

Game, toy, and elderly. A necessary approach from a systematic review Juego, juguete y adulto mayor. Un acercamiento necesario desde una revisión sistemática

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Abstract: The experience, study, enjoyment, and even the social projection of the game and the toy, permeates the different stages of life and from the perspective of the elderly adult deserves special attention, even more so when this is a population segment that is in constant growth and constitutes a scenario of reflections and analysis from a position of Physical Education, Recreation and Sports, which allows us to think that, although games and toys are widely approached since childhood, this dialogue is not very clear between game, toy and elderly. The study aims to identify the investigative approaches around games, toys, and the elderly via a literature review. The studies identified in the major collections of the Scopus, Web of Science, and PubMed databases were used, with 72 articles whose analysis started from reviewing the aspects of title, objective, design, sample, and results. The review shows that games and toys as a strategy for health promotion and disease prevention in the elderly emerge as a possible trend that contributes to this area of study and intervention and contributes to body maintenance, cognitive and social in the elderly.

Keywords: Game, toy, elderly, physical education, recreation.

Resumen: La vivencia, el estudio, el disfrute y la proyección social del juego y el juguete, permea las diferentes etapas de la vida y desde la perspectiva del adulto mayor merece una especial atención, más aún, cuando este es un segmento poblacional que está en constante crecimiento y se constituye en un escenario de reflexiones y análisis desde una postura de la Educación Física, Recreación y Deporte, lo que permite pensar que, si bien el juego y el juguete son ampliamente abordados desde las infancias, no es muy claro ese diálogo entre juego, juguete y adulto mayor. Como objetivo del estudio se plantea identificar desde una revisión documental las aproximaciones investigativas en torno al juego, juguete y adulto mayor. Se utilizaron los estudios identificados en las colecciones principales de las bases de datos Scopus, Web of Science y PubMed contando con un total de 72 artículos, cuyo análisis partió de revisar los aspectos de título, objetivo, diseño, muestra y resultados. La revisión deja ver que los juegos y juguetes como estrategia de promoción de la salud y prevención de la enfermedad en el adulto mayor, emergen como una posible tendencia que aporta a esa apuesta de área de estudio e intervención, así mismo aportan al mantenimiento corporal, cognitivo y social en el adulto mayor.

Palabras clave: Juego, juguete, adulto mayor, educación física, recreación.

Introduction

Addressing the study of games and toys is not a simple task, especially when in various social and academic contexts, they do not acquire the connotation and importance they require and deserve since the origins of humanity. The game and toys have more research approaches from children's contexts and their different relationships (Heikkilä, 2021) and even ecological topics (Ramesh & Vatchala, 2020). These terms denominate diverse realities, which are perhaps articulated among themselves. This multiplicity could be understood from the varied behaviors of the human being, and based on what Muñoz-García & Sánchez-Montañés (2020, p.974) "they should be very different depending on the type of social and economic organization, and the functions or roles that the boys and girls who will be future members of their respective societies will play", which constitutes a common thread that allows us to incorporate a historical and contextual look. Conse-

quently, games and toys are not part of the educational framework or a pastime; they transcend human nature.

The toy has primacy over the game, it is a toy that dictates how the game is played, and this takes away the protagonism of the player who determines its uses. In some ludic systems, the way of playing determines the use that the subjects give to the toy and not the other way around, as it happens in a diversity of contexts nowadays. The toy, in practical terms, identifies those objects that are used for the activity of play, being manufactured specially to play (Komis, et al., 2021). A toy is an essential object for human beings in their different areas of development. Still, its use increases in the infant stage given its particularities for learning and socialization, fulfilling the role of providing support to their development. Its use depends on the game that is being carried out. Toys are of utmost importance in developing individuals and communities; in contexts where they cannot be accessed or purchased, they are made using wood. For example, carts, sailboats, and other types of toys that amuse the user are obtained, which allows us to understand that "toys are a cultural legacy of customs and values of the past, as well as a link to the social and cultural

environment itself” (Montañes, et al., 2000, p.251). On the other hand, the interactions generated between an artifact or toy and the subject that uses it has been the subject of study, even more so, when technologies have permeated the different dimensions of the human being and promote creators to dynamize interfaces and game functions. (de Albuquerque, et al., 2021).

