

Fundamentals of Sexual Identity: A Study of Sex-Typed Toys Preferences in Children

Scapellato Paolo* and De Pedis Carolina

European University of Rome, Macerata, Italy.

***Correspondence:**

Scapellato Paolo, European University of Rome, Via Benedetto Croce 10, 62100 Macerata, Italia, Tel: +393477334269,

Received: 12 May 2021; **Accepted:** 10 June 2021

Citation: Scapellato P, De Pedis C. Fundamentals of Sexual Identity: A Study of Sex-Typed Toys Preferences in Children . Int J Psychiatr Res. 2021; 4(3): 1-8.

ABSTRACT

Sexual differentiation is a multidimensional process influenced by various factors. It is very important to understand the processes of sexual identification.

Studying gender differences in gaming is interesting and productive considering the advantages that this method of observation allows.

The sample of this research is composed by 71 children, of which 39 are males and 32 females between the ages of 6 and 36 months. The materials used in this research are ten toys and a questionnaire given to parents that proved essential to investigate the personal data of the children participating in the study. The selection of toys was based on a survey involving 122 subjects, 65 men and 57 women, aged between 18 and 80.

The results show significant differences in the two groups in the preference of games: the males were more entertained with the games considered masculine and the females more with the games considered feminine.

This research adds proof of how sexual classification goes beyond mere social construct

Keywords

Gender Differences, Gender Identity, Sexual Differentiation, Toy Preferences in Children, Gender Roles.

Introduction

Sexual differentiation is a multidimensional process influenced by various biological, social, educational and cognitive factors, none of which should be ignored if one wishes to study its entire development and path [1] beginning in childhood and ending with the transition to adulthood, with some variability during adolescence [2].

It is very important to understand the processes of sexual identification, in order to better understand the clinical frameworks linked to sexual identity in adolescence and adulthood. In the scientific community, there remains some confusion between the

concepts of sexual identity and gender identity, as evidenced by a recent study in which both concepts were used in a rather confusing manner [3]. Robust sexual identification leads to higher levels of mental and physical well-being, even in the case of belonging to a sexual minority [4]. Sexual minorities are in fact subject to greater stress [5] and even at risk of suicide, especially in the early stages of recognition of their minority identity [6]; however, when identification is stable, the use of specific coping strategies enables better social adaptation [7].

One crucial approach to the study of sexual typing, to be further explored by contemporary research, is the biological one: it is impossible to deny biology's involvement from the moment in which mutual interaction between behaviour and the brain is known [8]. Analysing and understanding brain differences between female and male subjects is an important step in explaining behavioural

differences relating to sex. Starting from this assumption, a number of studies [9-11] have shown that the prenatal hormonal environment, in which gonadal steroids play a fundamental role in terms of their strong impact on neural development, is responsible for the sexual dysmorphism of the brain.

In trying to shed light on the influences of hormones on behaviour, it is important, given that direct manipulative experimentation on human beings cannot be performed, to conduct studies on pre-pubertal behaviour such as the choice of toys.

Gender differences in play behaviour

Observing gender differences in play is an interesting and effective method that has a number of advantages [12]. In the first place, children spend most of their day engaged in play activities. Therefore, watching them during these periods of interest in terms of identifying the causes and individual differences underlying their choice of games. Secondly, it is possible to observe sex differences in game preferences, including predilection types of toys. Recent studies suggest that sex, more than culture, affects children's sex-typed toy preferences [13] and girls and boys showed gender-related differences of similar magnitude and gender-related differences increased with age [14]. Lastly, the study of this behaviour can be evaluated in a simple and reliable way.

Explanations for sexual differences in play behaviour are based on biological, social and cognitive factors, each of which provides its own explanation for the timing of its first appearance and its changes during the development process [15]. Going into more detail, biological explanations have provided evidence of innate influences, leading to research aimed at discovering those characteristics that make specific toys differentially attractive to brains exposed to different levels of androgens, such as testosterone, before birth and immediately thereafter.

Numerous studies have identified differences between the sexes in terms of attitudes that affect play behaviour. For example, some found a higher level of motor activity in newborn males than females [16], which could be associated with their particular attraction to moving objects such as balls and toys with wheels [17]; in contrast, little girls seem to prefer toys with animated characteristics, such as faces, or characteristics that allow fine-type manipulation [17].

