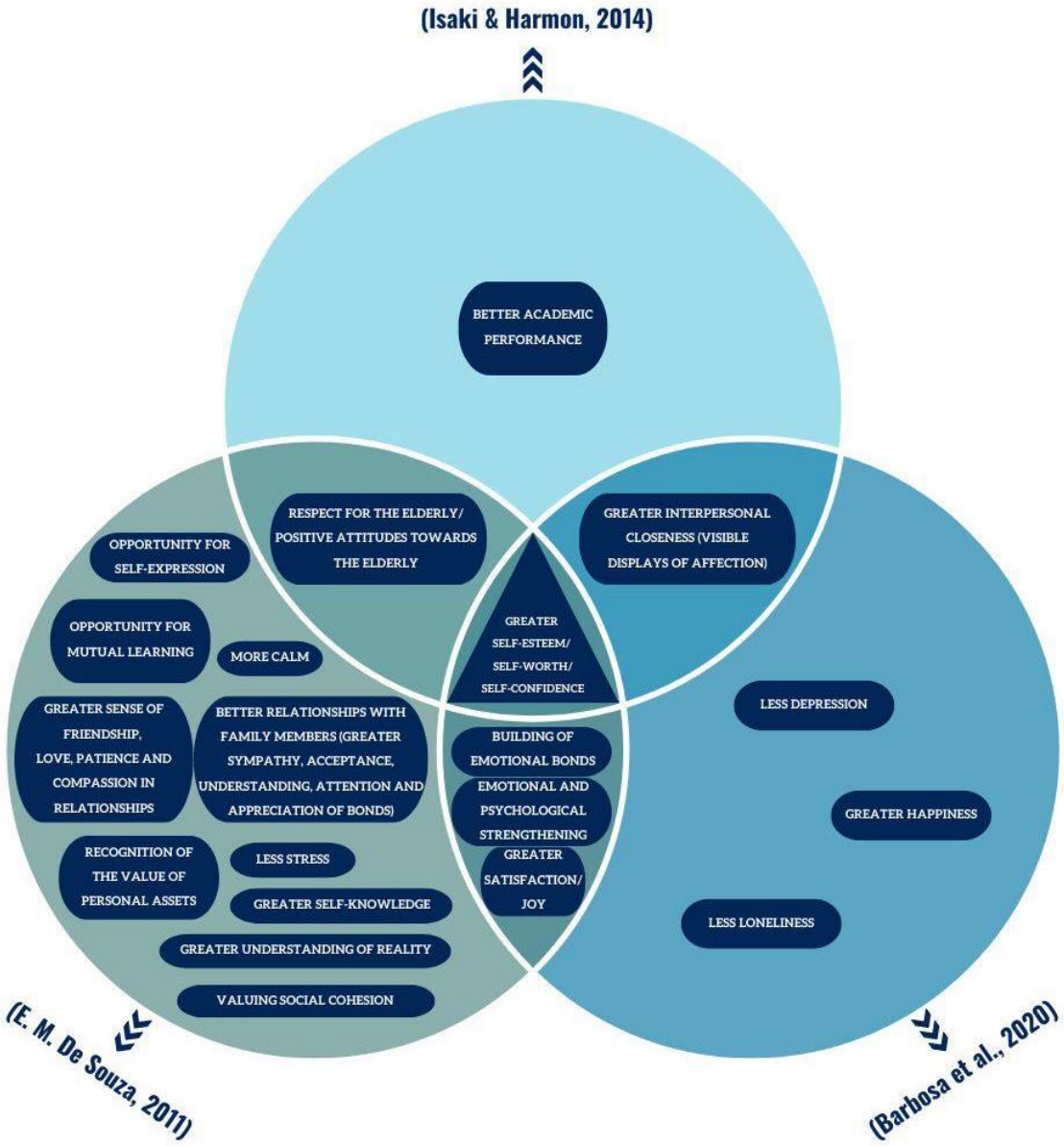
Positive mental health outcomes address notions as: recovery, greater well-being, successful aging and post-traumatic growth. According to Jeste et al. (2015), the concept of recovery is associated with the possibility of coexistence between well-being and illness through an experience of courage, dignity and social contribution. The idea of greater well-being, in turn, is related to human flourishing, which is established through a positive psychological state of life satisfaction and eudaimonic happiness, which encompasses life purpose and self-acceptance. As for successful aging, it is measured by the ability to adapt to circumstances and a positive attitude towards the future (Jeste et al., 2015).

