Playing is an action involving fun and learning in which a child willingly participates, while toys are tools they use while performing these actions [1]. Playing has a very important role in children’s lives. It contributes to the development of cognitive, motor, psychosocial, emotional, and linguistic skills. It also plays a key role in raising self-confident, creative, and happy children. The profession of the child is the game he plays. The adults’ need for their coworkers, children also feel for their playmates. The skills learned during playing will have an important function for that child throughout life. While playing games, they learn to deal with difficulties, mutual respect, and sharing early [2–5]. Playing, which has so many functions, is a right for children in a sense and it must be supported [6, 7].

Whether the game is a game or not is defined by the pleasure and happiness, the child receives from the game. Regarding the pleasure obtained from the game, Skard and Bundy argued that the game has four basic features which are summarized in Table 1 [8, 9]. The choice of toys, which acts as a bridge between dream and reality while playing games, is also of particular importance. The toy must comply with the age of the child and the minimum safety requirements [10].

Physicians and assistant health-care professionals in child health follow-up clinics should have sufficient and vigorous information about games and toys. It should encourage and guide the child in exercising his right to play. In this review, we aimed to review the concept of games and toys, which play a crucial role in raising healthy and happy individuals, with this perspective.

THE EFFECTS OF GAMES AND TOYS ON CHILDREN

Physical Effects
Physical activity has a very important effect on children’s health and development. Lack of physical activity brings many ailments. If the physical activity includes playing,
its effectiveness increases even more and children do it with great pleasure. In this respect, game preferences that include physical activity are important [11–13]. The movements that require effort such as walking, running, swinging, rolling, jumping, and crawling on the ground during the game strengthen the muscles and improve motor coordination. For the development of fine motor movements, carrying, grasping, writing, drawing geometric pictures with a pencil, cutting paper with scissors, playing with dough and sand, stringing beads, and eating suitable foods with a fork would be helpful. With the pleasure created by all these, children also develop cognitively [14, 15]. On the other hand, since some of these activities are carried out outdoors, both the rates of obesity are reduced and the need for Vitamin D is met thanks to sunlight. In addition to the physical activity habits of children who have contact with nature, their love for nature and animals develops in the early stages. At the same time, the depression and anxiety rates of children decrease and their sleep quality increases [16–18].

Although the social, physical, and cognitive positive effects of playing on children have been known for a long time, the rate of active playing decreases with modern life compared to previous years. In a study, it was found that children play 8 h fewer games on average per week than children 2 decades ago [19]. This “lack of play” has been blamed for some physical and cognitive problems [20]. In an observational study of Thornton et al. [21] on 98 children, it was shown that preschool children did not do the recommended level of physical activity. In that study, 73% of the children were sedentary, 13% did mild, and 14% moderate-severe physical activity. The mean daily active physical activity opportunity was 48 min, and an average of 33 min of it was spent outdoors. Although the daily recommended physical activity opportunity is 3 h, this rate determined in the study was very insufficient for children. For this reason, preschool children should be encouraged to do activities that include more physical activity and should be outdoors. It has been observed that children are more active and play more when they are outdoors. Therefore, the environment in childcare centers and daycare centers should allow more physical activity. Families and caregivers should be encouraged in this regard [22, 23].

While the lack of play is an important problem with modern life, another important point is the lack of green spaces required for the game. Physical activity rates will increase with the increase in the areas that will activate the children. In a study conducted in Canada, it was reported that 90% of the children were more interested in green spaces, 82% were more active, 82% learned better with games, and 81% developed more civilized behavior with their friends, as the environment of schools was turned naturally green [24]. Therefore, as this study shows, greening the school environment in our country and the world and making it suitable for play activities is essential for the raising of healthy and peaceful generations. Health professionals and policy-makers must include green spaces in child-friendly school projects. Green area suitability in licensing or permit documents should be reviewed.

Cognitive Influences
Cognitive development can be interpreted as learning and thinking ability in children. It improves children’s ability to understand things and solve simple problems. In this sense, playing also supports cognitive development as in all aspects of growth. The game can be played with one or many people, it can be played freely, and it supports development with its effects on children. Children learn many things naturally through games [25–28]. It is the theory of the Swiss philosopher Piaget [29, 30] that reveals the effect of the game on cognitive development in the best way. In his research on play, Piaget defined the need to create order within people as a balance impulse. Humans have a biological tendency to organize and adapt to achieve balance. Children can make some mental adjustments by interacting with the environment thanks to the game. These mental arrangements are built on previous experiences. Thus, through the game, it can be easier to gain acquisitions by passing some stages. According to Piaget, cognitive development in children is divided into four periods, as summarized in Table 2.