In a further study [18], children of both sexes, aged 13 months, were observed in a standardised play situation with their mothers. The results showed gender differences in interaction time and play style. Specifically, the girls played with toys with animated features, preferred activities that mainly involved fine muscle co-ordination and displayed lower levels of activity by playing sessions often; on the other hand, the boys played mostly in an upright position and banged most of the toys on the ground.

Another study showed that girls, in expressing their individuality, preferred to play quietly and in small groups, sometimes showed competitive behaviours that they tended to express emotionally

[19]; conversely, boys tended to run around more, make more noise and exhibit competitive behaviour of a physical type, manifesting for example in fight games [20].

Finally, Auyeung and her collaborators provided further evidence of the biological origin of gender differences by demonstrating the existence of a link between fetal testosterone and the development of sex-typed play [21]. In fact, studies of the behaviour of girls exposed to abnormal testosterone levels due to congenital adrenal hyperplasia (CAH), a pathology characterised by disorders in the biosynthesis of steroid hormones, showed some masculinisation in their play behaviour in terms of choosing a playmate and preferences for toys [22-24]. Because these girls are treated hormonally, it is thought that masculinisation is due to prenatal exposure to androgens.

The research presented in this paper is part of a series of studies on innate and diverse characteristics of male and female children. The focus is on the biological aspects that influence behaviour, with gender comparison being the goal. A further, specific, purpose is to investigate the possible existence of a natural predisposition that encourages children to prefer sex-typed typologies of play, which could represent the biological factors that influence these choices.

General Material and Methods

Methodological considerations

It is essential that the recording of infants and preschoolers' behaviour takes place under the direct supervision of a significant adult, for both practical and ethical reasons [1]. This research was performed in accordance with the standards of the code of ethics for psychology research, according to the Helsinki Declaration.

The study took into consideration the influence of social context on the expression of sex-differentiated behaviour [25-27]. Thus, we favoured direct observation under controlled conditions, allowing limited control over dependent variables with the aim of facilitating the occurrence of the phenomena to be investigated. Thus, the observer does not intervene directly on behaviour but creates certain conditions to encourage the appearance of the phenomenon to be studied.

Therefore, we observed the behaviour of boys and girls in their nursery classes, i.e. natural and unstructured familiar environments, in the absence of their parents. The children were observed individually rather than in interaction with others, and their behaviour was recorded in real time using paper and pencil: with the help of a stopwatch, the researcher, sitting next to the child, recorded the latter's behaviour on a previously created checklist.

Participants

The participants were recruited from three different nurseries in Rome, with the informed consent from the parents. A total of 80 children (41 male and 39 female) were recruited in this way, all aged between six and 36 months that is, from the period in which they start walking [28] and born in Rome to families of average

socio-economic status. Nine of the children, of whom two were male and seven females, withdrew from the observation condition and were not pressed to participate. Therefore, the final sample was composed as follows: 71 children, of whom 39 were male (age A = 26.06 months, SD = 8.054) and 32 females (age A = 24.95 months, SD = 8.660).

The children were divided into two groups: the first (9–17 months: seven males, age A = 13.56 months, SD = 2.277; five females, age A = 11 months, SD = 4.598) covering the age group in which most children show no gender self-awareness [27]; the second (18–36 months: 32 males, age A = 29.59 months, SD = 4.905; 26 females, age A = 28.87months, SD = 4.323) covering the period in which most children develop the ability to label themselves and others as either ‘men’ or ‘women’ [29-31], show sex differences in independent play [32-34] and develop further knowledge on gender categories [35].

Measures

Materials

The materials used in this research were ten toys and a questionnaire given to parents that was essential for capturing the personal data of the children and the socio-economic status of the family. The selection of toys was based on a survey of 122 subjects 65 men and 57 women aged between 18 and 80 years, residing in Rome. The survey involved giving them a piece of paper and a pen and asking them to write down what comes to mind immediately when thinking of a male, a female and a neutral toy.

The results of the survey are shown in detail in Figure 1. The most common responses for the male toy were a toy car (45.08%), a football (39.38%), a hammer (8.18%) and a blue object (7.36%).

