

## **Development of Play in Pre-Schoolers: Video-Based Analysis of Free and Structured Toy Play Scenario**

**Megha Mohan<sup>1)</sup>**

**Reenu Celshiya. A**

**Jayashree S. Bhat**

Kasturba Medical College

KMC Hospital

### **Abstract**

Play is a universal code, which mirrors the all-round development of a child. Play development reflects the emergence of early cognitive skills in children. The current study profiles the developmental trends of different types of play during the free and structured play scenario in South India. The sample included 48 pre-school children, aged between 3.6 to 5.6 years. Children's play was recorded in two scenarios, which included free Play (spontaneous Play without any restrictions) and structured toy play (restriction of toy usage limited to the four types of toys provided by investigator), in the classroom settings. The data was analysed using the coding scheme that was adapted by combining two existing standardised play scales i.e. Play Observation Scale and Play in Early Childhood Evaluation System. In the coding scheme, play types were grouped under three domains which were Functional Play, Social Play, and Cognitive Play. Cognitive play was further divided into two domains that are Simple pretend play (SPP) and Complex pretend Play (CPP) which has the subtypes adapted from Play in Early Childhood Evaluation System. The results revealed that the occurrence of play type was higher in the free play scenario and reduced in the structured toy play scenario. A developmental trend was observed in free play over structured toy play among children. The findings would be helpful in planning play-based counselling/intervention strategies for children and create awareness to teachers about the various developmental patterns of play types.

**Keywords :** free play, structured toy play, play types, development, pre-schoolers

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Corresponding author, <sup>1)</sup>Megha Mohan: [meghamohan11@gmail.com](mailto:meghamohan11@gmail.com)

## Introduction

Childhood is a period where children are engaged mainly in physical activities through play. Play stands outside the 'ordinary' life; it is non-serious and has no precise goal in itself, but at that time, it fascinates the player profusely (Goldstein, 2012). Several authors attempted to categorise play based on their perspectives. One of the significant classifications of play is based on the Piagetian Theory, which defines three types of play based on human development, i.e. symbolic play, sensorimotor play, and game with rules (Piaget, 1962). In a study by Lester and Russell (2008), they explained five types of play, i.e. highly active games such as chasing, rough-and-tumble play, and play fighting; pretend and socio-dramatic play; language play; social play and games with rules; and constructive play. Graham and Burghardt (2010), in their research, mentioned other ways in which researchers have categorised play: large-motor, small-motor, mastery, rule-based, construction, make-believe, symbolic, language, sensory, rough and tumble, risk-taking, and arts play. *Symbolic play* initiates during the early infancy as an infant generates the play with one or more objects (McCune, 2010). Emergence of symbolic Play is usually landmarked at eight months (Orr & Geva, 2015). *Object play* refers to playful use of objects such as building blocks, puzzles, cars, dolls, etc rather than interactive Play (Vig, 2007). It allows children to form new combinations of actions, learn functional use of objects, build up problem solving skills and develop a creative attitude. Cognitive skills such as motivation, focussed attention and representational capacities are vital for object play (Vig, 2007). *Pretend play* is a type of playful behaviour that engages nonliteral action (Russ & Dillon, 2011). Pretend play can be classified into *Object-Dependent Pretend Play*, *Socio-Dramatic Play*, and *Thematic Play* (Wyver & Spence, 1999), of which the socio-dramatic and thematic types are considered to be more complex. *Construction play* includes playing by building things with play objects or materials such as clay or Legos. It is common in pre-school classrooms (Rubin et al., 1978); however, lower in prevalence at home in children below six years (Bloch, 1987). Another recent categorisation of play is provided by the National Institute for Play (2018), which discerns play into seven types, i.e. Attunement Or Mimic Play, Body Play and Movement, Object Play, Social Play, Imaginative and Pretend Play, Storytelling-Narrative Play, and Creative Play (Nijhof et al., 2018).

Play can also be differentially labelled as *Structured (Guided Play)* and *Unstructured Play (Free Play)*. Structured play is the type of play wherein the act of play is primarily adult-oriented with a specified set of play partners, play materials, and often predictable activities and behaviours. The fact that sets structured play apart from unstructured play is the adult involvement and the existence of predetermined rules (Gmitrova & Gmitrov, 2003). A structured observation of play restricts the children to the manipulation and usage of objects specified in that observational setting, constraining the activities and behaviours they exhibit. However, some studies report that guided Play or structured Play helped children in learning (Mayer, 2004).