Game is used, referenced, and researched in anthropology, education, recreation, psychology, sociology, etc. “Game helps to regulate and educate around the norms of coexistence, the symbolic world, the patterns of social organization and subsistence, or the role that an individual exercises linked to gender in their society” (Muñoz-García & Sánchez-Montañés, 2020, p.970). Consequently, the game describes any activity that goes beyond the physical and biological, transcends human reality to become an act of social representations, an act of imitation, but that can be interpreted as any activity to release energy in a pleasant and relaxing way. In the same way, the game in articulation with motor skills and other areas of a pedagogical order, should be allowed an applicability both in the educational and social aspects, permeated by the experience of physical education, recreation and even sports (Aguirre, et al., 2019). It is also an exercise to acquire, improve, and evaluate motor skills and executive functions in adults (Rosa, et al., 2021). Although it has been stated that the game is manifested within time and space limitations, besides being free, following established rules, “no biological analysis explains the intensity of the game and, precisely, in this intensity, in its capacity to make people lose their minds, lies its essence, the primordial” (Huizinga, 2019, p. 16).

The stage of life conceived as the older adult and other stages of the human being have particular characteristics and needs. There is a growing population in this life cycle. As mentioned by Papalia (2012), the global population is in the process of aging. In 2008, almost 56 million people worldwide were 65 years or older, and the net annual increase is more than 870,000 every month. Complementarily, Chaves-García, Sandoval-Cuellar & Calero-Saa (2017, p.1) state that “about 15% of the world population is over 65 years and continues to grow and it is projected that people over 65 years, which by the year 2004 were 461 million, will become 2 billion by the year 2050”. Similarly, Villa & Rivadeneira (1999), referenced by González, Sosa & Reboiras (2021), state that aging in the Latin American context goes hand in hand with a decrease in mortality and an increase in life expectancy, which allows us to understand the significant presence of people in the so-called third age. In this sense, the life cycle of the elderly is a topic of special interest, and it is appropriate to take it into account.

From this premise, there are various research positions on the elderly, both quantitative and qualitative, from me-

dical and social perspectives or different contexts and countries. For example, Lin et al. (2020) address the relationship between physical activity, happiness, sedentary lifestyle in healthy older adults over 65 years; for their part, Frantál, Klapka & Nováková (2020) provide evidence on the significance of daily activities concerning perceptions of isolation and loneliness in the elderly. Likewise, studies have been conducted that builds on the conceptual debate on diversity in old age by exploring the interaction of diversity in old age and images of old age (Enßle & Helbrecht, 2021). Under this scenario, multiple studies point to a conceptual and empirical approach to understanding the dynamics (from different dimensions) around the elderly, which leads to thinking about the need to generate an approach to the path of studies focused on this population segment.

In this sense, the academic and research literature shows an articulation between games and the elderly. Rosa et al. (2021) study the use of games to assess motor coordination in institutionalized elderly. The use of serious games as a contribution to the study and treatment of cognitive degeneration in older adults is addressed by Lau & Agius (2021). In addition, González-Bernal et al. (2021), from a pretest/post-test design study, investigated the impact of using the Wii video game console® on speed, walking balance, and risk of falls in older adults. Likewise, Santamaría-Guzmán et al (2015), address the learning and motor retention of a video game in older adults, which demanded a lot of mobility from the point of view of dance; Along these same lines, Corregidor-Sánchez et al (2021) analyze the usefulness of exergames played on three different video game consoles for the prevention of functional deterioration in the elderly; taking into account the rural context, Latham-Green et al. (2021), identify that participation in shooting games creates a social impact through the creation of social capital and the reinforcement of identity, which, according to the authors, generates a statistically significant positive impact on mental health and well-being; likewise, Li et al. (2020) structured a video game that combines cognitive and physical training in a virtual reality environment, demonstrating how a multitasking game, based on virtual reality, can have a positive impact on the physical and cognitive health of the elderly.