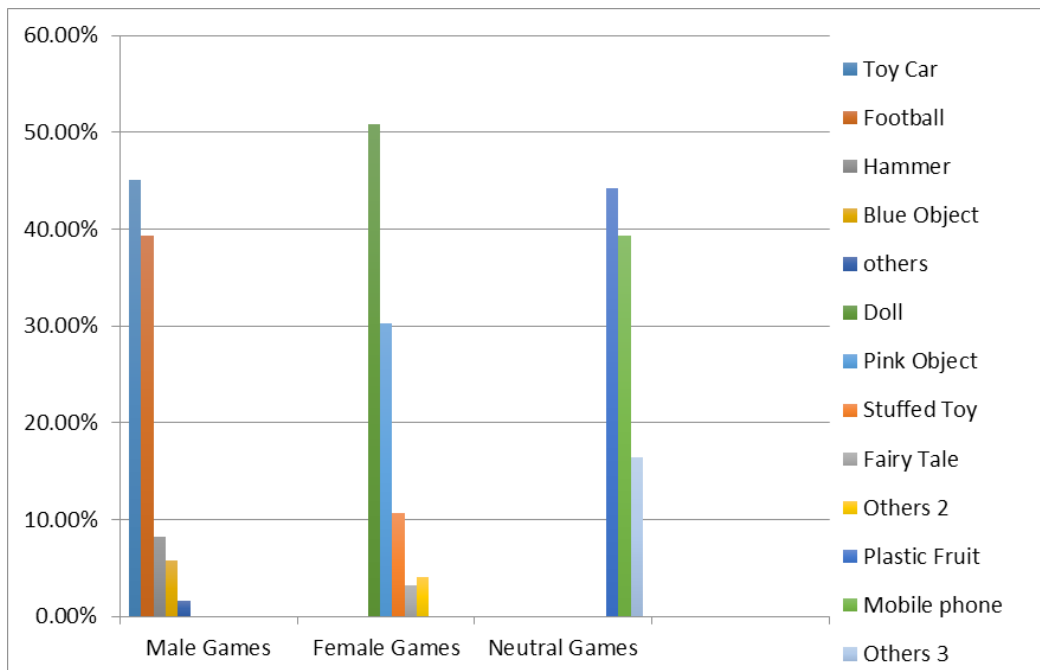
The most common responses for the female toy were a doll (50.81%), a pink object (33.32%), a stuffed toy (12.60%) and a fairy tale (3.27%). Finally, the most common answers for neutral toys were plastic fruit (39.35%) and a mobile phone (60.65%).

Procedures

The observation of children took place in their classes, in the absence of their parents. All children were observed individually and on different days between 10.30 and 11.30, the time slot immediately before lunch time and usually dedicated to free play.

Observation took place in a quiet corner of the classroom: in this way it was possible to perform it in the presence of other children and the teachers without the latter interacting with the child, thus maximising the natural context of the child’s play behaviour. The ten selected toys were placed on a carpet, in a randomised order, in the form a semicircle around the child about a metre away from him or her; this distance, greater than the length of a child’s arm, was chosen so that an intentional movement was necessary in order to touch each toy.

Participants were observed in random order. Each child was accompanied by the teacher into the corner where the observation would take place. The experimenter, equipped with a stopwatch, pen and notebook, and seated in a chair in a position where he could observe every possible contact between the child and the toys, then encouraged the child to ‘Play with any toy you wish’. For the entire duration of the observation, the investigator made no signs of a verbal or expressive type and did not converse any further with the child. The time set for each observation, 900 seconds, was based on the time usually dedicated to each play session in the nurseries. At the end of this period, the experimenter informed the child that he or she could return to play with his



Graph 1: Survey of Games choices (to insert in section 2.3).

or her companions; those children who left the observation area earlier than expected were not held back.

Coding procedure

The coding system from which we took our inspiration was the Stimulus Preference Coding System (SPCS), which can code preference in terms of approach (i.e. eye contact, head turn), contact (i.e. touch stimulus) and interaction (i.e. how many times the subject interacts with the stimulus). The result was a coding system composed of eleven categories, corresponding to the ten toys and the addition of an activity labelled 'other' that made it possible to code circumstances in which the child did not leave the observation area but engaged in activities that did not involve the test toys. Under this system, preference was coded in terms of interaction that included any type of contact with the toys, be it visual or physical.

