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LEVEL OF DEVELOPMENT OF IMAGINATION IN PRESCHOOL CHILDREN

Dimitrina Kaloyanova[1*]

[1]BSU "Prof. Dr. Asen Zlatarov" Burgas, Bulgaria, e-mail: d_kaloyanova@abv.bg

Abstract: The study examines the level of imagination in preschool children using both quantitative indicators (mean values and standard deviations) and percentage distribution across levels. This approach enables a more comprehensive and objective presentation of the results by combining descriptive statistics with an analysis of sample distribution.

The findings indicate that a medium level of imagination is the most prevalent, with nearly half of the children (47%) falling into this category (mean = 0.467, SD = 0.499). This suggests a relative homogeneity within the group, while also indicating variability in individual outcomes. A low level of imagination is observed in approximately 20% of the children (mean = 0.200, SD = 0.400), which may point to the need for additional pedagogical support and the stimulation of creative abilities. A high level is identified in 33% of the children (mean = 0.333, SD = 0.471), indicating that a substantial proportion of the sample demonstrates well-developed imaginative skills already in the preschool period.

The gender-based analysis reveals both similarities and clear differences. The proportion of children with a medium level of imagination is identical for girls and boys (46.7%), suggesting a similar baseline distribution of imaginative development across genders. However, differences are observed at the extremes: a low level is more common among boys (26.7% compared to 13.3%), whereas a high level is more prevalent among girls (40% compared to 26.7%). These results may be interpreted as indicative of differences in the pace or patterns of creative development, influenced by both individual characteristics and socio-pedagogical factors.

A comparison of four key indicators of imagination—productivity, originality, flexibility, and imagery—provides a more fine-grained differentiation of creative behaviour. The data show that girls outperform boys in productivity (4.8 vs. 4.2), flexibility (4.5 vs. 3.8), and imagery (4.9 vs. 3.5), which may be associated with richer internal representations and a greater ease in combining ideas. Boys, in turn, demonstrate a slight advantage in originality (3.9 vs. 3.7), which may indicate a tendency toward more atypical or unconventional solutions in certain tasks.

In conclusion, the results highlight the importance of differentiated pedagogical approaches aimed at fostering imagination in the preschool years. Accounting for individual differences and gender-related characteristics enables more targeted planning of educational activities. This is a crucial factor in supporting children's cognitive, emotional, and creative development from the earliest stages of education.

Keywords: *imagination, preschool children, originality, flexibility, thinking.*

Field: Humanities

1. INTRODUCTION

Imagination represents a fundamental psychological process associated with the creation of new images and ideas based on prior experience. During the preschool period, it plays a leading role in the development of thinking, language, and creativity. This developmental stage is considered sensitive for the development of imagination, as children's thinking is not yet constrained by stereotypes and social norms. Imagination is grounded in the child's experiences, with richer experience serving as a prerequisite for a higher level of its development (Стойков, 2025).

In the course of its development, imagination evolves from reproductive to creative and voluntary forms. The child begins to generate new images and original combinations, which reflects increasing cognitive activity and independence (Лазарова, 2022). Contemporary research emphasizes that imagination is not entirely detached from reality but is formed through its transformation and interpretation (Harris, 2022).

In preschool age, imagination is regarded as one of the major developmental acquisitions, playing a central role in the development of thinking, language, and social behavior (Almazova et al., 2023). In this process, the cultural and social context is of essential importance. Children who are encouraged to tell stories, engage in dramatization, and share their creative ideas with peers and adults develop richer imagination and better communicative skills (Russ, 2018).

Play occupies a particularly important place in the development of imagination, as it is considered the primary environment for its formation. Through socio-dramatic (role) play, the child:

- reenacts social roles;
- develops symbolic thinking;
- acquires social experience.

*Corresponding author: d_kaloyanova@abv.bg

Play stimulates the creation of imaginary situations and functions as a key mechanism for cognitive development (Гориева, 2025; Hashim et al., 2024). Additionally, both free and structured play with representational materials (e.g., dolls, construction sets, and art materials) is closely associated with enhanced imagination and cognitive skills (Edwards et al., 2020; McLellan et al., 2021).

Home-based educational activities, such as reading and storytelling, also make a significant contribution to the development of imagination, supporting both cognitive and imaginative growth in children (Soto-Calvo et al., 2021). At the same time, digital technologies are gradually entering preschool education. Research indicates that carefully selected interactive applications and games can stimulate imagination and creative expression. However, excessive use of passive digital media may limit independent thinking (Plowman et al., 2022).