Under this panorama, the relations between games and the elderly are evident, even more, when this population segment is in constant growth in the different world contexts. However, this dialogue between games, toys, and the elderly is not very clear, which allows us to reflect on the importance of knowing from a documentary review those investigative approaches around these three axes of study, allowing us to generate an academic and investigative input for the understanding and application of games and toys.

Method

The work was performed using an exploratory-descriptive scope (Hernández-Sampieri & Mendoza, 2018), seeking to explore, describe and analyze the process of academic and research productions from the game as a category of study in the elderly who may or may not be institutionalized (Rosa, et al, 2022), toys as a category that allows understanding, from their interaction with people, social and playful elements (Ihamäki & Heljakka, 2021) ; and the elderly as that population segment that is a fundamental axis in families that deserve special interest from the health, social, academic and research fields (Villarreal-Ángeles, Moncada-Jiménez & Ruiz-Juan, 2021). A literature review was carried out following the guidelines of the PRISMA statement for the development of studies of documentary order (Urrutia & Bonfill, 2010; Martínez, Santaella & Rodríguez-García, 2020). Three descriptors were validated in the ERIC and UNESCO Thesaurus for the respective search in the databases: “game”, “toy” and “older adult.” A search for articles published between 2013 and 2021 was carried out using the “AND” operator; these descriptors, together with the operator, had to appear in the title, abstract, and/or keywords fields. This search was carried out in three databases of high importance: Scopus, Web of Science (WoS), and PubMed. These databases were chosen due to their prestige and international recognition as the main sources of high-impact publications, their demanding indexing protocols, and their complementarity between disciplines (Fernández, et al., 2020).

The inclusion criteria taken into account for the selection of articles were:

1. Publications in high-quality journals indexed in Scopus, WoS or PubMed.
2. Publications whose studies presented a general description based on introduction, objective, method, results, discussion, and conclusions.
3. Publications in English or Spanish.
4. Publications between 2013 and 2021.
5. Publications containing the descriptors “game”, “toy”, “elderly.”
6. Publications whose studies were conducted under any methodological design.
7. Publications containing studies whose population is older adults.

The exclusion criteria for the selection papers were:

1. Publications in languages other than English or Spanish.
2. Publications such as books, reports, event proceedings, thesis dissertations, doctoral theses, proceedings.
3. Publications whose studies were not related to the older adult population segment.

For the selection of the publications, a screening was carried out based on the inclusion and exclusion criteria determined for the study, taking into account a selection and analysis matrix structured for this purpose. The analysis of the selected documents was based on identifying which works were in line with the object of study, first reviewing titles and abstracts and thus expressing a thematic affinity. Subsequently, the most relevant information was broken down into titles, objectives, designs, population, and results.

Results

From the tracking of information in the databases Scopus, WoS, and PubMed locating the descriptors “game” (juego), “toy” (juguete), “elderly” (adulto mayor), in the period stipulated within the inclusion criteria for the exercise, no continuity is identified in the publication. Indexing of articles containing these descriptors resulted in 72 articles published between 2013 and 2021 (See Figure 1).