Data collection procedure

A variant of simple events recording was applied, i.e. event logging with time information.

Observation, lasting a total of 900 seconds for each participant, started as soon as the participant reached his or her position. Time information was recorded in terms of seconds spent by each child interacting with each toy. The observation was interrupted if the child decided to leave the observation area, but not if he or she ceased to play. In cases where the subject interacted with several toys at the same time only the first one to be touched was coded, as any subsequent toys were considered accessories to or combined with the first one.

Table 1: Sample characteristics (6-36 months) (to insert in section 3.1).

	Males (N=39)		Females (N=32)		Mann whitney U- test	P=
	Average	s.d.	Average	s.d.		
Age	26,07	8,045	24,95	8,660	745,000	0,597
Total time	753,08	150,283	688,13	167,629	508,000	0,158

Table 2: Difference between sexes over time of interaction with individual toys (6-36 months) (to insert in section 3.1).

Toys	Males (N = 39)		Females (N = 32)		Mann-Whitney U- Test	p =
	Average	S.d.	Average	S.d.		
Football	98,21	127,699	19,06	34,964	U =357,500	< 0,001
Hammer	190,56	169,703	134,35	145,076	U =515,000	0,206
Blue Object	9,08	16,751	5,47	14,048	U =561,000	0,350
Toy car	121,56	128,341	14,50	25,204	U =197,000	< 0,001
Doll	1,82	5,041	38,19	69,842	U =374,500	< 0,001
Pink Object	67,38	90,718	169,78	156,947	U =352,500	< 0,001
Fairy Tale	11,15	34,172	31,72	58,318	U =471,500	0,026
Stuffed Toy	16,38	23,696	20,19	38,005	U =617,500	0,933
Plastic Fruit	87,21	102,645	73,91	84,479	U =609,000	0,861
Mobile phone	87,64	118,817	104,34	95,371	U =521,000	0,232

Table 3: Group 1 features (6-17 months) (to insert in section 3.2).

	Males (N=7)		Females (N=5)		Mann whitney U- test	P=
	Average	S.d.	Average	S.d.		
Age	13,56	2,297	11,00	4,598	25,000	0,287
Total Time	805,71	142,227	672,00	78,238	8,000	0,110

Statistical analysis

Comparisons between groups (males and females) were performed on SPSS, using the Mann-Whitney U Test because the data were not normally distributed.

Results

Total sample characteristics: 6–36 months

The total sample consisted of 71 children (39 males and 32 females) aged between 6 and 36 months. Their total interaction times can be seen in Table 1.

Taking into account our chosen level of significance, the results highlighted in Table 2 that is, those referring to the football, the toy car, the pink object, the doll and the fairy tale are considered significant. On the other hand, compared with the male sample the female sample spent on average more time interacting with female toys (doll, pink object, fairy tale and stuffed toy). As far as the neutral toys were concerned, there was an internal difference: the males spent a similar amount of time interacting with both the fruit and the mobile phone; but while this was more time than the females spent interacting with the fruit, it was less time that the females spent with the mobile phone.

Group 1 characteristics: 6–17 months

From Table 3 it can be seen that there were 12 subjects aged between 6 and 17 months, of whom seven were males and five were females. The average age of the male participants was higher than the average age of the female participants. In addition, female subjects interacted with toys for 14.85% less time than did males (672.000 s vs. 805.71 s).

It can be noted from Table 4 that in this age group the results for preference for the football are significant in terms of a difference between the sexes in interaction time.

Looking at Figure 3, it can be seen that on average the male subjects interacted for a greater length of time with the toys considered masculine (ball, hammer, blue object, toy car); while, the female participants interacted, on average, for a longer period of time with the toys considered feminine (doll, pink object). As for the neutral games, on average the males preferred the fruit, the females the mobile phone.

Group 2 characteristics: 18–36 months

Table 5 above shows that the total number of subjects in the group of children aged 18 to 36 months was 58. This included 32 males and 26 females. The average age of the males was 26.59 months, which is lower than the average age of the females. In addition, the male subjects interacted with the toys on average 53.87 seconds longer than the females did.