On the other hand, unstructured Play or Free Play is child-oriented, does not have predetermined contents, and is generally considered the most naturalistic way of playing. Free play is child-centric, based on the child's interest which helps children to explore materials, express and controls their emotions, come to terms with traumatic experiences, and gain physical and mental strength (Santer et al., 2007). It provides children opportunities to utilise their awareness of resources to play ingeniously and follow their interests in a more naturalistic way at their environment such as schools or residence with the objects they are exposed in everyday basis with minimal constraints. Studies have reported that children with communication and developmental disabilities show a reduced capacity to involve in Free Play in comparison to their peers (Reichow et al., 2016). A type of Free Play usually endorsed is the Sociodramatic Pretend Play where children can practice and pretend imaginative characters and follow social rules (e.g. pretending to be a family).

The pre-school years are the foundation for academic performance, during this period children go through many developmental changes (Jones et al., 2003) in socio-pragmatic skills and emotional regulation (Lillard, 2017), communication skills (Weisberg et al., 2013), and cognitive skills (Thibodeau et al., 2016). Typically developing pre-schoolers spend a substantial portion of their time engaging in object play in their schools. During this period there is a high occurrence of advanced ways of social play forms like pretend Play, constructive Play, and also non-social Play (Sanderson, 2010). Pellegrini and Bjorklund (2004) have given a comprehensive outline for pre-school play types as constructive object play, exercise Play, functional object play, symbolic Play, and rough and tumble Play. Play stands indispensable to childhood development as it is one of the ways to build a strong

relationship between peers; it also helps in academic progress, cognitive development, self-regulation, social competence, learning, and attention (National Council for Curriculum Assessment, 2009). During the early years of childhood, play is the major means of physical activity for children (Prioreschi et al., 2020). Children develop and understand the norms of society through play which provides them with a safe arena for exploring these skills without the fear of negative consequences (Hoffmann & Russ, 2016). Play is a valuable way to assess a child's development, as it gives access to the child's communication in a real and functional context. Children with developmental disabilities demonstrate a significant deviation in their play and sometimes these deviations are one of the most noticeable characteristics in these children. Play-based intervention is yet another important implication of play, which shows improvement in the child's overall development.

### **Present Study**

Typically developing pre-schoolers spend a substantial portion of their time engaging in object play in their schools. Although we know that the complexity of play increases with age, the developmental trajectory of play especially in pre-school period in an Indian scenario is unknown. Profiling play behaviors exhibited by pre-schoolers in school setting will contribute to the emerging concept of play-based assessment and intervention which helps to gather information about the developmental deviations of a child in developmental domains such as communication, gross and fine motor skills in a real and functional context. As a deep understanding of the developmental trends of play in typically developing children is essential for understanding the deviation of play in children with developmental disabilities, the present study aimed to profile the developmental trends of play in pre-school children. This information would also help in the formulation of IEP objectives for children with developmental disabilities involving play, enabling these children to experience normalised, contextually pertinent experiences like their peers. Therefore, the present study aimed at profiling the developmental trends of play in pre-schoolers and to understand the influence of play scenarios (free and structured toy play) on child's play skills. The present study hypothesised that a developmental trend would be observed in the play behaviours exhibited by pre-schoolers. The study also hypothesised that a significant influence of play scenario

would be present on the play skills exhibited by pre-schoolers with Free Play witnessing higher frequencies of cognitive play types than Structured Toy Play.

## **Methodology**

### **Participant Recruitment**

The study followed a cross-sectional study design and employed a convenient sampling method for sample collection. Forty-eight typically developing Indian children between the age ranges of 3.6 to 5.6 years were recruited for the study from private playschools in and around Dakshina Kannada District of Karnataka state in India. Children who were from middle socioeconomic status (ascertained by Kuppuswamy socio economic status scale), passed language screening on Assessment of Language Development (Lakkanna et al., 2008) and Ten question disability checklist (Singhi et al., 2007)) were included as participants. Assessment of Language Development is a norm-referenced performance-based tool used to assess children's receptive and expressive language abilities from birth to seven years and eleven months. It comprises of basal and ceiling scores, to determine the language age of a child. Children with any speech, language and hearing deficits, intellectual deficits, sensory deficits or any other developmental disabilities were excluded from the present study. The recruited participants were divided into four groups with a six months interval in each group (3.7-4.0 years, 4.1-4.6 years, 4.7-5.0 years, and 5.1-5.6 years). Each group consisted of 12 participants with equal gender representation, and a total of 48 participants were recruited for the study.

