Gender Specificity Amid Toys

A Comparative Study of Gender-Specific Toy Preferences among 16 years to 40 years in men and women: Exploring Perceptions and Influences Checklist

Ms. Bhagyashree Kulkarni[1], Shravani Pranay Sawant[2], Malavika Manoj[3]

[1]*HOD and Assistant Professor- Department of Forensic Psychology, Institute of Forensic Science, Mumbai, Maharashtra, India*

[2,3]*T.Y.BSc (2023-24) Student-Institute of Forensic Science, Mumbai, Maharashtra, India*

INTRODUCTION

Assigning social significance to biological differences between the genders (male and female), which often results in gender inequality, is called gender differentiation. Through toys, gender differentiation, or to be specific, gender specificity can occur. It is widely accepted that children's toy choice is highly gender-typed; children prefer toys stereotyped for their own gender or new toys labelled as such (Martin and Ruble, 2004). The research here focuses on why children chose toys that are gender-specific and does it influence the cognitive, biological and socio-cultural factors and if it is, it is different or same for male and female and how gender schema theory plays a role in toy preferences.

Toys play an integral role in children's lives and socialization, particularly since children spend time playing with toys by themselves as well as with their peers, parents, and other family members(Corsaro 1997; Seiter 1993).They play a vital role in constructing gender roles(Gonzalez-Mena, 2013) and are designed in such a manner that it captivates a child's attention and reinforce their curiosity, enhances their spatial awareness, imagination, creativity, language development, foundational knowledge and emotional development. Since the child at an early age does not know how to make choices, so the first toy they come in contact with are imposed depending on the likes of buyers, usually through parents. Consequently, children begin to build gender by interacting, i.e playing with toys, which in many cases are typified on the basis of gender and appear to be quite resistant to claims of change (Gzim, Xhambazi, Bujar Adili, Aferdita Ilazi, Hoxha, 2022). An 18-month-old child is likely associates the male voice with the male face and female voice with the female face (Poulin-DuBois, Serbin, & Derbyshire,1998). At the same time, in the visual preference test, boys focus longer on looking at cars, while girls more than boys focus on looking at dolls. These parameters are amplified much more at the age of 24 months (Serbin, Poulin-Dubois, Colburne, Sen, & Eichstedt,2001), indicates that children possess sexual/gender categories from a very early age.

There are three stages in which children learn about gender permanence: the first is when they are between the ages of two and three and think that "gender" is something that can happen, but they do not realize that it is permanent; the second is when most preschoolers achieve gender stability and realize that male infants will grow up to be boys and then men, and female infants will grow up to be girls and then women. The third stage, which occurs in youngsters between the ages of 4 and 8, is when it becomes evident to them that gender is permanent despite changes in outward traits, behaviors, or desires (Kolberg, 1966). According to study findings, parents would rather have daughters play with toys meant for boys, but boys are forbidden from using toys intended for girls (Kollmayer, Schultes, Schober, Hodosi and Spiel's, 2018). But because of understanding gender, toy selection was done mostly on it and how it will affect the child's social, biological and cognitive factors and how gender schema theory is important will be covered which we have included for further study.

At the heart of our exploration lies the Gender Schema Theory, which proposes, the phenomenon of sex typing derives, In part, from gender-based schematic processing, from a generalized readiness to process information on the basis of the sex-linked associations that constitute the gender schema. This means that as children learn the contents of the society's gender schema, they learn which attributes are to be linked

with their own sex and, hence, within themselves (Sandra Lipsitz Bem,1981). As it is a Schema theory- if it can be called a theory-constructive perception as a constructive process wherein what is perceived is a product of the interaction between the incoming information and the perceiver's preexisting schema (Neisser, 1976; Taylor and Crocker, in press). It talks about how the schemas influence the children to perceive and engage with their surroundings, extending their reach into the realm of play choices. Gender-schematic individuals are more likely to see the world in terms of gender and regulate their behavior according to those expectations. And as a result this behavior, in turn, further reinforces the gender-based differentiation of the self-concept through the individual's observation of his or her own behavior (cf.Bem,1972). But,for many of the non-sex typed individuals, they may describe themselves as, say, dominant or nurturant without implicating the concepts of masculinity or femininity (Sandra Lipsitz Bem,1981). Current research endeavors to dissect the layers of this theory, peeling back its intricate folds to reveal the nuanced ways in which gender schema theory interlaces with children's toy preferences.