Examining Table 6, one can see that the values for preferences for the football, toy car, doll, pink object and fairy tale are all significant.

Finally, looking at Figure 4 it is possible to observe that for the interactions with male toys (football, hammer, blue object, toy car), on average a greater amount of time was spent by the male subjects than by the females; while for the female toys (doll, pink object, fairy tale, stuffed toy) the reverse was true. For neutral toys again, on average the males preferred to play with the fruit, the females with the mobile phones.

General discussion

Boys and girls, when observed in the familiar environment of their nursery school and in the absence of their parents, were found to prefer different types of toys: compared with the females, the males played with more masculine-defined toys; while compared with the males, the females played with more feminine-defined toys.

The effect of age on sex-typed preferences for toys

The focus of this study was mainly on the tendential significance of differences between the sexes in preferences for toys in children in group 1, i.e. aged between 6 and 17 months. This is because differences at this age would seem to appear before extensive socialisation and the acquisition of knowledge of gender categories. This would seem to indicate that such differences

Table 4: Difference between sexes over time of interaction with individual toys (6-17 months) (to insert in section 3.2).

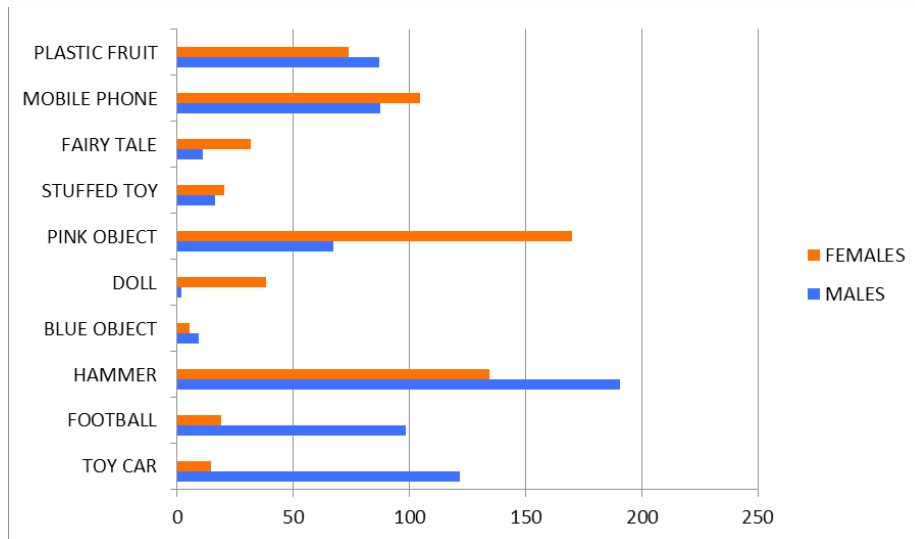
Toys	Males (N = 7)		Females (N = 5)		Mann-Whitney U- Test	p =
	Average	S.d.	Average	S.d.		
Football	166,43	198,719	3,60	8,050	U = 6,000	0,046
Hammer	177,00	187,497	102,60	132,585	U = 13,000	0,457
BlueObject	11,29	15,861	,00	,000	U = 10,000	0,110
Toy car	54,00	84,884	15,60	25,472	U = 14,500	0,613
Doll	0,57	1,512	107,00	149,315	U = 10,000	0,066
Pink Object	7,86	16,797	54,00	61,482	U = 8,000	0,173
Fairy Tale	37,14	69,693	6,00	13,416	U = 15,000	0,594
Plush	6,29	11,470	0,00	0,000	U = 12,500	0,212
Plastic Fruit	82,71	50,215	50,20	51,383	U = 11,000	0,286
Cellular	189,86	179,401	109,80	108,311	U = 12,000	0,363

Table 5: Group 2 characteristics (18-36 months) (to insert in section 3.3).