In the analysis to correlate positive mental health outcomes with the studies' findings included in the review, it was possible to identify common points regarding to the constructs of engagement, social contribution, life satisfaction and happiness. Based on this, it becomes possible to infer that such effects can be interpreted as benefits to children and youth mental health.

To better understand how the intergenerational projects' results can be interpreted as positive repercussions on children and adolescents' mental health, a scheme was elaborated with the association of each study outcomes. The scheme portrays both individual findings of each article and those in common, represented in the highlighted intersections.

Figure 3 below illustrates this scheme.

Figure 3 - Benefits of intergenerational programs for children and adolescents' mental health among the findings of each study included in the review.



Source: Self-Authored.

Self-esteem, self-confidence and self-worth

The Ceilândia project recorded greater self-esteem and recognition of adolescents' own value (self-worth) (E. M. De Souza, 2011). The CARI program resulted in greater confidence by conducting reading activities for children with language difficulties (Isaki & Harmon, 2014). And the initiative with institutionalized children also highlighted greater self-esteem (Barbosa et al., 2020).

Nevertheless, in the scientific literature, there are several concepts about self-esteem, since it is a complex construct, as highlighted in one of the chapters of the aforementioned book on Positive Psychology and Psychiatry (Machado & Matsumoto, 2020). Therefore, self-esteem deserves greater consideration in the analysis of its possible contributions to mental health, especially when recognizing its influence on the psychological development of children and adolescents.

Positive Psychology has self-esteem as one of its attributes. In Machado and Matsumoto

(2020), the reference to a study on the role of social support, resilience and self-esteem in protecting against common mental health problems in early adolescence stands out, configuring self-esteem as an indicator of positive mental health capable of promoting self-acceptance, self-responsibility and self-maintenance. The book also mentions other research that highlights the importance of healthy self-esteem as a support for psychological stability and positive social activity, constituting an essential element for the child's psychological development (Machado & Matsumoto, 2020).

Additionally, low self-esteem can be associated with psychological problems, according to Hosogi et al. (2012). In this sense, the research by Henriksen et al. (2017) highlights that clinically assessed adolescents with high self-esteem suffer fewer symptoms of anxiety/depression and attention problems over time. This reinforces the analysis present in Hosogi et al. (2012) that self-esteem acts as a resilience factor for the types of symptoms mentioned.

It is also worth considering that in the aforementioned chapter by Machado and Matsumoto (2020), the author lists some of the positive outcomes associated with high self-esteem that can be identified in literature. These are: greater levels of productivity, psychological well-being and persistence in the face of adversity. We can also highlight, in Hosogi et al. (2012), the mention of WHO document *Preventing suicide: A resource for teachers and other school staff*, which reports the positive influence of self-esteem in protecting mental suffering and discouragement in children and adolescents, enabling them to cope more appropriately challenging and stressful life situations (Hosogi et al., 2012; WHO, 2000).

Interpersonal relationships and psycho-emotional strengthening

Findings from Chen and Harris (2019) on the association of positive family relationships with mental health trajectories from adolescence to middle age suggest that positive family relationships are linked to better mental health outcomes from adolescence. Another article, by Petric (2019), highlights the association between healthy family relationships and the successful development of children. Considering the evidence, it is possible to estimate that the findings of E. M. De Souza (2011) regarding the improvement of family relationships can be configured as benefits to children's mental health. Features of this improvement stand out as greater sympathy, acceptance, understanding, attention and appreciation of family ties, as recorded in the statements of young people from Ceilândia's project (E. M. De Souza, 2011).

Relationships with society in general have also shown benefits to the pediatric population mental health. According to Kingsbury et al. (2019) on the study of protective effect of neighborhood social cohesion on the mental health of adolescents after stressful life events, the greater social cohesion of neighboring population of the adolescents who experienced stressful situations seemed to mitigate the effects of this stress on several domains of their mental health (Kingsbury et al.,

2019). Thus, it is possible to observe that the psycho-emotional strengthening provided by interpersonal relationships also occurs at the community level, and not just within the family.

Considering this, it was possible to find support for the idea that the findings of the articles are beneficial to the pediatric population mental health. Among these findings are: those from E. M. De Souza (2011), regarding the construction of emotional bonds with unfamiliar elderly people and learning about respect for the elderly; those from Barbosa et al. (2020), who also noted this formation of bonds, in addition to visible manifestations of affection; and those from Isaki and Harmon (2014), who obtained positive responses in relation to children's attitudes towards the elderly and realized that children showed greater proximity to older participants, overcoming expectations of difficulties in interaction due to children's language challenges.