### **Procedure**

Prior to the commencement of the study, ethical clearance was obtained from the institutional ethical board and informed consent was obtained from the parents. They were explained that the video recording and any personal information, including the child's age, and date of birth, would be kept confidential and used only for research. The present study

recorded the play behaviours of children in two play scenarios i.e. Free Play and Structured Toy Play. The operational definition of *Free Play* in the present study is play that is spontaneously initiated by children without adhering to any rules or restriction on toys, game types, etc. During this scenario the investigator did not provide the child with any play materials or toys. They were allowed to play in a classroom which was a familiar environment for the child and it promotes more natural peer interactions (Abbas et al., 2016). The classroom was rearranged to accommodate a play area at the centre of the classroom with play mats placed on the floor. The other scenario that was recorded for the present research was the Structured Toy Play scenario. This refers to a scenario which although did not have adult involvement, had restricted the toy usage to the four categories of toys provided by the investigator. The toys provided included a fictional/cartoon character (e.g. Spiderman miniature), toy depicting a real-life object (such as toy stethoscope), gender specific toys (doll, car) and gender-neutral toys (ball, and Legos). A combination of neutral and gender specific toys were used to increase the opportunity of observing a variety of play types in children (Cherney & London, 2006). The video recording for this scenario as well was conducted in the same classroom with the toys placed in the centre of the classroom by the investigator.

***Recording and Observation Protocol:***

The investigator visited each school from which data was collected for three consecutive weeks and recorded the Free Play and Structured Toy Play scenario spanning over the course of the entire day. It was observed from the pilot study that was conducted prior to the main data collection that the Free Play scenario was significantly affected by the Structured Toy Play scenario and therefore the recording of the Structured Toy Play scenario commenced post completion of the Free Play scenario. The investigator recorded the play scenarios twice a day (morning and afternoon) to avoid fatigue or lack of interest. A 15 minutes recording of each scenario for every child was obtained (15 minutes recording, 10 minutes coding) with an average of five minutes recording per session per week. Children were divided into a group of four and the members of the group remained constant for both scenarios every week. The initiation or termination of the recording was not announced to the participants to avoid its influence on the play skills and children were allowed to play for longer than the recorded

duration. The role of the investigator was that of a passive observer without any involvement with the participants and research reveals that child behaviours are not altered drastically in the presence of an observer (Dowdney et al., 1984).

### ***Data Analysis***

Offline analysis of the video recordings was done and the play types were coded. To avoid the investigator bias, the videos were coded by two researchers individually for different play types in both the scenarios. The coding between the two researchers showed 90% agreement. The coding scheme that was employed for the analysis was adapted by combining two existing standardised play scales i.e. Play Observation Scale (Rubin, 1989) and Play in Early Childhood Evaluation System (Kelly-Vance & Ryalls, 2014). The play types were grouped under three domains which were Functional Play (Rubin et al., 1983; Smilansky, 1968), Social Play (Parten, 1932; Rubin, 1989), and Cognitive Play (Piaget, 1962; Rubin, 1989; Rubin et al., 1983) in the coding scheme. Cognitive play was further divided into two domains that are Simple pretend play (SPP) and Complex pretend Play (CPP) which has the subtypes adapted from Play in Early Childhood Evaluation System (Kelly-Vance & Ryalls, 2014). The coding of play types according to the domains was presented in Table 1.