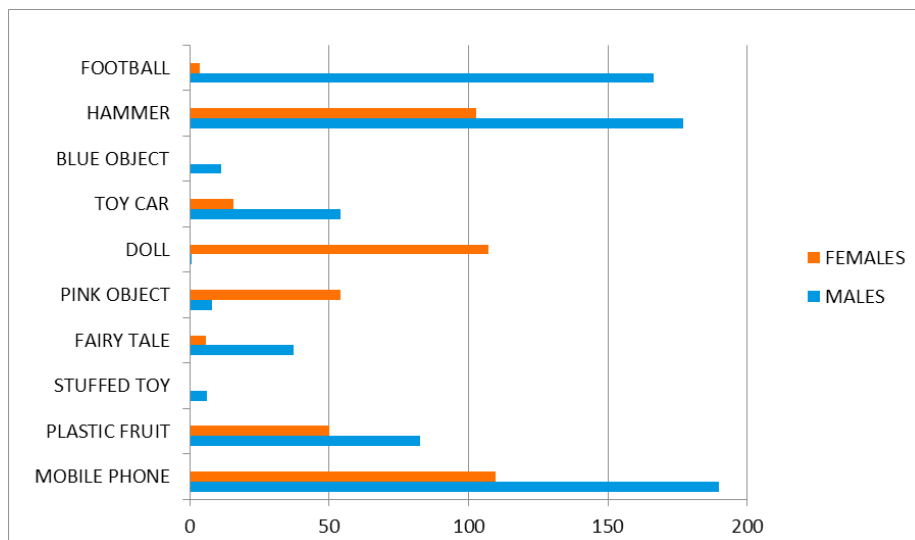
	Males (N=32)		Females (N=26)		Mann whitney U- test	P=
	Average	S.d..	Average	S.d.		
Age	29,59	4,905	28,87	4,732	441,000	0,577
Total Time	741,56	151,681	687,69	182,960	357,500	0,333

Table 6. Difference between sexes over time of interaction with individual toys (18-36 months) (to insert in section 3.3)

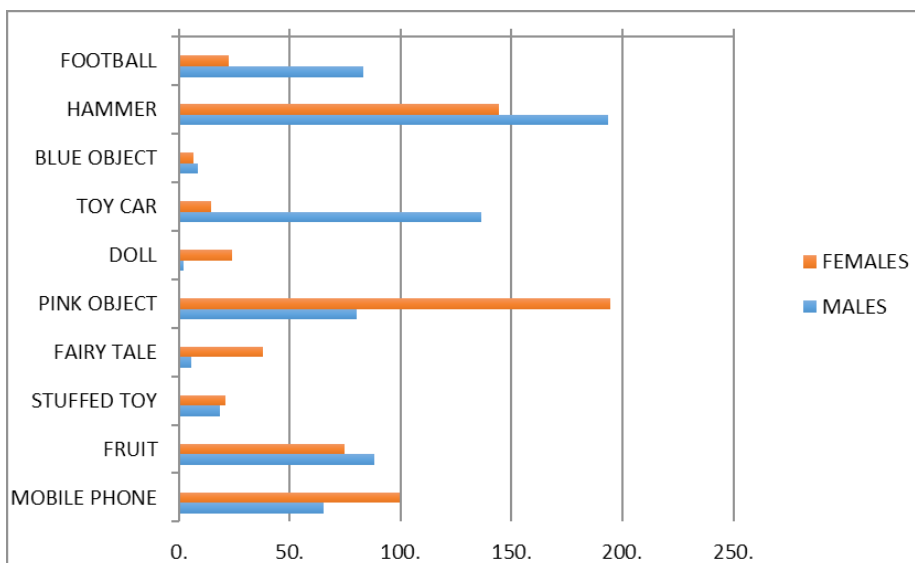
Toys	Males (N = 32)		Females (N = 26)		Mann-Whitney U- Test	p =
	Average	S.d.	Average	S.d.		
Football	83,28	105,191	22,38	37,986	U = 256,500	0,007
Hammer	193,53	168,663	144,35	150,149	U = 356,000	0,347
BlueObject	8,59	17,144	6,73	15,359	U = 406,000	0,843
Toy car	136,34	132,439	14,85	25,983	U = 92,500	< 0,001
Doll	2,09	5,503	24,12	36,185	U = 254,500	0,002
Pink Object	80,41	95,175	194,35	162,751	U = 245,500	0,007
Fairy Tale	5,47	17,476	37,88	63,059	U = 272,000	0,005
Stuffed Toy	18,59	25,195	21,00	38,131	U = 413,500	0,966
Fruit	88,19	111,451	74,77	89,132	U = 408,000	0,900
Mobile Phone	65,28	90,557	99,81	95,108	U = 315,000	0,113



Graph 2: Differences between sexes in interaction with individual toys (6-36 months) (to insert in section 3.1).