Sensory period
It covers between the ages of 0 and 2. According to Piaget, two important reflexes sucking and grasping are

Highlight key points
• Raising awareness about play in pediatricians and family physicians.
• We wanted to point out that the child has a job, this is a game.
• We wanted to draw attention to the issue of play, which is an important component of child health.
• We wanted to emphasize what should be considered when choosing a toy.
the origin of many behaviors that a baby is born with. The baby’s first toy is his own body. Learning progresses with an effort to open and close hands and feet reach for objects and catch them. The person closest to the baby in the environment during this period is the mother. Therefore, the mother should also spare time for the child as a good playmate and support this period with healthy stimuli.

**Pre-procedure period**

It covers between the ages of 2 and 7. In this period, the child sees himself in the center of life and is a stage in which he believes that everything he wants and does is right. At this stage, the child thinks that the people around him are due to his presence. For example, while children play hide-and-seek during this period, they think that they are not seen and hide when they cover their faces, mainly because they are egocentric. They act with the logic that when he does not see anyone, nobody sees him either. Symbolic play and animism emerge.

**Concrete trading period**

It covers 7–12 years old. During this period, they get rid of their egocentrism and begin to realize that there are thoughts of others besides him. During this period, they have flexible and logical thinking. This is the most proficient period of them in classification and grouping. During this period, they use language effectively, but they cannot perceive intangible concepts such as homeland, nation, or country. Since idioms are abstract expressions, they need to be explained concretely.

**Abstract processing period**

It starts at the age of 12. During this period, he gains the ability to think on his own. During this period, they begin to develop ideals, ideas, values, and beliefs. They are interested in social structure, philosophy, and politics. In addition to physical changes, alterations in the brain and thoughts are observed during adolescence.

Periods occur in a certain order and each period progresses in a way to include the gains of the previous period. Each individual shows a developmental process according to himself. According to Piaget, development is in the form of balance, imbalance, and a new balance. In this process, the individual is in a state of balance with the existing knowledge in his mind, he experiences imbalance with what he has learned and continues to develop through creating a new balance by overcoming this process.

### Table 1. Four basic features of the game

| Feature                                      | Description                                                                 |
|----------------------------------------------|-----------------------------------------------------------------------------|
| Framing                                      | Defines the nature of the behavior during the game. By taking and giving clues, children can understand what the behaviors mean during the game. |
| Intrinsically motivated                      | Children participate and enjoy playing during the game.                      |
| Internal control                             | It specifies when and what players want to play with. Players decide when they will finish the game through the control mechanism. |
| Freedom to suspend reality                   | There is the freedom to suspend the truth in a game.                         |

### Table 2. Piaget’s cognitive theory

| Period                | Ages          | Features                                                                 |
|-----------------------|---------------|-------------------------------------------------------------------------|
| Sensory period        | 0–2 years     | He just tries to get to know his surroundings and himself. The beginning of the thought is at this stage. |
| Pre-procedure period  | 2–7 years     | Intense egocentrism (egocentrism) prevails. Language develops rapidly. Symbolic plays and animations take place at this stage. |
| Concrete trading period | 7–12 years   | It can solve concrete problems. Gets rid of self-centeredness. |
| Abstract processing period | 12 years and older | Inductive and deductive thinking and abstract thinking skills improve. |
Psychosocial and Emotional Impacts

Play-related researches make it all the more critical for young children in schools to play games rather than just educational activities. Researches have shown that children who engage in complex forms of sociodramatic games have better social skills, more empathy, more imagination, and a finer capacity to understand things. They are less aggressive and show more self-control and higher levels of thinking. Therefore, the necessary environments for playing games with children should be prepared without an excessive struggle for academic loading [31].

Playing is a social activity. With games and toys, the child steps out of his inner world and starts communicating with the outside world [32]. Through the game, it is learned to greet, introduce oneself, participate in the game, respect the people around, wait their turn, share, and gain the ability to solve problems, obey the rules, and defend their rights against others. Role begins to develop through imitation to learn the real world. With the house game, they learn roles such as mother, father, brother, and sister. They rehearse life with games such as cooking, washing, ironing, and car repair. By choosing roles suitable for their gender in the game, they use it effectively [33].