It was also noticeable the expansion of the differentiated perspective of interpersonal relationships beyond the elderly in the program. In the case of Ceilândia, this different point of view is due to a community awareness, evident on the adolescents' recommendation of the project to other elderly, young people and family members, arguing that the intergenerational initiative could benefit, for example, youngsters, in terms of preventing risk behaviors (E. M. De Souza, 2011).

Additionally, it is worth highlighting that, among the results of Ceilândia's project, it was meaningful the greater notion of friendship, love, patience and compassion in relationships (E. M. De Souza, 2011). Observing what Positive Psychology depicts about compassion, as stated in Machado and Matsumoto (2020), we can notice how beneficial it is to mental health. In the chapter on compassion and self-compassion, authors state that compassion reduces fear and personal conflicts and increases confidence and inner strength, predisposing to connection between people and producing a feeling of purpose and meaning in life. Authors also distinguish compassion from empathy, commenting that, although compassion emerged from empathy, the meanings are not the same. Empathy is characterized by a type of emotional resonance, while compassion represents the movement to carry out something effective in alleviating other's difficulties, providing energy, a sense of purpose and direction. Thus, authors highlight that individuals who act with compassion benefit both themselves and those around them. (Machado & Matsumoto, 2020).

Self-knowledge

Self-knowledge is a central issue in adolescent development. It can be considered an individual theory that one builds based on one own experience, in order to maximize the psychological well-being, according to Carapeto and Feixas (2020) definitions in a study on how self-knowledge is organized in adolescence. The researchers state that adolescence transformations, as the new contexts and social expectations and the cognitive advances young people experience, put pressure on the implementation of changes in both content and structure of self-knowledge (Carapeto

& Feixas, 2020). Given this, it can be inferred that the positive effect of greater self-knowledge reported by the adolescents in the Ceilândia project (E. M. De Souza, 2011) can be seen as a benefit to the mental health of these young people.

Lower stress, life satisfaction and happiness

The book *Psicologia Positiva e Psiquiatria Positiva: A Ciência da Felicidade na Prática Clínica* also provides a better understanding of how reduced stress, life satisfaction and happiness can benefit mental health. The authors of the chapters that deal with these topics highlight that chronic stress, among other negative emotions, has an influence on the hypothalamic-pituitary-adrenal axis. By stimulating the production of cortisol, inflammatory markers and sympathomimetic stimuli, continuous stress can increase the risk of neoplasms, infections and cardiovascular diseases. However, positive emotions also have the potential to cause biological changes and can help reduce the harmful effects of stress (Machado & Matsumoto, 2020).

Thus, in the context of the repercussions of the studied programs, the report of lower stress, added to the increase in emotions that can contribute to reducing negative consequences of stress, reveals the benefits that intergenerational initiatives can offer to children and adolescents. Reports of emotions that help reduce stress included: more calm, greater joy, greater satisfaction and happiness. In this sense, the benefits occur both in terms of physical health, considering the physical effects of chronic stress mentioned, and mental health, since according to the Centers for Disease Control and Prevention (CDC), chronic physical conditions can increase the risk of mental disorders (CDC, 2024).

Moreover, on the topic of life satisfaction, it is also possible to find references in Machado and Matsumoto (2020) that contribute to the understanding of how the reports of greater satisfaction and greater joy identified by E. M. De Souza (2011) and Barbosa et al. (2020) can represent benefits to the children and adolescents' mental health. In this sense, in the chapter *Satisfação com a vida e qualidade de vida*, the authors mention that the concept of life satisfaction reflects self-appreciation for life (Machado & Matsumoto, 2020).

Still in that chapter, there is a discussion that the construction of the judgment of life satisfaction is intrinsically associated with personal experiences, in order to reflect different moments of life. Therefore, if one is vulnerable at certain periods, one tends to respond in an adaptive way, potentially exposing oneself to risky behaviors that compromise one's health and well-being. However, if one experience social and/or family support, one tends to feel greater confidence in dealing with different situations, placing greater confidence in one's ability to be happy. The author adds that life satisfaction is perpetuated to the extent that one realizes it does not take much to feel happiness (Machado & Matsumoto, 2020). This notion can be highlighted in the young people

speech from Ceilândia's project when they revealed a better recognized of their own lives value through the interaction with the elderly, since these reported to the adolescents the difficulties in the past, such as having access to schools and amenities considered rare (E. M. De Souza, 2011).