The development of imagination is influenced by a number of factors, including:

- the pedagogical approaches employed;
- the presence of a stimulating educational environment;
- the diversity of materials and activities.

In this context, the teacher plays a key role through the selection of methods and activities tailored to the child's age and individual characteristics (Кирева, 2024).

The main objective of the present study is to determine the levels of imagination development in preschool children, as well as to analyze gender differences in the manifestation of imaginative abilities across key indicators—productivity, originality, flexibility, and imagery.

To achieve this objective, the following research tasks are formulated:

1. To examine the level of imagination (low, medium, high) in children aged 4–5 years.
2. To analyze the distribution of the examined children across imagination levels using mean values and standard deviations.
3. To determine the percentage distribution of imagination levels within the sample.
4. To identify differences in imagination levels between girls and boys.
5. To conduct a comparative analysis of gender differences across the main indicators of imagination—productivity, originality, flexibility, and imagery.
6. To interpret the obtained results in light of the characteristics of psychological development in preschool age.

The subject of the present study is the characteristics and level of imagination development in preschool children, as well as its structural components (productivity, originality, flexibility, and imagery), examined in the context of gender differences.

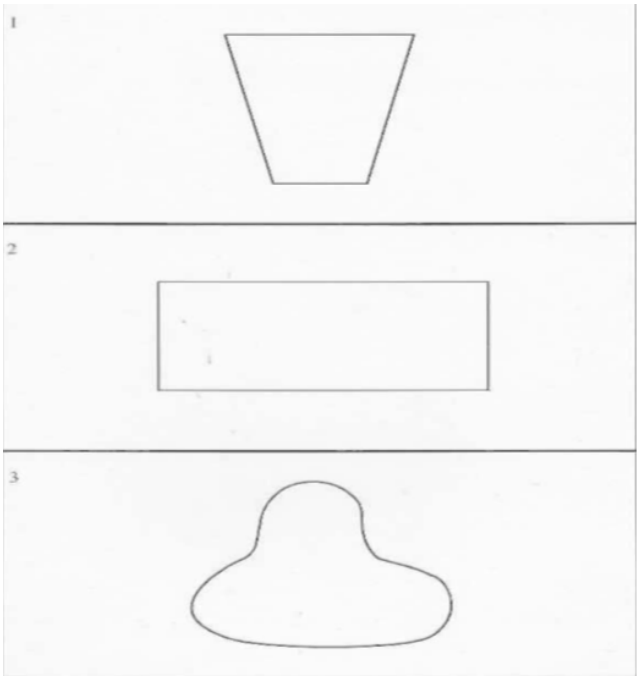
The sample was formed through random selection from the general population and consists of 30 children aged 4–5 years attending kindergarten, including 15 girls and 15 boys. All children demonstrate typical (normal) development.

2. MATERIALS AND METHODS

The study employed the projective technique "What Does This Resemble?" developed by Pavlova and Rudenko, with the aim of assessing the following indicators: figurative thinking, flexibility of imagination, originality, and productivity.

The child participating in the study is successively presented with three cards (Fig. 1) containing images. The instruction provided is: "Look at the picture and say what it resembles."

Figure 1. Stimulus material of the projective method “What Does This Resemble?”.



Source: Павлова, Руденко, 2008.

The assessment of performance is conducted on the basis of four primary indicators. The first indicator is productivity, measured by the number of responses generated. The second indicator is originality, reflecting the degree of unusualness and non-standard nature of the proposed associations. The third indicator is flexibility, expressed through the diversity of categories employed. The fourth indicator is imagery, characterized by the level of detail and descriptiveness in the responses.

The evaluation is carried out using a three-point scale structured across three levels. The low level is characterized by the child’s lack of understanding of the task or by the generation of only one association per drawing, and is scored with 0 points. The medium level includes cases in which the child produces between six and eight associations in total, providing at least two associations per drawing; this level is scored with 1 point. The high level is characterized by the generation of no fewer than nine associations, respectively at least three per drawing, and is scored with 2 points.