Table 1. *Coding of Play Types*

| <b>Domain</b>          | <b>Play types</b>                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Functional play</b> | Basic manipulation (BM)<br>Mouthing (Mo)<br>Complex Exploration (CE)<br>Single functional actions (SF)<br>Non-matching combination (NC) |
| <b>Social play</b>     | Similarity-based combination of actions (SC)<br>Functional combination of objects (FC)                                                  |
| <b>Cognitive play</b>  | Solitary play (SP)<br>Associative play (AS)<br>Parallel play (PP)                                                                       |

Table 1. *Coding of Play Types**(continued)*

| Domain               | Play types                                    |
|----------------------|-----------------------------------------------|
| Simple pretend play  | Group play (GP)                               |
| Complex pretend play | Co-operative play (Cop)                       |
|                      | Constructive play (Con)                       |
|                      | Games with Rules (GR)                         |
|                      | Simple Pretend Play (SPP)                     |
|                      | Complex Pretend Play (CPP)                    |
|                      | Approximate pretend play (AP)                 |
|                      | Self-directed play-act (SD)                   |
|                      | Object directed play-act (ObD)                |
|                      | Repetitive combination (RC)                   |
|                      | Agentive play-act (AGP)                       |
|                      | Self-substitution play-act (SSub)             |
|                      | Object substitution play-act (OSub)           |
|                      | 2 steps Complex Pretend Play (2CPP)           |
|                      | 3 steps Complex Pretend Play (3CPP)           |
|                      | 4+ Complex Pretend Play (4CPP)                |
|                      | Pre-planned Complex Pretend Play (PCPP)       |
|                      | Multi-theme Complex Pretend Play (MCP)        |
|                      | Complex pretend play with substitution (SCPP) |

The obtained data, which included the compilation of play types, were subjected to descriptive statistical analysis. The frequency of occurrence of each play types was descriptively measured in the two play scenarios. As children were divided into four groups, the Kruskal-Wallis H test was used to find whether there was a significant difference across the age groups for different play types.

## Results

The data obtained from the video recordings were descriptively analysed for the frequency of occurrence of play types. The results of this domain are discussed with respect to the two play scenarios i.e. Free Play and Structured Toy Play. Overall, there was an increase in the complexity of play types with an increase in age in the Structured Toy Play as well as Free Play scenario. The frequency of play types in free and Structured Toy Play scenarios across

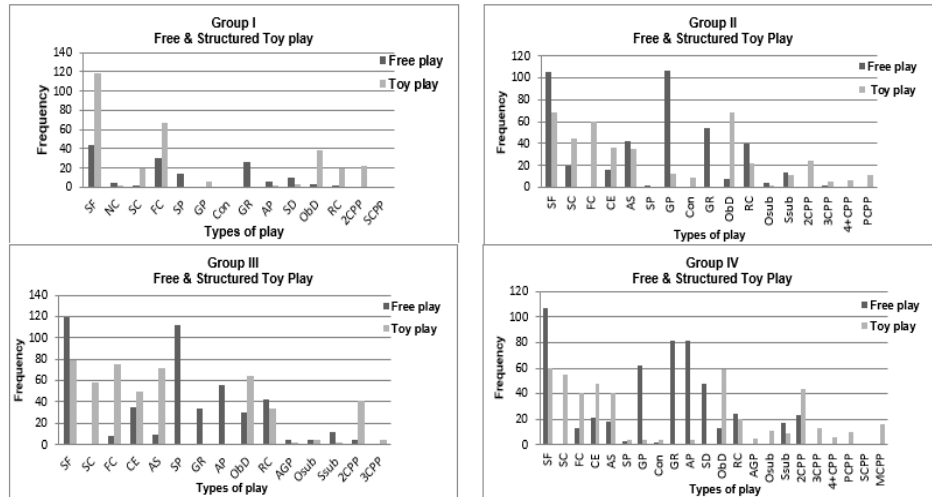


Figure 1. Comparison of frequency of play types during free play and structured toy play in groups I, II, III, and IV

the four groups is depicted in Figure 1.

Kruskal-Wallis H test was used to identify differences in the play types across the age groups. In Free Play scenario, statistically significant differences were observed in the following play types. In functional play, Single functional actions (SF) [ $\chi^2(3) = 14.193, p = 0.003$ ], Similarity-based combination of actions (SC) [ $\chi^2(3) = 9.592, p = 0.022$ ], Functional combination of objects (FC) [ $\chi^2(3) = 14.306, p = 0.003$ ], and Complex Exploration (CE) [ $\chi^2(3) = 9.788, p = 0.020$ ]. In the domain of social play, Group play (GP) [ $\chi^2(3) = 20.153, p = 0.000$ ] and Games with Rules (GR) [ $\chi^2(3) = 13.183, p = 0.004$ ] in cognitive play. Considering Simple pretend play, Self-directed play-act (SD) [ $\chi^2(3) = 16.364, p = 0.001$ ], Repetitive combination (RC) [ $\chi^2(3) = 12.840, p = 0.005$ ], and Self-substitution play-act (SSub) [ $\chi^2(3) = 13.408, p = 0.004$ ] had statistical significant differences. Analysis of Complex Pretend Play had significant difference in 2step Complex Pretend Play (2CPP) [ $\chi^2(3) = 12.738, p = 0.001$ ], Pre-planned Complex Pretend Play (PCPP) [ $\chi^2(3) = 17.260, p = 0.001$ ], Complex pretend play with substitution (SCPP) [ $\chi^2(3) = 12.791, p = 0.005$ ], and Multi-theme Complex Pretend Play (MCP) [ $\chi^2(3) = 16.808, p = 0.001$ ].