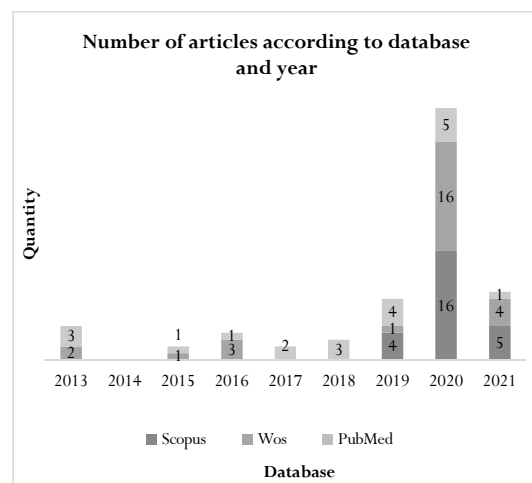


Figure 1: Number of articles according to database and year. Source: Authors

A reading was made of the objectives set out in the articles identified. It was observed that there is a preference to determine, evaluate and implement elements based on games and toys to study both behaviors and processes of motor, biophysical, cognitive, and social order in older adults. Likewise, it was observed that there are studies that point to the design of games whose purposes were aimed at the motor, cognitive and social work of the elderly. From this point of view, it was decided to generate the following grouping to determine the number of studies according to the objectives proposed in the 72 articles: Biophysical processes and motor skills: 26.4%, mental and cognitive processes: 27.8%, social processes: 25%, general health processes: 12.5%, emotional situations: 4.2%. It is worth mentioning that there were works whose objectives were focused on biophysical processes and mental processes to-

gether: 4.2%. From this group, it was possible to observe that work based on games and toys has a high preference to be used, whether from research, academic or applied work, in the branches of health, both mentally and emotionally, as well as in physical, which allows us to infer that games and toys constitute a fundamental tool for addressing different situations with the elderly from physical education, recreation and sports.

In relation to the type of study advanced in the identified articles, there is a marked preference for carrying out works from a quantitative route (Hernández-Sampieri & Mendoza, 2018), having experimental studies: 20.8%, quasi-experimental: 43.1%, clinical studies: 15.3%, systematic reviews: 12.5%, for their part, qualitative studies have 8.3%, qualitative studies account for 8.3%, which allows to think that obtaining empirical evidence against the use of games and toys in the population segment of the elderly, constitutes the main input for addressing various situations of a medical nature, cognitive or social in said population.

Older adults constitute the population sample in the identified articles directly related to the purposes of the study, as such, being men and women over 55 years old. Different papers characterized diseases typical of the elderly: Parkinson's disease (Dauvergne et al., 2018), dementia (Tseng, et al., 2020), problems related to lower limb joints (Chen, Luo & Kang, 2020), older adults who suffered strokes (Burdea, et al. 2020) and even older adults with or without any disease who were at the time of the study institutionalized in special homes or communities (Cicek, Ozdincler & Tarakci, 2020). The sample was selected from open-access databases in studies based on systematic reviews.

For the collection of information with this population, the instruments and techniques varied as the purposes of the papers. For example, the papers used different neuropsychological instruments, quality of life questionnaires as dependent measures (McCord, et al., 2020), motor function and impairment assessment instruments (Burdea, et al., 2020), or somewhat more specific instruments such as the Atlanta Heart Failure Knowledge Test and the Heart Failure SelfCare Index (Radhakrishnan, et al., 2016).

Regarding the results in some identified articles, there was evidence showing that the toys stimulated the people (older adults) to greater social interaction, showing a correlation with cognitive functioning (Thodberg, et al., 2016). On the other hand, the benefits of interdisciplinary permeated by the game are recognized using the design of an indoor gardening flower combination game suitable for home and maintenance institutions to improve cognitive function in older adults. This work advanced by Tseng et al. (2020) indicates that the overall performance of elderly patients with mild or moderate dementia in the respective

tests and measurements improved with the indoor gardening planting table game. Similarly, it was observed that video games generate a significant impact on the elderly. For example, in older adults diagnosed with mild to moderate Parkinson's disease, interactive video games focused on balance ability training contributed to the improvement of symptoms of Parkinson's disease in older adults (Yuan, et al., 2020). Exergames also have a place in these identified results. The studies suggest that they help improve functional capacity and adherence to physical exercise among the elderly (Da Silva Júnior, et al., 2021). It is worth highlighting that the emerging dynamics in the experience of games and toys by the older adult, allows to understand that interdisciplinarity, the use of technology, for example video games, and the use of the different resources that they are used for the creation of games and toys, they contribute significantly to the living conditions of the elderly, regardless of their medical or social condition.