Researchers delve into the cognitive parameters that underpin the developmental journey of children. According to cognitive developmental theories, gender role acquisition involves three stages: gender labeling, gender stability and gender constancy. It is at this last stage, where the child understands that gender remains the same across different situations, that sex-typed preferences were originally thought to emerge (Vasanti Jadva, Melissa Hines, Susan Golombok, 2010). Recently, researchers have suggested that gender constancy is not a prerequisite for gender-typed behavior and, indeed, young children show sex-typed preferences before gender constancy is attained (Ruble, Martin and Berenbaum,2006). For cognitive theorists, sex-typed behavior follows from a child knowing his or her own gender and becoming aware of the stereotypes that exist in the social environment (Vasanti Jadva, Melissa Hines, Susan Golombok, 2010). It's crucial to expose children to a variety of toys that encourage a broad range of skills, regardless of gender stereotypes as it can enhance spatial skills, problem-solving abilities, language development, which is a crucial cognitive skill and shape the skills and interests that children are encouraged to develop. Our research tends to focus on how cognitive

milestones, information processing abilities, and evolving cognitive structures get affected by gender-specific toy preferences. By unraveling the cognitive intricacies at play, we aim to illuminate the cognitive pathways that guide children towards specific toy categories, often colored by societal expectations.

The biological underpinnings of toy preferences form another crucial facet of our investigation. Beyond the influences of societal constructs, are there inherent biological factors, such as hormonal fluctuations or neurological differences, that contribute to the observed gender-specific choices in play. From the hormonal perspective, sex differences arise, in part, from early hormonal differences between boys and girls (Hines,2004). It has been shown that prenatal sex hormones have been shown to modify sex-dimorphic behavior and temperamental sex differences(Ehrhardt & Meyer-Bahlburg,1981), and human androgen levels appear to be related to gender-related toy preferences, such that high androgen level increases male toy preference among females (Berenbaum,1999; Berenbaum & Hines,1992: Hines & Kaufman,1994) and also infants testosterone levels before 6 months were associated with their gender-typed behavior at 14 months (Lamminmaki et al., 2012). Apart from hormones, neurological differences between boys and girls, leading to varying interests, evolutionary psychology, sensory preferences and genetic influences may be responsible for toy preferences. But by scrutinizing the biological dimensions, we may decipher the intricate dance between nature and nurture in the formation of children's play preferences. Sociocultural status, the invisible hand shaping the fabric of the society, stands as the final frontier in the exploration. How do cultural norms, parental influences, and educational environments sculpt the landscape of gender-specific toy preferences? According to studies, it is shown that early gender socialization may alter infants' development of social identities in the first year after birth (Liquan Liu, Paola Escudero, Christina Quattropani, Rachel A.Robbins, 2020). Studies have shown that parents rate gender-congruent and gender-neutral toys as more desirable than gender-incongruent toys for their children aged 3-6 years (Kollmayer, Schultes, Schober, Hodosi & Spiel,2018). Additionally, mothers with non-traditional gender-typed toys as a child would also purchase non-traditional gender-typed toys for their own children, which indicates that parental attitudes

toward gender may determine what toys appear in the home environment, influencing children's toy preference (Liquan Liu,Paola Escudero,Christina Quattropani, Rachel A.Robbins,2020). Apart from parental influences, cultural beliefs and expectations about gender roles can strongly influence toy preferences and societal norms may dictate what is considered appropriate for boys or girls, influencing the types of toys marketed to each gender. Educational institutions can also contribute to socio-cultural influences on toy preferences by encouraging or discouraging certain toys or play activities. Even media, advertising and peer influence also can shape the interests of a child's toy preference because they can reinforce gender stereotypes and influence the acceptance or rejection of certain toys based on social norms within the group. So by dissecting the societal influences at play, researchers aim to unravel the threads connecting children's play choices to the broader sociocultural context within which they develop.