In Structured Toy Play scenario, Complex Exploration (CE) [ $\chi^2(3) = 8.951, p = 0.030$ ] (Functional play), Object substitution play-act (OSub) [ $\chi^2(3) = 10.370, p = 0.016$ ] (Simple

Table 2. Comparison of Types of Play for Free Play across the Groups

| Play Types in Free Play                      | Groups Mean Rank (N=12) |                  |                   |                  | Kruskal Wallis H test |    |         |
|----------------------------------------------|-------------------------|------------------|-------------------|------------------|-----------------------|----|---------|
|                                              | GI<br>(3.6-4.0)         | GII<br>(4.0-4.6) | GIII<br>(4.6-5.0) | GIV<br>(5.0-5.6) | X <sup>2</sup>        | df | p-value |
| Functional play Basic manipulation (BM)      | 24.50                   | 24.50            | 24.50             | 24.50            | 0.000                 | 3  | 1.000   |
| Single functional actions (SF)               | 11.63                   | 27.08            | 31.29             | 28.00            | 14.193                | 3  | 0.003*  |
| Non-matching combination (NC)                | 24.50                   | 24.50            | 24.50             | 24.50            | 0.000                 | 3  | 1.000   |
| Similarity-based combination of actions (SC) | 22.00                   | 30.08            | 22.00             | 23.92            | 9.592                 | 3  | 0.022*  |
| Functional combination of objects (FC)       | 25.21                   | 19.29            | 19.29             | 34.21            | 14.306                | 3  | 0.003*  |
| Mouthing (Mo)                                | 24.50                   | 24.50            | 24.50             | 24.50            | 0.000                 | 3  | 1.000   |
| Complex Exploration (CE)                     | 16.00                   | 30.67            | 22.75             | 28.58            | 9.788                 | 3  | 0.020*  |
| Social play Associative play (AS)            | 21.04                   | 30.17            | 28.42             | 18.38            | 6.121                 | 3  | 0.106   |
| Co-operative play (Cop)                      | 26.54                   | 26.13            | 22.58             | 22.75            | 0.994                 | 3  | 0.803   |
| Solitary play (SP)                           | 23.71                   | 25.42            | 21.50             | 27.38            | 3.485                 | 3  | 0.323   |
| Parallel play (PP)                           | 18.46                   | 23.96            | 22.88             | 32.71            | 7.113                 | 3  | 0.068   |
| Group play (GP)                              | 11.42                   | 32.21            | 33.58             | 20.79            | 20.153                | 3  | 0.000*  |
| Cognitive play Constructive play (Con)       | 25.46                   | 23.50            | 23.50             | 25.54            | 2.044                 | 3  | 0.563   |
| Games with Rules (GR)                        | 17.58                   | 26.79            | 18.21             | 35.42            | 13.186                | 3  | 0.004*  |
| Simple pretend play                          | 22.50                   | 28.46            | 24.54             | 22.50            | 6.306                 | 3  | 0.098   |
| Approximate pretend play (AP)                |                         |                  |                   |                  |                       |    |         |
| Self-directed play-act (SD)                  | 32.00                   | 22.00            | 22.00             | 22.00            | 16.364                | 3  | 0.001*  |
| Object directed play-act (ObD)               | 24.50                   | 24.50            | 24.50             | 24.50            | 0.000                 | 3  | 1.000   |