In this order of ideas, Table 1 shows the most significant contributions for reflection and support to the discussion on games and toys in the context of older adults, taking into account in the first instance that they met the inclusion criteria proposed in the study method, then they were articles derived from works directly related to games, toys and the elderly; likewise, they made it possible to explicitly identify elements of analysis such as title, objectives, methods and results, which allowed us to observe a greater affinity with the theme of this study.

Discussion

The results reveal a diversity of theoretical and experimental approaches to the approach to games and toys in the context of the particularities of the elderly. A first analysis that can be extracted from the review is that there is no conceptual clarity in relation to games and toys since their use does not establish a difference between these two categories, although their use as a therapeutic tool (Moyle, et al., 2019), as a design aspect (Mei-Yung, et al., 2013) or socializing element (Thodberg, et al., 2016) in the elderly are clear, in the theoretical and experiential they are used without any distinction, which allows us to think about the importance of establishing clear conceptual elements and in turn articulators for its implementation, being physical education, recreation and sports the field of knowledge that should lead a possible academic, experiential and investigative approach that facilitates conceptual and application clarities in different population segments.

From the study conducted, high interest is identified in approaching games and toys as resources from a clinical and experimental point of view. Works such as that of Jan-sang, Mickleborough & Suksom (2016) use a toy to study