As we embark on this comparative journey, current research endeavors to bridge the gaps in current understanding, offering nuanced insights into the convergence of psychological theories, cognitive development, biological influences, and sociocultural dynamics that together shape the intricate mosaic of gender-specific toy preferences. By navigating this labyrinth, research aspires to contribute not only to academic discourse but also to the broader societal conversation surrounding the ways in which childhood experiences are molded, one toy at a time.

METHOD

In order to know the toy preferences of both male and female, a checklist was prepared consisting of 40 questions in total, 10 questions each dimension involved. Since the aim of this research was to find out on what basis a child's toy preference changes due to which it got categorized for male and female, inclusion of social, cognitive, biological and gender-schema theories are made in determining whether these theories explain that toy preferences affect cognitive, biological and social factors or not. Developed checklist was provided to the participants after giving the required instruction.

The checklist consists of three alternatives for each question- agree, disagree and neutral. No time limit was provided for this test and responses were assigned on a 3 point scale with score 2 for agree, 1 for disagree and 0 for neutral. After calculating the scores, results were made from Pearson's correlation which measures linear correlation between two sets of data (category score and the overall raw score).

PARTICIPANTS

A total of 238 participants attempted this test with consent. The age group that was selected was between 16-40 years and in that 119 men and 119 women voluntarily participated. Some of them attended this test at the convenience of their home while some attended it in educational settings or at their respective workplace settings either in online or offline mode.

Around 20 participants were those who were studying in junior college (11th and 12th) and attempted it with their as well as their parent's consent and they did it at their respective schools.

In the age group of 19-25, 101 participants completed the test, some pursuing their degree while some having a temporary or permanent occupation.

In the age group of 26-40, 117 participants completed the test and they did it by their own will and they did it at their workplace settings. Compared to 2 other age-groups, this group, in general, had greater magnitude of raw scores.

Before giving the test, a brief introduction of the self-development tool for testing was done. Along with this, it was noted that the setting into which the test was administered was well-ventilated and illuminated and a good rapport was established with the test taker.

MATERIALS

The research included a self developed checklist, stationary items and keys for scoring. Since the test was for the 16-40 years age group, it did not include any specific toy images or questions to be specific. The responses used were 'agree', 'disagree' and 'neutral' with the scores of 2,1 and 0 respectively. It was found that very few participants left 1-2 questions unanswered because they were not sure whether they perceived it right or not, and according to that, the scores changed, although clear instructions were given.

For the categories gender-schema, cognitive, biological and socio-cultural, we included 10

questions which had these 3 alternatives as mentioned before. For some, we included some examples like including barbie dolls, game called 'hot and cold', and kinder joy toys etc. so that they will be able to realize it and interpret it correctly. Questions were narrowed upon a person's behavior, attitude, way of perceiving his/her surroundings, cognition and hormones. Same scoring was used for every category. Total raw score was to be calculated by taking the sum of all 4 categories and then that value(1st variable) and the scores category-wise(2nd variable) had to be taken into consideration for doing Pearson's correlation. It helps linking to know the relationship between two variables, that is, whether they are showing positive, negative or neutral correlation.

RESULT

This research delves into the intricate realm of gender-specific toy preferences among individuals aged 16 to 40, aiming to unravel the underlying perceptions and influences that shape these preferences. The study employs a comprehensive checklist, covering participant flow, recruitment strategies, retention rates, and attrition factors. It also sheds light on the reasons behind participant dropout or incomplete data, ensuring transparency and rigor in the research process.

The participant flow in this study adhered to a systematic recruitment process and included individuals aged 16 to 40. A diverse sample was sought to enhance the generalizability of the findings across various demographics. A total of 238 participants were initially enrolled in the study.

When it was reviewed, the unanswered questions were left, and if there was any doubt, participants were allowed to ask the researchers. However, at times it's likely that a participant or test taker is likely to ignore or underestimate instructions due to a casual approach.