Table 2. Comparison of Types of Play for Free Play across the Groups (continued)

| Play Types in Free Play                                   | Groups Mean Rank (N=12) |                  |                   |           | Kruskal Wallis H test |    |
|-----------------------------------------------------------|-------------------------|------------------|-------------------|-----------|-----------------------|----|
|                                                           | GI<br>(3.6-4.0)         | GII<br>(4.0-4.6) | GIII<br>(4.6-5.0) | (5.0-5.6) | X <sup>2</sup>        | df |
| Repetitive combination (RC)                               | 13.17                   | 23.67            | 31.13             | 30.04     | 12.840                | 3  |
| Agentive play-act (AGP)                                   | 24.50                   | 24.50            | 24.50             | 24.50     | 0.000                 | 3  |
| Object substitution play-act (OSub)                       | 27.50                   | 23.50            | 23.50             | 23.50     | 6.128                 | 3  |
| Self substitution play-act (SSub)                         | 16.00                   | 21.13            | 32.04             | 28.83     | 13.408                | 3  |
| Complex pretend play 2step<br>complex pretend play (2CPP) | 15.17                   | 21.92            | 33.29             | 27.63     | 12.738                | 3  |
| 3 step complex pretend play (3CPP)                        | 22.00                   | 23.96            | 28.08             | 23.96     | 4.293                 | 3  |
| 4+ complex pretend play (4CPP)                            | 23.50                   | 25.54            | 23.50             | 25.46     | 2.044                 | 3  |
| Pre-planned complex pretend play (PCPP)                   | 18.00                   | 19.75            | 25.46             | 34.79     | 17.260                | 3  |
| Complex pretend play with substitution (SCPP)             | 22.50                   | 22.50            | 30.50             | 22.50     | 12.791                | 3  |
| Multi-theme complex pretend play (MCP)                    | 19.00                   | 19.00            | 26.29             | 33.71     | 16.808                | 3  |

\* Statistically significant difference ( $p < 0.05$ )

Table 3. *Comparison of Types of Play for Structured Toy Play across the Groups*

| Play Types in Structured Toy Play            | Groups Mean Rank (N=12) |                  |                   |                  | Kruskal Wallis H test |    |         |
|----------------------------------------------|-------------------------|------------------|-------------------|------------------|-----------------------|----|---------|
|                                              | GI<br>(3.6-4.0)         | GII<br>(4.0-4.6) | GIII<br>(4.6-5.0) | GIV<br>(5.0-5.6) | X <sup>2</sup>        | Df | p-value |
| Functional play Basic manipulation (BM)      | 24.50                   | 24.50            | 24.50             | 24.50            | 0.000                 | 3  | 1.000   |
| Single functional actions (SF)               | 30.46                   | 23.13            | 24.21             | 20.21            | 3.447                 | 3  | 0.328   |
| Non-matching combination (NC)                | 26.00                   | 24.00            | 24.00             | 24.00            | 3.000                 | 3  | 0.392   |
| Similarity-based combination of actions (SC) | 18.17                   | 28.54            | 26.04             | 25.25            | 4.089                 | 3  | 0.252   |
| Functional combination of objects (FC)       | 27.25                   | 23.54            | 30.63             | 16.58            | 6.739                 | 3  | 0.081   |
| Mouthing (Mo)                                | 24.50                   | 24.50            | 24.50             | 24.50            | 0.000                 | 3  | 1.000   |
| Complex Exploration (CE)                     | 15.75                   | 22.21            | 30.54             | 29.50            | 8.951                 | 3  | 0.030*  |
| Social play Associative play (AS)            | 26.08                   | 18.71            | 31.92             | 21.29            | 6.286                 | 3  | 0.098   |
| Co-operative play (Cop)                      | 22.00                   | 23.92            | 24.13             | 27.96            | 4.074                 | 3  | 0.254   |
| Solitary play (SP)                           | 23.92                   | 23.92            | 23.92             | 26.25            | 0.890                 | 3  | 0.828   |
| Parallel play (PP)                           | 30.17                   | 26.13            | 15.67             | 26.04            | 7.249                 | 3  | 0.064   |
| Group play (GP)                              | 26.67                   | 27.75            | 19.00             | 24.58            | 5.153                 | 3  | 0.161   |
| Cognitive play Constructive play (Con)       | 22.21                   | 26.46            | 26.63             | 22.71            | 2.445                 | 3  | 0.485   |
| Games with Rules (GR)                        | 24.50                   | 24.50            | 24.50             | 24.50            | 0.000                 | 3  | 1.000   |
| Simple pretend play                          | 24.54                   | 22.50            | 24.38             | 26.58            | 2.229                 | 3  | 0.526   |
| Approximate pretend play (AP)                |                         |                  |                   |                  |                       |    |         |