Table 1.
Analysis of selected articles

Journal	Year	Article	Author	Aim	Method	Sample	Results
Journal of NeuroEngineering and Rehabilitation	2013	Exergaming for balance training of elderly: state of the art and future developments	van Diest, M., Lamoth, C. J., Stegenga, J., Verkerke, G. J., & Postema, K.	To provide an in-depth discussion of technologies and outcome measures utilized in exergame studies.	Systematic review.	Thirteen papers were included in the analysis	Enjoyment and motivation for the proposed exercises and increased balance capacity after training
Educational Gerontology	2013	How the Elderly Can Use Scientific Knowledge to Solve Problems While Designing Toys: A Retrospective Analysis of the Design of a Working UFO	Mei-Yung Chen, Jon-Chao Hong, Ming-Yueh Hwang & Wan-Tzu Wong	Identify roles and examine design projects in order to improve the use of materials and evaluate the application of knowledge in problem solving.	Experimental design-based (DBR)	Forty-eight elders. The average age of the participants was 63,091 years with a standard deviation of 0.291.	Older adults without scientific training could produce scientific toys if they worked cooperatively, especially when they could learn from other people who had scientific training.
Journal of the Medical Association of Thailand	2016	Effects of Pursued-Lip Breathing Exercise Using Windmill Toy on Lung Function and Respiratory Muscle Strength in the Elderly	Jansang, S., Mickleborough, T., & Suksom, D.	To investigate whether pursed-lip breathing exercise, using windmill toy, can improve lung function, and respiratory muscle strength in the elderly.	Experimental	Fifty-four older men and women (aged 60 to 75 years)	A toy is effective in improving lung function and respiratory muscle strength in older adults.
Antrozoos	2016	Behavioral Responses of Nursing Home Residents to Visits From a Person with a Dog, a Robot Seal or a Toy Cat	Thodberg, K., Sørensen, L., Videbeck, P., Poulsen, P., Houbak, B., Damgaard, V., Keseler, I., Edwards, D. & Christensen, J.	Study whether nursing home residents interacted differently with a real animal/dog compared with interactive and non-interactive fake animals during biweekly animal-assisted visits, measured by quantitative measures of behavior.	Randomized Controlled Experimental Design.	124 nursing home residents from four nursing homes in Denmark	The cognitive functioning of older adults was correlated with the level of interaction with the toy, and this needs to be studied further.
Trials	2017	Mobile Exergaming for Health—Effects of a serious game application for smartphones on physical activity and exercise adherence in type 2 diabetes mellitus—study protocol for a randomized controlled trial	Höchstmann, C., Walz, S. P., Schäfer, J., Holopainen, J., Hanssen, H., & Schmidt-Trucksäss, A	To examine whether our smartphone-based gaming application can lead to increases in daily PA in DM2 patients that are persistent in the medium and long term and whether these increases are greater than those in a control group.	Randomized controlled trial	42 patients with DM2	Implications for the promotion of physical activity and treatment in other conic diseases.
The Gerontologist	2019	"She Had a Smile on Her Face as Wide as the Great Australian Bite": A Qualitative Examination of Family Perceptions of a Therapeutic Robot and a Plush Toy	Moyle, W., Bramble, M., Jones, C. J., & Murfield, J. E.	to explore family members' perceptions of the Japanese-developed baby harp seal, Paro (version 9), and a look-alike, nonrobotic Plush Toy, when used by their relative with dementia for 15 min, 3 afternoons per week for 10 weeks.	Qualitative descriptive, which was nested within a larger cluster randomized controlled trial.	A convenience sample of 20 family members (n = 10 each of Paro and Plush Toy conditions)	The toys had a positive impact on the mood from the use of toys.
Social Work in Health Care	2019	Effect of board game activities on cognitive function improvement among older adults in adult day care centers	Ching-Teng, Y.	Test the effectiveness of board game activities that improve cognitive function of older adults in adult day care centers.	Quasi-experimental based on pre and post tests. March to June 2018.	82 subjects 65 years of age or older with intact mental functions.	Incorporating board game activities into social work care can help develop long-term care in a more diverse, unique, and innovative direction.
Sensores	2020	Playability and Player Experience in Digital Games for Elderly: A Systematic Literature Review	Rienzo, A., & Cubillos, C.	Carry out a systematic bibliographic review investigating the experience of the elderly player in digital games.	Systematic review.	Thirty-four papers were included in the analysis	There are not many specific studies on gameplay and player experience applied to the elderly, nor are there tools and proven metrics to evaluate them.
Journal of NeuroEngineering and Rehabilitation	2020	Effects of interactive video-game-based exercise on balance in older adults with mild-to-moderate Parkinson's disease	Yuan, R. Y., Chen, S. C., Peng, C. W., Lin, Y. N., Chang, Y. T., & Lai, C. H.	evaluate the effectiveness of a customized interactive video game-based (IVGB) training on balance in older adults with mild-to-moderate Parkinson's disease (PD).	Experimental, randomized clinical trial	Twenty-four participants aged 60 to 80 years.	IVGB exercise training could serve as a rehabilitation regimen to improve physical symptoms in older adults with mild to moderate PD.
International journal of environmental research and public health	2020	An Indoor Gardening Planting Table Game Design to Improve the Cognitive Performance of the Elderly with Mild and Moderate Dementia	Tseng, W. S., Ma, Y. C., Wong, W. K., Yeh, Y. T., Wang, W. I., & Cheng, S. H.	Improve the overall cognitive function of patients with dementia in Yunlin County, Taiwan, by designing an indoor gardening flower combination game suitable for home and maintenance institutions.	Mixed design	14 elderly people with mild or moderate dementia	The indoor gardening planting kit could, in the future, be equipped with sensors and light-emitting elements on the base, which can record the user's operating duration, accuracy, and the number of reminders, and then upload that information to the cloud
JMIR Publications	2021	A Bowling Exergame to Improve Functional Capacity in Older Adults: Co-Design, Development, and Testing to Compare the Progress of Playing Alone Versus Playing With Peers	da Silva, JLA, Biduski, D., Bellei, EA, (...), Filho, HT, de Marchi, ACB	co-design and develop a new exergame alongside older participants	Experimental	23 participants were divided into 2 groups to play individually	The exergame developed helps to improve functional capacity and adherence to physical exercise among the elderly.

Source: Authors

the improvement of pulmonary and respiratory function in older adults, which allows us to think about the possibility of addressing studies that articulate the analysis of physical condition or aerobic capacity of older adults (Aguilar, Flórez & Saavedra, 2020), using mediations based on games

and toys, allowing to support the initial idea of study from games and toys for older adults from biophysical processes and motor skills, and general processes in health, which is articulated with the ideas of Salazar et al. (2015), in the sense of using playable elements such as video games as a way

of training the skill of balance in older adults, in this sense, the dialogue between games, toys and older adults begins to emerge as an alternative and complement in the field of health in its different branches, from the mental to the physical, facilitating from that ludic dimension of the human being, a possible means of approaching and searching for solutions to problems identified in the elderly.