The mentioned chapter in Machado and Matsumoto (2020) further clarifies that, because satisfaction with life can be understood as a process to be promoted throughout the life cycle, the probability of having a continuous positive adaptation response throughout the life is longer when the environment, family and community support the development of children and adolescents, providing the necessary resources to overcome adversities. In this sense, the author highlights that, especially since the 1980s, interest in research on the life satisfaction of children and adolescents has been progressive and that a growing number of researchers indicate happiness and life satisfaction as central criteria for health. Thus, it is possible to interpret that the higher levels of happiness recorded in institutionalized children after the program in Barbosa et al. (2020) represented an improvement in mental health.

Finally, it is worth noting that, as described in the chapter on positive emotions and biological aspects of well-being present in Machado and Matsumoto (2020), interest in the study of neural correlations of positive emotions has been increasing in scientific circles. As a pioneer of the theme, a study published in 1995, in the *American Journal of Psychiatry*, aimed to evaluate the results of functional imaging exams of people who, through stimuli, relived transient states of happiness, sadness and neutrality. The results revealed that transient happiness was associated with a diffuse reduction in perfusion in the cortex, especially in the right prefrontal lobe and, bilaterally, in the temporoparietal region (Machado & Matsumoto, 2020). Other studies emerged from this, showing that the formation, control and maintenance of positive emotions are related to reduced activity in the right prefrontal cortex and, bilaterally, in the temporoparietal cortex, in addition to increased activity in the left prefrontal regions (Machado & Matsumoto, 2020).

Thus, it is possible to notice that the positive emotions' benefits, especially happiness, discussed based on the findings of the included articles in the current review, may also be supported by neurobiological foundations, a fact that strengthens the hypothesis of intergenerational programs potential in contributing to children and youth mental health.

FINAL CONSIDERATIONS

Given the contemporary scenario of children and adolescents' mental health, evidenced in its severity by the effects of COVID-19 pandemic (Theberath et al., 2022), it is clear the significance of the implementation of strategies that promote and prevent mental health in childhood and adolescence. Favorable to this purpose, it was possible to identify, through this review, which intergenerational programs report outcomes that can be interpreted as benefits to children and

adolescents' mental health when observing the presence of risk factors for mental disorders, thus enabling further research in future studies on the role that intergenerational initiatives can play in mental health prevention of the pediatric population.

Nevertheless, it is important to recognize the review limitations. For example, the fact that only the perspective of the life cycle approach, by Kieling et al. (2011), was employed for identifying risks in studies was a limiting factor. This is because this article is from 2011 and, since then, new variables may have been evaluated as relevant risk factors for the development of mental disorders in childhood and adolescence. Even so, there was a preference for adopting this approach due to systematic observation of risk factors by Kieling et al. (2011), providing opportunity for a whole perspective, instead of an isolated analysis of age groups.

In this sense, it is also important to consider that the small sample of articles included may have represented a limiting factor to the generalization of conclusions. A likely contributor to the small sample was the fact that many eligibility criteria were used, such as the exclusion of articles that did not include health professionals among the researchers.

Nonetheless, it was possible to see some advantages in the use of different criteria and in the size of the final sample, such as: the articles greater precision in answering the question of the current study; the direction of interpretations and conclusions towards health professionals, especially those who work with children and adolescents' mental health, whether these may be pediatricians, psychiatrists or psychologists; and the possibility of presenting detailed results, both with regard to the methodology adopted and the structure of the analyzed programs.

Even given the limitations outlined, it is possible to share some recommendations for future studies, such as more medical professionals engaging in research on the topic of intergenerational programs. The joint involvement of professionals studying intergenerational projects with specialists in the prevention of children and adolescents' mental health can be a driving measure for the in-depth study of the potential of intergenerational initiatives in contributing to the mental healthcare of children and youth.

It is also worth mentioning that the review's focus of interest was initiatives that engaged youngsters with unfamiliar elderly people and this focus may have provided a more impartial view of the projects' effect on the younger participants, since there may be other variables that influence the benefits observed when the interaction involves members of the same family. These variables may include, for example, the transmission of conflicts through generations. According to studies such as that by Rothenberg et al. (2017; 2018), the effects of this transmission are more intense and harmful. However, this does not diminish the importance of conducting intergenerational programs between individuals from the same family, especially when considering the already proven benefits of multigenerational family therapy (Andolfi, 2016). Therefore, another recommendation of this review

is to invest in future studies with the proposal to evaluate the benefits of projects for children and adolescents interacting with elderly family members.

Hence, it is possible to conclude that, despite the limitations, the review offers a new perspective for future research on the potential of intergenerational programs to contribute to mental health prevention strategies for the pediatric population.

CONFLICTS OF INTEREST

None declared.

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