Love, joy, laughter, sadness, crying, fear, anger, stubbornness, jealousy, and aggression are signs of emotion. During play, children not only reveal feelings that make them happy but also reveal their fears, jealousy, and negative emotions that they cannot cope with. They learn to deal with their fears, to control their jealousy, and to control their emotions. Parents can recognize and help their new sibling child’s jealousy by playing with them or drawing pictures. When it cannot be solved with adult support, they can apply for professional support from pedagogues or child psychiatrists. The game is very important in detecting and solving this problem early. Hospitalization, vaccination, and surgery sometimes create a bad experience for the child and family, and it has been shown that games and toys reduce anxiety in this process [34].

Linguistic Influences

The effects of games and toys on language development are enormous. Children start learning the spoken language from the moment they are born. By making sounds first in infancy, as we grow up, words and sentence structures develop through storytelling and self-expression. To pass all these stages, they must learn concepts, objects, and symbols, place them in their memories, and when necessary, they must extract and use them correctly and properly. When children play with their peers through games, they can learn the more complex structure of the language. For this, children should be supported in terms of play. Awareness of language and playing should also be developed in parents. When mutual communication is established with children, it has been observed that the linguistic improvement of children develops faster and more effectively. For this reason, it is of great benefit for parents to prefer language enhancing activities such as oral games, fairy tales, and lullabies [34–36].

THE ROLE OF PHYSICIANS IN GAMES AND TOYS

Playing is a beloved part of childhood that offers children significant developmental benefits and offers parents the opportunity to take full care of their children. While trying to create the most suitable developmental environment for children, it is imperative to include playing as well as opportunities for academic and social enrichment and to provide safe environments for all children. In particular, pediatricians and family physicians and other health professionals should have information to guide families about the importance of games and toys. In patient visits, this issue summarized in Table 3 should be mentioned [37].

CHOOSING TOYS IN CHILDREN AND RISKS RELATED TO TOYS

Another important issue as well as the importance of play in children’s life are the toys that mediate play. For this reason, choosing toys suitable for the relevant age and legislation is important all over the world. Conformité Européenne (CE), which is the statement that it meets the minimum safety conditions following the regulations, should be necessary when purchasing the toy. The age for which it is produced, the special risks it carries, and the user manual should be read and considered [38]. Some important points when choosing a toy are summarized in Table 4.

Although it is obvious that playing games with toys are a very important need for children, unfortunately, accidents due to these toys are not uncommon. According to a report in America, over 1 million toy-related accidents between the ages of 0 and 19 were detected between 2015 and 2018. Scooters and skateboards take the lead in both genders. Other causes are accidents related to balls, toy vehicles, and building sets. In terms of
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These accidents are most common between the ages of 1–4 and in adolescence [39]. Unfortunately, in our country, we have encountered accidents due to scooters and skateboards more commonly in recent years, which can sometimes be fatal. For this reason, consumers should be adequately informed about the risks of commercially offered toys.

In a study conducted in our country, it was shown that families and toy sellers do not have sufficient knowledge about toys. Only 6.2% of buyers and 34.1% of sellers know the regulations on toys. About 54.7% of the toy buyers stated that they do not read the labels on the toy package. It seems that there is a way to be taken in this regard [40]. In our country and the world, the concept that is as important as toys is playing fields. The suitability of the playing areas will reduce the risk of accidents. There is a need for some protective policies in this regard. Sufficient green and suitable areas for play should be created in all our cities in proportion to the population. The child’s right to play is only possible if there is a safe area to play.