To ensure a representative sample, participants were recruited through a combination of online platforms, community centers, and educational institutions. The recruitment process aimed at minimizing biases and ensuring a balanced gender distribution within the study cohort. Flyers, online advertisements, and word-of-mouth were utilized to attract potential participants. Despite meticulous planning, some participants either left the study prematurely or failed to complete it. The retention rate was calculated for individual domains.

The retention rate, calculated as percentage of participants who completed the entire study. For gender schema theory, the rate calculated is 0.99%, while the rate for cognitive theory is 0.99%, the rate of socio-cultural domain is 0.99%, and the biological factor theory is 0.98%. Attrition rate is calculated by considering the domain dropout by the participants. The last domain of Biological theory had attrition, it occurred in 3 cases, constituting a 0.012% dropout rate. Several reasons contributed to participant attrition, such as time constraints, loss of interest, and unforeseen personal circumstances.

Pearson's correlation analysis was used to analyze the data collected. According to Ahlgren et al., (2003), correlation is a technique for measuring the relationship between two quantitative and continuous variables. The most common measurement of correlation is Pearson's correlation. Pearson's correlation analysis is used to determine whether there is an association between two variables and also measure the strength and direction of that association. Pearson's correlation coefficient (r) is to measure the strength of the association between two variables. Stephanie (2015) claims that for interpreting the strength of Pearson's Correlation coefficients one should follow is the r value. If the r value is more than zero, then the result is more trend to positive relationship, else if the r value is less than zero then the relationship is more trend to negative relationship. According to Siegle (2009), the Sig. (2-tailed) value is less than or equal to 0.05 can conclude that there is a statistically significant correlation between two variables. Otherwise, there is not a statistically significant correlation between two variables.

From the results of Pearson's correlation analysis, the relevance construct has a significant relationship with the domains we studied. The Pearson's correlation for Gender Schema Theory for males is 0.71 while that for females is 0.71. Similarly for Cognitive Theory, correlation for males is 0.73 and that of females is 0.73. For Socio-Cultural Perspective the correlation for males is 0.83 and that for females is 0.84. Lastly for Biological factors the correlation for males came out to be 0.81 and for females is 0.81.

In conclusion, this research not only contributes to the understanding of gender-specific toy preferences but also emphasizes the importance of a transparent and systematic approach to participant recruitment, retention, and data exclusion. The study's findings

hold implications for future research in psychology and gender studies, providing a foundation for more nuanced investigations into the influences shaping individuals' preferences across different age groups.
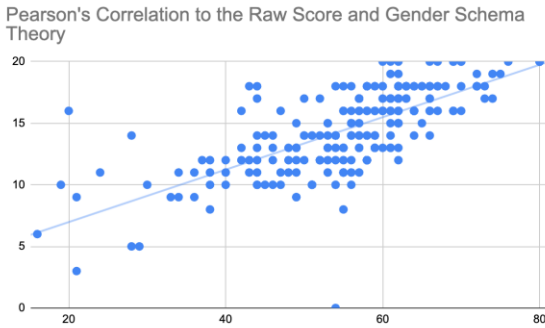

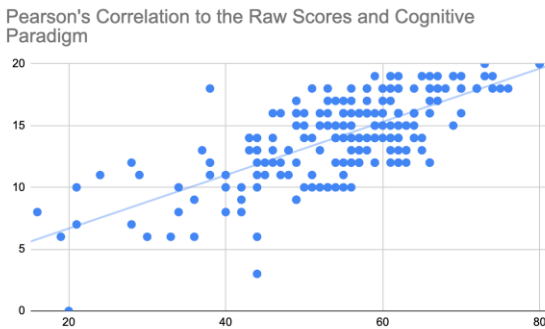Fig 01 Pearson's Correlation for Gender schema theory

Fig 02 Pearson's Correlation for Cognitive theory

Fig 03 Pearson's Correlation for Socio-cultural theory

Fig 04 Pearson's Correlation for Biological theory

DISCUSSION

The exploration of gender specificity among toys is a multifaceted endeavor, encompassing various theoretical perspectives that contribute to our understanding of how children develop and internalize gender-related behaviors. The current study delved into the intersectionality of gender schema theory, cognitive theory, socio-cultural theory, and biological factor theory to provide a comprehensive examination of the factors influencing children's toy preferences.