Graph 3: Differences between sexes in interaction with individual toys (6-17 months) (to insert in section 3.2).



Graph 4: Differences between sexes in interaction with individual toys (18-36 months) (to insert in section 3.3).

in the play behaviour of girls and boys are reflective of their biological inheritance (Alexander & Hines, 2002). However, there is the possibility that the developmental system, including biological preference for certain stimulus characteristics and social influences, undergoes reorganisation after the acquisition of gender self-labelling [27,36].

In our group 2 observations, which involved children aged 18 to 36 months, a preference was shown for certain toys that was significant throughout the sample, albeit at varying values. Thus, it might be argued that with increasing age there is an increase in preference for toys for which significance has emerged, which could reflect an increase in ability and interest. At this point, it is essential to consider that the development of skills and interests in children attending nursery school mainly takes place in a context in which there is a prevalence of stimuli from neutral toys and activities. Moreover, it should be borne in mind that the stimuli used here were the same for the entire sample, so it is probable that the differences found are due to the emergence of biological-hereditary type differences between the sexes.

Conclusions

This research adds further evidence to a vast and growing body of psychological, genetic, neurophysiological, psycho-behavioural, ethological and sociological studies showing sexual classification to go beyond mere social construct.

It is essential to stress that the human being is a unique organism. Therefore, discerning any part of it, by separating out the biological from the psychological, would mean a return to the mind-body dualism that is now largely outdated.

Data availability statement

The datasets analyzed during the current study are available from the corresponding author on reasonable request.

References

1. Belsky J. *Psicologia dello sviluppo*. Bologna Zanichelli Editore. 2009.
2. Moreira AD, Halkitis PN, Kapadia F. Sexual identity development of a new generation of emerging adult men: The P18 cohort study. *Psychology of Sexual Orientation and Gender Diversity*. 2015; 2: 159-167.
3. White AE, Moeller J, Ivcevic Z, et al. Gender identity and sexual identity labels used by U.S. high school students: A co-occurrence network analysis. *Psychology of Sexual Orientation and Gender Diversity*. 2018; 5: 243-252.
4. Legate N, Ryan RM, Rogge RD. Daily autonomy support and sexual identity disclosure predicts daily mental and physical health outcomes. *Personality and Social Psychology Bulletin*. 2017; 43: 860-873.
5. Chaudoir SR, Wang K, Pachankis JE. What reduces sexual minority stress? A review of the intervention "toolkit". *Journal of Social Issues*. 2017; 73: 586-617.
6. Dirkes J, Hughes T, Ramirez-Valles J, et al. Sexual identity development: Relationship with lifetime suicidal ideation in sexual minority women. *Journal of Clinical Nursing*. 2016; 25: 3545-3556.
7. Toomey RB, Ryan C, Diaz RM, et al. Coping with sexual orientation-related minority stress. *Journal of Homosexuality*. 2018; 65: 484-500.
8. Breedlove S, Rosenzweig M, Watson N. *Psicologia biologica. Introduzione alle neuroscienze comportamentali, cognitive e cliniche*. Milano: Ed. CEA. 2009.
9. Hutchison JB, Wozniak A, Beyer C, et al. Steroid metabolising enzymes in the determination of brain gender. *J Steroid Biochem Mol Biol*. 1999; 69: 85-96.
10. Knickmeyer RC, Baron-Cohen S. Fetal testosterone and sex differences in typical social development and in autism. *J Child Neurol*. 2006; 21: 825-845.
11. Levine S, Mullins RF. Hormonal influences on brain organization in infant rats. *Science*. 1966; 152: 1585-1592.
12. Kinzie MB, Joseph DR. Gender differences in game activity preferences of middle school children: Implications for educational game design. *Educational Technology Research and Development*. 2008; 56: 643-663.
13. Davis JTM. The role of culture in children's sex-typed preferences for colours, toys, and affordances: A systems theory approach (Doctoral dissertation, University of Cambridge). 2019.
14. Davis JTM, Hines M. How large are gender differences in toy preferences? A systematic review and meta-analysis of toy preference research. *Archives of Sexual Behavior*. 2020; 49: 373-394.
15. McCune-Nicolich L, Carroll S. Development of symbolic play: Implications for the language specialist. *Topics in Language Disorders*. 1981; 2: 1-15.
16. Campbell DW, Eaton WO. Sex difference in the activity level of infants. *Infant and Child Development*. 1999; 8: 1-17.
17. Alexander GM, Hines M. Sex differences in response to children's toys in non-human primates (*Cercopithecus aethiops sabaues*). *Evolution and Human Behavior*. 2002; 23: 467-479.
18. Goldberg S, Lewis M. Play behavior in the year-old infant: Early sex differences. *Child Development*. 1969; 40: 21-31.
19. Else P. *The value of play*. London: Continuum. 2009.
20. Holland P. *We don't play with guns here. War, weapons and superhero play in early years*. New York: McGraw-Hill. 2003.
21. Auyeung B, Baron-Cohen S, Ashwin E, et al. Fetal testosterone predicts sexually differentiated childhood behavior in girls and in boys. *Psychol Sci*. 2009; 20: 144-148.
22. Ehrhardt AA, Meyer-Bahlburg HF. Effects of prenatal sex hormones on gender-related behavior. *Science*. 1981; 211: 1312-1318.
23. Hines M, Brook C, Conway GS. Androgen and psycho-sexual development: Core gender identity, sexual orientation and recalled childhood gender role behavior in women and men with congenital adrenal hyperplasia (CAH). *Journal of Sex Research*. 2004; 41: 75-81.