It cannot be denied that one of the characteristics of both the game and the toy is its socialization component, which translates into that opportunity to generate spaces and strategies for the encounter, raise relationships and promote social habits (Campo, 2010). These aspects are reflected in the reviewed studies that propose the interaction with toys and the experience of the game in and with older adults, which in turn bet on the improvement of cognitive function (Ching-Teng, 2019) and communication between family members when the older adult presents mental difficulties (Moyle, et al., 2019), which could provide an argument for understanding the relationships between games, toys and the elderly from psychological processes, and in accordance with the dynamics of the social processes characteristic of the latter.

Consequently, the discussion from and for games and toys for the elderly should not only revolve around the amount of studies advanced in the different disciplines of knowledge, it should also take into account the socializing, therapeutic, ludic and even emancipating character that permeates the different dimensions of the human being when he/she is already in the third age, a stage in which the conditions of physical, mental and social health suffer significant changes, which ultimately allows us to say that recreation, physical education and even sports, constitute fruitful spaces for the generation of significant contributions for the structuring of these spaces and meeting times for the elderly in the framework of the use of toys and games that allow maintenance of their motor skills, physical and mental condition within the parameters for their age.

Conclusions

From its different perspectives and fields of action, the academic and investigative literature on games and the elderly is varied and multifaceted. However, the toy in the framework of the dynamics of the elderly has little approach. Previous studies were identified where the toy contributes an important role both in the methodological and in the results. The advanced studies fall short considering the social, cognitive, and ludic benefits that the toy offers to the elderly.

Games and toys as a strategy for health promotion and disease prevention in the elderly emerge as a possible trend contributing to this area of study and intervention, being

health one of the problems mostly related to the elderly. This population segment faces processes in their life cycle that are primary and inevitable and secondary processes that can be controlled.

The review of the identified studies shows that games and toys as elements that contribute to the body, cognitive and social maintenance, such as exergames for the elderly, emerge as a means of intervention in the different dimensions of the elderly. The design of higher quality tools can improve health problems identified in this population, based on the conceptual and practical elements in relation to aging, as well as the comparison and requirements of the games for their positive contribution in the development of strategies based on games and toys that contribute to the well-being of older adults.

From the point of view of practical applications, a review around the game and the toy in terms of the elderly, constitutes an academic and research reference for the construction of toys for the elderly and their respective implementation. In the same way, it allows to give clarity to the implementation of games and toys for the maintenance of attention, memory, physical and social activation of the elderly.

Limitations of this review

A limited number of studies emerged from Physical Education, Recreation, and Sport, which constitutes a point of reflection on a possible area of study and performance.

Conceptual clarity was not identified in relation to games and toys, since in most of the review, these categories were used as equals, without a clear theoretical definition in this regard.

Recommendations for future research

Physical Education, Recreation, and Sport should be empowered by the study of games and toys, given the particularities of this field of study and the transversality that emerges from its application and research.

Video games are a fruitful scenario for analysis, development, and implementation of studies and experiences for the elderly.

To advance studies around the game and the toy based on the transversality of study areas that promote knowledge about the elderly as a vital cycle and as a scenario for the generation of work and development alternatives.

Although games and toys constitute a dynamic axis in physical education, it is important to approach them from the field of leisure, taking as a starting point category such as serious leisure, casual leisure, digital leisure and, why not, satisfaction with leisure time (Aguirre-Cardona, et al.,

2021), taking into account that the older adult can more easily take advantage of leisure time and space.

Structure research based on the design of games and toys that lead to innovative proposals that result in opportunities for knowledge and socially meaningful contributions (Traslaviña-Espitia & Aguirre-Cardona, 2020).

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