The research was divided into three age groups, the first age group is 16-18 years, second age group 19-25, and third age group from 26-40 years.

For 16-18 years, the Pearson's correlation for Gender schema theory is 0.71. The correlation coefficient suggests a robust development of gender schemas within individuals in this domain. Their cognitive frameworks for understanding and categorizing toys appeared to strongly align with the societal gender norms. This means that there is a high level of consistency in the association between gender and toy choices. Individuals in this age group are more likely to select toys that are traditionally associated with their gender reflecting appearance to establish gender roles. Main factor contributing to this is socialization which may be in the form of parents, friends, advertisement, or cultural norms. It may be concluded that the idea of gender neutral and inclusive toys could be promoted equally for all children, but the acceptance may be less.

The Pearson's correlation for Cognitive theory is 0.73. This implies that cognitive development during adolescence is playing a pivotal role in shaping their preferences. Cognitive theories propose that individuals actively organize information into mental structures or schemas. In this context, the positive correlation suggests that gender schemas related to toy preferences are not only formed but are consistently activated during the decision-making process.

Social cognitive learning theories, including those proposed by Albert Bandura, emphasize the importance of observational learning and modeling. The correlation implies that individuals in this age group are actively observing and internalizing gender-specific toy choices from their social environment. Cognitive biases, such as selective attention and memory, may contribute to the positive correlation. Individuals might be more inclined to notice,
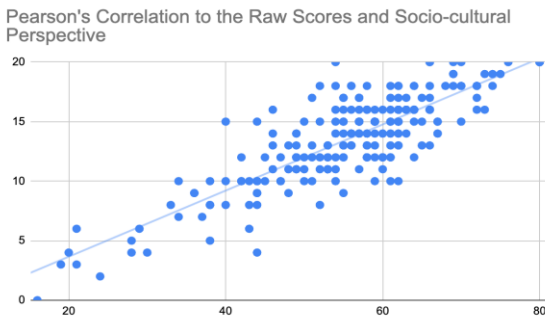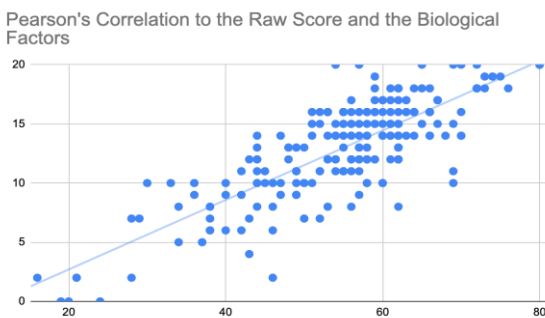
remember, and prefer toys that align with their preexisting gender schemas, reinforcing stereotypes through cognitive processes. With this we can also say that the child's object permanence may be increased through toys.

Similarly for socio-cultural theory, Pearson's correlation was found to be 0.84. This indicates a strong alignment of high positive correlation between cultural norms and individuals' choices of gender-specific toys. Cultural expectations regarding appropriate behaviors for males and females likely play a significant role in shaping toy preferences within this age group. During adolescence, individuals are actively internalizing societal norms related to gender-specific toy choices through interactions with family, peers, and other social institutions. The individuals in this age group may be influenced by their peers in adopting gender-specific toy preferences, leading to a higher degree of conformity to socially accepted norms. Media plays a crucial role in disseminating cultural scripts related to gender roles. The correlation may indicate that media representations of gendered toys are strongly influencing individuals' choices, contributing to the observed alignment with cultural expectations.

For biological theory, Pearson's correlation was found to be 0.81. This implies that Hormonal changes during adolescence are known to impact brain development and behavior. The positive correlation may indicate that hormonal influences play a role in shaping gender-specific toy choices within this age group, contributing to observable patterns. It also reflects behaviors that have evolutionary roots, with individuals exhibiting preferences for toys that align with roles historically associated with their gender for reproductive or survival advantages.