**TABLE 3. The role of pediatricians on games and toys***

| Requirement | Details |
|-------------|---------|
| All toys must have the CE mark |
| The specific risks it carries should be specified for its age |
| It should not contain small and sharp parts that could pose an aspiration risk to young children and should be sturdy |
| It should consist of non-flammable materials |
| The electrical voltage should not exceed 24 volts |
| The chemical substance must either not contain or, if it does, must comply with the legislation at a level that does not pose a danger |
| The battery boxes of toys containing batteries must be very firm and closed |
| Toys should be appropriate to the cultural structure. For example, a white-skinned baby in the hands of a black child may pose a risk to the child |
| Toys reminiscent of violence should be avoided |
| Toys can be chosen according to the budget. Instead of expensive toys, kitchen utensils in the house can also be used as toys. The key is to stimulate the child’s imagination and create time for play |
| Toys for boys and girls should be selected according to gender |
| Due to the risk of aspiration, it is necessary to avoid toys such as balloons |

**TABLE 4. Some features to consider while choosing a toy**

| Requirement | Details |
|-------------|---------|
| All toys must have the CE mark |
| The specific risks it carries should be specified for its age |
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Conclusion

All children have the right to live their childhood, to improve their physical and mental health, and to be happy by playing games with toys, which is despised as a “child’s toy” but has a disproportionately serious business. This right is also an important component of children’s rights. Therefore, attention should be paid to the concepts of games and toys, which are so important for the child to be a part of society as a healthy individual at every stage of his development. All health-care components, especially pediatricians and family physicians, should take an active role in creating this care. Awareness should be twisted among especially families and other members of the society, such as babysitters and teachers, regarding the risks that may occur during playing and protection from these risks.