3. RESULTS

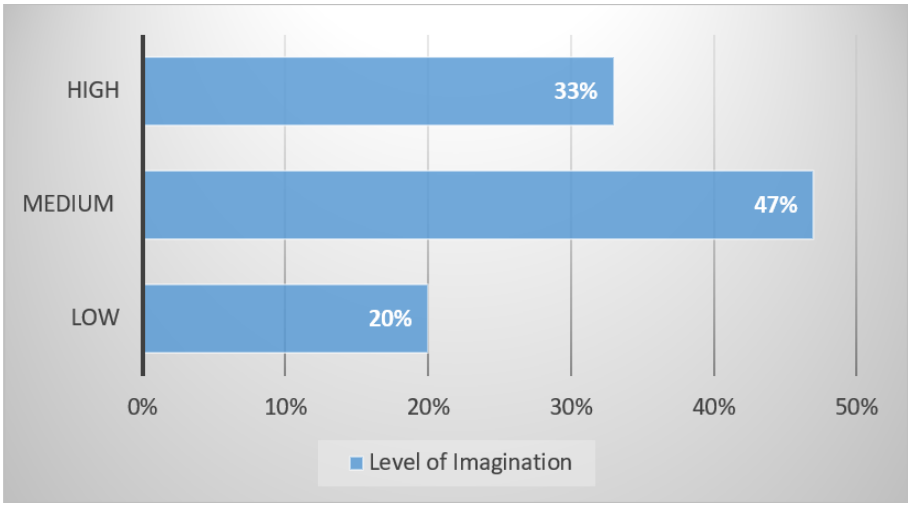
Table 1 presents the mean values and standard deviations of imagination across levels, while Figure 2 illustrates the percentage distribution.

Table 1. Mean values and standard deviations of imagination across levels.

Level of Imagination	Mean Value	Standard Deviation
Low (0 points)	0.200	0.400
Medium (1 point)	0.467	0.499
High (2 points)	0.333	0.471

Source: Author’s own survey data (2026)

Figure 2. Percentage distribution of the level of imagination among the children in the sample.



Source: Author's own survey data (2026)

The analysis of the level of imagination in preschool-aged children reveals variability in the degree of expression of imagination among the examined participants.

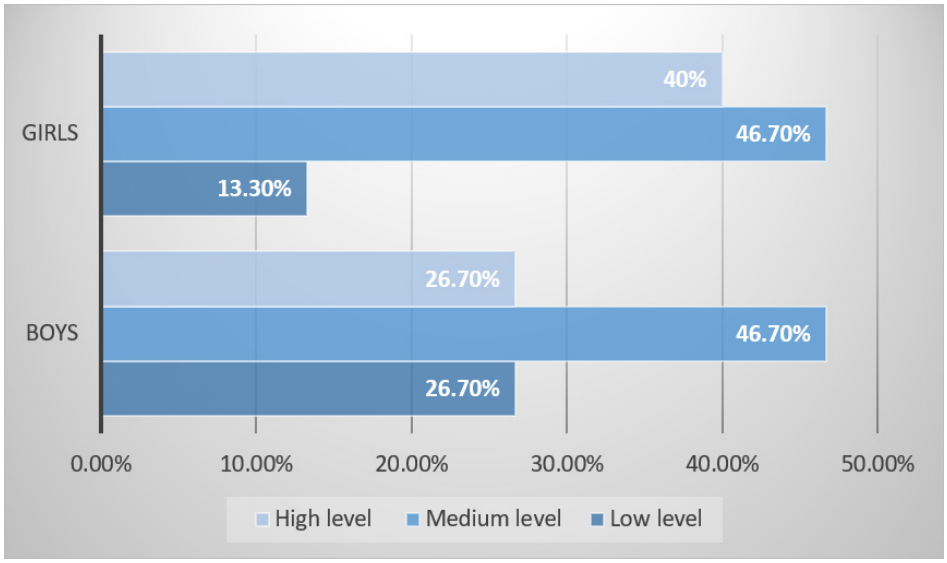
The low level of imagination, scored as 0 points, is observed in approximately 20% of the children. The mean value for this group is 0.2, and the standard deviation is 0.4, indicating that most children in this category have scores close to zero, although there is a small degree of variation.

The medium level of imagination, corresponding to 1 point, includes nearly half of the examined children—47%. The mean value for this group is 0.467, and the standard deviation is 0.499, reflecting a greater dispersion of scores around the mean and suggesting that children with a moderate level of imagination exhibit a wider range of creativity and fantasy expression.

The high level of imagination, corresponding to 2 points, is observed in 33% of the children. The mean value is 0.333, and the standard deviation is 0.471, which also indicates variability in the expression of high imagination; however, overall this group demonstrates more pronounced creative activity compared to children with low or medium levels.

Figure 3 presents the percentage distributions of imagination levels among girls and boys.

Figure 3. Percentage distribution of levels of imagination among girls and boys.



Source: Author's own survey data (2026)

The data presented in Figure 3 allow for a comparative analysis of imagination levels between boys and girls, revealing both similarities and significant differences between the two groups.

First, the distribution of the average level of imagination is completely identical for both sexes

(46.7%). This represents the largest proportion in both groups, indicating that moderate imagination is the dominant characteristic for nearly half of the children studied, regardless of gender. This finding may be interpreted as an indicator of relative homogeneity in the development of basic imaginative abilities within the studied population.