Some biological theories suggest that inherent differences in spatial abilities between males and females may influence toy preferences. For example, as there is a positive correlation, it implies that biological factors contribute to preferences for toys that align with perceived spatial and cognitive strengths.

For the second category of age group that is from 19-25 years, Pearson's correlation was found to be for gender schema theory to be 0.71. This indicates that even in young adulthood, individuals maintain and reinforce cognitive frameworks that guide their perception and preferences regarding gender specific toys. It also suggests that the impact for early socialization continues to influence toy preferences in young adulthood, reflecting the enduring nature of these learned associations.

As individuals in the 19-25 age group navigate adulthood, the correlation may signify that gender-specific toy choices continue to serve as a means of identity maintenance. Toy preferences become a tangible expression of one's gender identity within the framework of societal expectations.

For cognitive theory, Pearson's correlation was found to be 0.73. This indicates that Cognitive scripts, formed through repeated exposure to gendered cues and experiences, may contribute to the positive correlation. Individuals in the 19-25 age range may be perpetuating cognitive scripts related to gender-specific toys, reflecting their cognitive processing of social and cultural information. There may be some degree of cognitive flexibility or resistance to gender norms. Individuals in this age group might demonstrate a balance between adhering to established cognitive schemas and expressing personal preferences that deviate from traditional gender expectations. Cognitive processes such as memory and selective attention may contribute to the positive correlation. Individuals may selectively attend to, remember, and reinforce gender-specific toy preferences, reinforcing cognitive schemas through ongoing experiences.

Pearson's correlation for Socio-cultural theory is 0.83. Cultural norms and expectations regarding appropriate gender-related behaviors continue to significantly impact preferences during this life stage. The positive correlation implies that individuals in this age group are influenced by peer groups and social networks in shaping their gender-specific toy preferences, maintaining a strong connection to societal expectations. The positive correlation suggests that the values instilled during upbringing continue to influence gender-specific toy preferences, emphasizing the enduring role of familial and cultural influences. While the correlation signifies conformity to existing cultural norms, it also prompts consideration of opportunities for cultural change. Initiatives aimed at challenging stereotypes and fostering more inclusive cultural perspectives may be important for influencing gender-specific toy choices. For Biological theory, Pearson's correlation is found to be 0.81. Biological theories suggest that inherent

differences in brain structure and function, influenced by genetic and hormonal factors, contribute to behavioral patterns. Biological differences in cognitive and perceptual processing, which continue to evolve during early adulthood, may contribute to the observed correlation. Variations in how individuals process information related to gendered stimuli could influence toy choices in this perspective. Genetic factors and their interactions with the environment play a role in shaping behavior. The positive correlation could signify that individuals with certain genetic predispositions may be more prone to exhibit gender-specific toy preferences in response to environmental cues.

Speaking in our last category, of the age group of 26-40, Pearson's correlation for gender schema theory is 0.71. The positive correlation indicates that gender schemas, developed during earlier life stages, continue to mature and influence preferences in the age group of 26-40. This suggests a sustained impact of cognitive frameworks that categorize and guide individuals in their choices of gender-specific toys. The age group 26-40 often involves career development and lifestyle changes. The positive correlation may reflect how these changes influence gender schemas, as individuals make choices aligning with their evolving roles and responsibilities, including those related to parenthood or professional identity. Parenthood may significantly shape gender schemas in this age group. The positive correlation could indicate how individuals, especially parents, transmit and perpetuate gender norms through toy choices, contributing to a cycle of socialization within their families.