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REFERENCES

1. https://www.merriam-webster.com/dictionary/game. Accessed Oct 8, 2020.
2. Theobald M, Danby S, Einarsdóttir J, Bourne J. Children’s perspectives of play and learning for educational practice. Educ Sci 2015;5:345–62.
3. Parham LD, Fazio L. Play in occupational therapy for children. 2nd ed. St. Louis, MO, USA: Mosby; 2008.
4. Goldstein J. Play in children’s development, health and well-being. Brussels: Toy Industries of Europe; 2012. Available at: https://www.ormes.nl/wp-content/uploads/2010/08/Play-in-children-s-development-health-and-well-being-feb-2012.pdf. Accessed Mar 26, 2021.
5. Stagnitti K, Unsworth C. The importance of pretend play in child development: an occupational therapy perspective. Br J Occup Ther 2000;63:121–7.
6. International Play Association. Available at: http://ipaworld.org/childs-right-to-play/the- childs-right-to-play/. Accessed Oct 1, 2020.
7. United Nations Human Rights. Convention on the rights of the child. General assembly resolution 44/25 of 20 November 1989. Available at: https://www.ohchr.org/en/professionalinterest/pages/crc.aspx. Accessed Oct 1, 2020.
8. Skard G, Bundy AC. Test of playfulness. In: Parham LD, Fazio LS, editors. Play in Occupational Therapy for Children. St. Louis, MO, USA: Mosby; 2008. p. 71–93.
9. Muys V, Rodger S, Bundy AC. Assessment of playfulness in children with autistic disorder: a comparison of the children’s playfulness scale and the test of playfulness. OTJR 2006;26:159–70.
10. Topaloğlu G, Aslan gördesli M. Oyun ve oyuncak seçimi (0-3 yaş). In: Cübeyal F, Çetin Özben G, editors. Anne-Baba, Veli, Aile Eğitimi ve Rehberliği: 0-18 Yaş Grubu Gelişimi Rehberi. İstanbul: Adel Kalemci-li; 2012. p. 22–31.
11. Janssen I, Leblanc AG. Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. Int J Behav Nutr Phys Act 2010;7:40.
12. LeBlanc AG, Spence JC, Carson V, Connor Gorber S, Dillman C, Janssen I, et al. Systematic review of sedentary behaviour and health indicators in the early years (aged 0-4 years). Appl Physiol Nutr Metab 2012;37:753–72.
13. Howard J, McInnes K. The impact of children’s perception of an activity as play rather than not play on emotional well-being. Child Care Health Dev 2013;39:737–42.
14. Gümüşdağ H. Effects of pre-school play on motor development in children. Univers J Educ Res 2019;7:580–7.
15. Onur Sezer G, Sadioğlu Ö. The comparison of toy preferences of teacher candidates in first and fourth grades of presch-ool education. International Journal of Early Childhood Education Research 2012;1:62–75.
16. Dzhambov A, Hartig T, Markevych I, Titov B, Dimitrova D. Urban residential greenspace and mental health in youth: Different approaches to testing multiple pathways yield different conclusions. Environ Res 2018;160:47–59.
17. Maas J, van Dillen SME, Verheij RA, Groenewegen PP. Social contacts as a possible mechanism behind the relation between green space and health. Health Place 2009;15:586–95.
18. O’Dwyer MV, Fairclough SJ, Knowles Z, Stratton G. Effect of a family focused active play intervention on sedentary time and physical activity in preschool children. Int J Behav Nutr Phys Act 2012;9:117.
19. Elkind D. Can we play? Greater Good Magazine 2008;IV:14–7.
20. Hofferth S. American Children’s Outdoor and Indoor Leisure Time. In: Goodenough E, editor. A Place for Play. Ann Arbor, MI: University of Michigan Press; 2008. p. 41–4.
21. Tandon PS, Saelens BE, Christakis DA. Active play opportunities at child care. Pediatrics 2015;135:e1245–31.
22. Bower JK, Hales DP, Tate DF, Rubin DA, Benjamin SE, Ward DS. The childcare environment and children’s physical activity. Am J Prev Med 2008;34:23–9.
23. National Association for Sport and Physical Education. Active start: a statement of physical activity guidelines for children birth to five years. Reston, VA: National Association for Sport and Physical Education; 2002.
24. Dyment JE, Bell AC. Grounds for movement: green school grounds as sites for promoting physical activity. Health Educ Res 2002;17:952–62.
25. Ginsburg H, Oppen JS. Piaget’s theory of intellectual development. 3rd ed. Englewood Cliffs, NJ: Prentice-Hall; 1988.
26. Bergen D. The role of pretend play in children’s cognitive development. ERCP 2002;1–13.
27. Hijriati. Tahapan perkembangan kognitif pada masa early childhood. Jurnal Pendidikan Anak 2016;1:33–49.
28. Zosh JM, Hopkins EJ, Jensen H, Liu C, Neale D, Hirsh-Pasek K, et al. Learning through play: a review of the evidence (white paper). The LEGO Foundation, DK; 2017.
29. Piaget J. Play, dreams, and imitation in childhood. New York, NY: Norton and Company; 1951.
30. Amalia E, Khoiriyati S. Effective learning activities to improve early childhood cognitive development. Al-Athfal J Educ Child 2018;4:103–11.
31. Miller E, Almon J. Crisis in the kindergarten: Why children need to play in school. Education Digest 2009;75:42–5.
32. Mahoney C, Anderson AG, Miles A, Robinson P. Evaluating the effectiveness of applied sport psychology practice: making the case for a case study approach. Sport Psychologist 2002;16:433–54.
33. Akandere M. Eğitici Okul Oyunları. 2nd ed. Ankara: Nobel Yayıncılık; 2006. p. 1–36.
34. Tuğrul B. Oyun temelli öğrenme. In: Zembat R, editors. Okul Öncesinde Özel Eğitim Yöntemleri. 1st ed. Ankara: Anı Yayıncılık; 2010. p. 187–216.
35. Bacanlı H. Eğitim Psikolojisi. Ankara: Pegem Akademi Yayınları; 2011.
36. Yorgman M, Garner A, Hutchinson J, Hirsh-Pasek K, Golinkoff RM; Committee on Psychosocial Aspects Of Child And Family Health; Council On Communications And Media. The power of play: a pediatric role in enhancing development in young children. Pediatrics 2018;142:e20182058.
37. Ginsburg KR; American Academy of Pediatrics Committee on Communications; American Academy of Pediatrics Committee on Psychosocial Aspects of Child and Family Health. The importance of play in promoting healthy child development and maintaining strong parent-child bonds. Pediatrics 2007;119:182–91.
38. EU Directive 93/68/EEC, CE Marking. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A31993L0068. Accessed Oct 6, 2020.
39. Toy Injuries in U.S. Children: Know the Facts. Available at: https://www.childrenssafetynetwork.org/sites/childrenssafetynetwork.org/files/Toy%20Injuries%20in%20U.S.%20Children_Know%20the%20Facts.pdf. Accessed Oct 15, 2020.
40. Çamur D, Vaizoğlu SA, Akbaş M, Başaran D, Batmaz AG, Bilgin E, et al. Oyuncak alıcı ve satıcılarının oyuncak güvenliği ve yönetmeliği konusundaki bilgi düzeyleri. Çocuk Sağlığı ve Hastalıkları Dergisi 2008;51:31–8.