The most pronounced differences are observed in the extreme categories – low and high levels of imagination. In the low level category, a considerably higher proportion is observed among boys (26.7%) compared to girls (13.3%). This suggests that boys are approximately twice as likely to fall into this category. Such a tendency may support the hypothesis that girls less frequently exhibit deficits in imaginative processes or that they more often reach at least an average level of development in this domain.

The opposite pattern is observed in the high level of imagination, where girls (40.0%) significantly outnumber boys (26.7%). This distribution suggests that girls in the sample demonstrate a more pronounced tendency toward the development of high imaginative abilities. Possible explanations may be sought in both socio-cultural factors (e.g., differences in the stimulation of imagination through games and activities) and individual psychological characteristics.

Table 2 presents gender differences in the indicators of imagination.

Table 2. Gender differences in imagination indicators.

Indicator	Mean Values (Boys)	Mean Values (Girls)
Productivity	4.2	4.8
Originality	3.9	3.7
Flexibility	3.8	4.5
Imagery	3.5	4.9

Source: Author's own survey data (2026)

The presented data reflect comparative mean values across four key indicators of imagination: productivity, originality, flexibility, and imagery, differentiated by gender.

First, the productivity indicator demonstrates higher values among girls (4.8) compared to boys (4.2). This suggests that girls generate a greater number of ideas or associations in creative tasks, which may be interpreted as higher divergent activity.

In terms of originality, boys show a slight advantage (3.9 versus 3.7). Although the difference is minimal, it may indicate a tendency toward more unconventional or less frequently occurring ideas among boys, despite their lower overall productivity.

The flexibility indicator reveals a substantial difference in favor of girls (4.5 versus 3.8). This reflects a better ability to shift between different categories or perspectives when solving tasks, which is a key component of creative thinking.

The most significant difference is observed in imagery, where girls achieve considerably higher values (4.9) compared to boys (3.5). This result may be interpreted as a more developed capacity for generating vivid and detailed mental images, which is an essential aspect of imagination.

4. DISCUSSIONS

The presented empirical results allow for a more in-depth academic analysis of the development of imagination in preschool age, taking into account both quantitative distributions and qualitative differences between the studied groups.

First, the distribution of imagination levels (47% medium, 33% high, 20% low) indicates a clearly pronounced tendency toward concentration in the middle range. This is consistent with established positions in Child Development and Educational Psychology, according to which cognitive and creative abilities in early childhood develop gradually and unevenly. The medium level may be regarded as a normative developmental stage in which children already possess basic symbolic thinking skills but have not yet reached a high degree of creative autonomy. The relatively low proportion of children with high levels of imagination suggests that advanced manifestations of creativity require specific stimulating conditions—educational, social, and cultural.

On the other hand, the relatively smaller proportion of children with low levels of imagination may be interpreted as an indication that, under normal conditions, most children develop at least basic forms of

imaginative activity. Nevertheless, this group deserves special attention, as limitations in imagination may be associated with deficits in language development, social interaction, or the quality of the stimulating environment.

A particularly important aspect of the analysis is the observed gender differentiation. The data show that boys are more strongly represented in the low levels of imagination, whereas girls dominate in the high levels, while the medium level remains relatively stable for both groups. These differences may be interpreted through the lens of socialization and culturally conditioned behavioral patterns. It is possible that social expectations and stereotypes encourage more pronounced verbal and imaginative expressiveness in girls, while boys are more often directed toward other types of activities that do not stimulate imagination to the same extent.

In addition, the results for the individual components of imagination—productivity, flexibility, imagery, and originality—provide a more fine-grained differentiation. The superiority of girls in productivity (generating more ideas), flexibility (ability to shift between different categories), and imagery (creating vivid and detailed mental representations) suggests a more developed divergent thinking capacity. In contrast, the slight advantage of boys in originality may be interpreted as a tendency toward more unconventional or less frequently occurring solutions, which also represents an important aspect of creative thinking.

This multidimensional picture confirms the understanding of imagination as a complex construct that cannot be reduced to a single indicator. In this context, it is appropriate to relate these findings to the concept of divergent thinking within Cognitive Psychology, where creativity is emphasized as comprising multiple, partially independent dimensions.

5. CONCLUSIONS

The results of the study highlight the need for targeted pedagogical strategies aimed at stimulating all aspects of imagination while also taking into account individual and gender differences. This creates prerequisites for more effective development of creative potential in early childhood and is of significant importance for the future cognitive and personal development of the child.

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