In Cognitive theory, the correlation is found to be 0.73. The positive correlation suggests that cognitive processes continue to play a crucial role in shaping gender-specific toy preferences throughout adulthood. Individuals in the age group of 26-40 engage in lifelong cognitive processing that influences their choices. Adults in the age group of 26-40 engage in reflective decision-making processes. The positive correlation suggests that their choices of gender-specific toys are not arbitrary but reflect a conscious or subconscious reflection of their cognitive frameworks and internalized gender schemas. The correlation might be indicative of a certain cognitive conservatism and adherence to tradition. Individuals in the age group of 26-40 may lean towards choices that

align with established cognitive frameworks, reinforcing traditional gender norms through their toy preferences. The correlation implies that cognitive processes integrate personal experiences into decision-making. Individual histories and past experiences may contribute to the formation and reinforcement of cognitive structures, influencing gender-specific toy preferences in adulthood.

Pearson's correlation for socio-cultural theory is 0.83. The high positive correlation suggests a strong influence of socialization processes on gender-specific toy choices among individuals aged 26-40. Cultural norms and societal expectations are deeply ingrained in their preferences, indicating the enduring impact of socialization. The correlation may indicate the intergenerational transmission of cultural values within families. Individuals in the age group of 26-40 may pass on and perpetuate gender norms related to toy choices to the next generation, contributing to the cultural continuity within families. While the correlation is positive, it may also indicate resistance to cultural change. Individuals in this age group may resist shifts in societal expectations regarding gender-specific toys, preferring to adhere to established cultural norms and resist deviations.

Pearson's correlation for biological theory is 0.81. The positive correlation indicates a potential alignment between biological maturation and cognitive processes. As individuals age within the 26-40 range, there might be a synchronization between biological changes and the reinforcement of gender-specific toy preferences through cognitive mechanisms. Hormonal influences on decision-making processes may play a significant role. The correlation suggests that hormonal dynamics during adulthood contribute to cognitive processes that shape gender-specific toy preferences, reflecting a harmonious interplay between biology and behavior. The correlation implies that genetic predispositions interact with environmental cues. Genetic factors might shape cognitive processes that lead to specific toy preferences, and the correlation reflects the observable behavioral outcomes influenced by this intricate gene-environment interplay. While the correlation indicates a collective trend, it's crucial to acknowledge the diversity within the age group. Biological individuality might lead to variations in the impact of biology on toy preferences, emphasizing the

uniqueness of each individual's biological and cognitive makeup.

Throughout the age groups, gender schema development, cognitive processes, socio-cultural influences, and biological factors play intricate roles in shaping gender-specific toy preferences. The correlations highlight the dynamic interplay between individual cognitive processes, societal expectations, cultural norms, and biological factors in influencing toy choices.

AGE GROUP	GENDER SCHEMA THEORY	COGNITIVE THEORY	SOCIO-CULTURAL THEORY	BIOLOGICAL THEORY
16 yrs -18 yrs	0.71	0.73	0.84	0.81
19 yrs - 25 yrs	0.71	0.73	0.83	0.81
26 yrs - 40 yrs	0.71	0.73	0.83	0.81

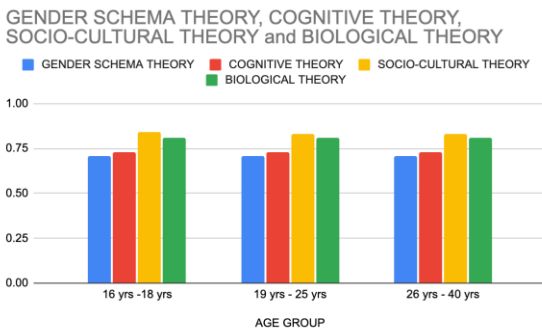Table 01 Pearson's correlation values for different age groups

Fig 05 Comparison of values using bar graph

LIMITATION AND FUTURE RESEARCH

Considerable attention and research have been devoted to gender-specific toy preferences, examining the ways in which societal, cultural, and personal elements influence people's decisions about which toys to choose. Men and women between the ages of 16 and 40 are the subjects of this comparative study, which aims to clarify the more nuanced features of gender-specific toy preferences. But like every study project, there are some limits that must be acknowledged and taken into account. Furthermore, it is crucial to choose the direction for future research that overcomes these constraints and expands our knowledge because of the dynamic nature of society norms and the changing context of gender expectations.