-
24. Pasterski VL, Geffner ME, Brain C, et al. Prenatal hormones and postnatal socialization by parents as determinants of male-typical toy play in girls with congenital adrenal hyperplasia. *Child Development*. 2005; 76: 264-278.
 25. Fabes RA, Martin CL, Hanish LD, et al. Early school competence: The roles of sex-segregated play and effortful control. *Developmental Psychology*. 2003; 39: 848-858.
 26. Serbin LA, Connor JM. Sex-typing of children's play preferences and patterns of cognitive performance. *Journal of Genetic Psychology*. 1979; 134: 315-316.
 27. Zosuls KM, Ruble DN, Tamis-LeMonda CS, et al. The acquisition of gender labels in infancy: Implications for gender-typed play. *Developmental Psychology*. 2009; 45: 688-701.
 28. Camaioni L, Di Blasio P. *Psicologia dello sviluppo*. Bologna: Il Mulino. 2007.
 29. Campbell A, Shirley L, Caygill L. Sex-typed preferences in three domains: Do two-year-olds need cognitive variables? *British Journal of Psychology*. 2002; 93: 203-217.
 30. Levy GD. Gender-typed and non-gender-typed category awareness in toddlers. *Sex Roles*. 1999; 41: 851-873.
 31. Stennes LM, Burch MM, Sen MG, et al. A longitudinal study of gendered vocabulary and communicative action in young children. *Developmental Psychology*. 2005; 41: 75-88.
 32. Caldera YM, Huston AC, O'Brien M. Social interactions and play patterns of parents and toddlers with feminine, masculine, and neutral toys. *Child Development*. 1989; 60: 70-76.
 33. Fein G, Johnson D, Kosson N, et al. Sex stereotypes and preferences in the toy choices of 20-month-old boys and girls. *Developmental Psychology*. 1975; 11: 527-528.
 34. O'Brien M, Huston AC. Development of sex-typed play behavior in toddlers. *Developmental Psychology*. 1985; 21: 866-871.
 35. Zosuls KM, Ruble DN, Tamis-LeMonda CS. Self-socialization of gender in African-American, Dominican immigrant, and Mexican immigrant toddlers. *Child Development*. 2014; 85: 2202-2217.
 36. Hines M. Sex-related variation in human behavior and the brain. *Trends in Cognitive Science*. 2010; 14: 448-456.