So the limitations are as follows:
1. Cultural Bias: The study may be limited by cultural biases, as toy preferences can be influenced by cultural norms and expectations. Ensure a diverse and representative sample to minimize cultural biases.
2. Societal Changes: Rapid societal changes may impact the relevance of the study over time. It is important to acknowledge that gender roles and expectations are evolving, and future research should consider longitudinal studies to track changes.
3. Age range specificity: The chosen age range (16 to 40 years) may be broad, and there might be significant developmental differences within this range. Consideration should be given to potential age-related differences in toy preferences.
4. Self-report bias: Reliance on self-reported data may introduce bias, as participants might provide socially desirable responses. Combining self-report measures with observational data or physiological measures could enhance the study's validity.
5. Influence of Marketing: The study might not fully account for the influence of marketing and media in shaping toy preferences. Future research could explore the impact of advertising and media representation on gender-specific toy choices.
6. Stereotyping effects: The study may be limited in addressing the potential impact of gender stereotypes on toy preferences. Investigating how stereotypes affect individual choices and perceptions could provide valuable insights.
7. Inclusion of Non-Binary Individuals: The study may lack inclusivity by focusing on a binary understanding of gender. Future research should aim to include non-binary individuals and explore

how their toy preferences might differ or align with traditional gender norms.

Future Research Directions:

1. Longitudinal Studies: Conduct longitudinal studies to track changes in toy preferences over time, considering societal shifts, changes in marketing strategies, and evolving gender norms.
2. Neuroscientific Approaches: Incorporate neuroscientific approaches to explore the neurological basis of toy preferences, providing a more objective understanding of the factors influencing choices.
3. Cross-cultural studies: Expand the study to include participants from diverse cultural backgrounds to examine how cultural factors influence gender-specific toy preferences.
4. Experimental Designs: Implement experimental designs to manipulate variables such as exposure to different types of toys or interventions challenging traditional gender norms, allowing for a better understanding of causation.
5. In-depth Qualitative Analysis: Utilize qualitative methods to gain a deeper understanding of individual experiences, perceptions, and the social contexts that shape toy preferences.
6. Parental Influence: Investigate the role of parental influence in shaping children's toy preferences and explore how parental attitudes and choices may contribute to the development of gender-specific preferences.
7. Interventions and Education: Develop and assess interventions or educational programs aimed at challenging gender stereotypes in the context of toy preferences to promote inclusivity and diversity.

Addressing these additional considerations and delving into diverse aspects of toy preferences will contribute to a more comprehensive understanding of the dynamics of gender-specific preferences across different age groups.

REFERENCE

[1] Gelman, S. A., Taylor, M. G., & Nguyen, S. P. (2004). Mother-child conversations about gender: Understanding the acquisition of essentialist beliefs. Monographs of the Society for Research in Child Development, 69(1), i-137.

[2] Virginia L.Lam. Gender-based reasoning about novel toys:The role of child and parental factors.

[3] Carol J.Auster,Claire S.Mansbach. The Gender Marketing of Toys:An Analysis of Color and Type of Toy on the Disney Store Website.

[4] Gzim, Xhambazi, Bujar Adili, Aferdita Ilazi, Hoxha. Developing Understanding of Gender in Preschool Children: The Role of Toys in Gender Construction

[5] Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. Psychological Review, 88(4), 354-364.

[6] Vasanti Jadva, Melissa Hines,Susan Golombok: Infant's Preferences for Toys,Colors,and Shapes: Sex Differences and Similarities.

[7] Liquan Liu,Paola Escudero, Christina Quattropani, Rachel A.Robbins: Factors affecting infant toy preferences: Age, gender, experience, motor development, and parental attitude

[8] Eliot, L. (2018). Impact of gender-typed toys on children's neurological development. In E. S. Weisgram & L. M. Dinella (Eds.), Gender typing of children's toys: How early play experiences impact development (pp. 167–187). American Psychological Association.

[9] International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2018, Vol. 14, Issue 2, pp. 75-82 The constructs that influence students' acceptance of an e-library system in Malaysia