Table 3. Comparison of Types of Play for Structured Toy Play across the Groups (continued)

| Play Types in Structured Toy Play                         | Groups Mean Rank (N=12) |                  |                   |                  | Kruskal Wallis H test |    |         |
|-----------------------------------------------------------|-------------------------|------------------|-------------------|------------------|-----------------------|----|---------|
|                                                           | GI<br>(3.6-4.0)         | GII<br>(4.0-4.6) | GIII<br>(4.6-5.0) | GIV<br>(5.0-5.6) | X <sup>2</sup>        | Df | p-value |
| Self-directed play-act (SD)                               | 27.04                   | 23.00            | 23.00             | 24.96            | 3.885                 | 3  | 0.274   |
| Object directed play-act (ObD)                            | 18.21                   | 26.08            | 26.88             | 26.83            | 3.305                 | 3  | 0.347   |
| Repetitive combination (RC)                               | 25.38                   | 23.38            | 26.67             | 22.58            | 0.707                 | 3  | 0.871   |
| Agentive play-act (AGP)                                   | 23.00                   | 23.00            | 25.00             | 27.00            | 3.825                 | 3  | 0.281   |
| Object substitution play-act (OSub)                       | 19.50                   | 21.63            | 25.21             | 31.67            | 10.37                 | 3  | 0.016*  |
| Self-substitution play-act (SSub)                         | 19.00                   | 27.92            | 22.42             | 28.67            | 7.198                 | 3  | 0.066   |
| Complex pretend play<br>2step complex pretend play (2CPP) | 21.42                   | 21.38            | 25.04             | 30.17            | 3.272                 | 3  | 0.352   |
| 3 steps complex pretend play (3CPP)                       | 18.00                   | 24.04            | 22.58             | 33.38            | 12.547                | 3  | 0.006*  |
| 4+ complex pretend play (4CPP)                            | 22.00                   | 26.21            | 22.00             | 27.79            | 5.718                 | 3  | 0.126   |
| Pre-planned complex pretend play (PCPP)                   | 21.50                   | 27.58            | 21.50             | 27.42            | 6.679                 | 3  | 0.083   |
| Complex pretend play with substitution (SCPP)             | 25.50                   | 23.50            | 23.50             | 25.50            | 2.043                 | 3  | 0.563   |
| Multi-theme complex pretend play (MCP)                    | 22.00                   | 22.00            | 22.00             | 32.00            | 16.345                | 3  | 0.001*  |

\* Statistically significant difference ( $p < 0.05$ )

pretend play), 3 step Complex Pretend Play (3CPP) [ $\chi^2(3) = 12.547, p = 0.006$ ], and Multi-theme Complex Pretend Play (MCP) [ $\chi^2(3) = 16.345, p = 0.001$ ] (Complex Pretend Play) showed a significant difference across the groups. Apart from this, no other play type had a significant difference. Tables 2 and 3 shows the Kruskal-Wallis H test results obtained for the types of play for both the play scenarios.

## Discussion

The types of play exhibited by children during free play and structured toy play scenario were obtained from the frequency analysis of the video recording.

### Functional Play

Single Functional Action is performing one action with or without an object. In free play, it was observed that there was an increase in the frequency of occurrence of Single Functional Action from Group I to Group IV. This is in consonance with the review by Whitebread (2012), stating that simple physical play peaks at the pre-school age and it aids in the development of the child's social competence, learning, and attention skills. This observation also supports the notion that functional play is a mature and a more developmentally adaptive form of object manipulation (Zelazo & Kearsley, 1980). In contrast to the findings from the free play scenario, the structured toy play scenario showed a decline in the occurrence of Single Functional Action from Group I to Group IV. The reason for this could be that toys have a tendency to make the child less engaged in simple functional action in comparison to other types of play (e.g. pretend play) (Malone & Langone, 1998).

Similarity-based combinations of action and functional combination of actions could be described as combining objects based on physical and object similarity. In the present study, these behaviours majorly occurred in the structured toy play scenario; however, there was a significant increase in combinations of action as a function of age in the free play scenario. Studies report that the complexity of using objects with appropriate functions develops gradually in toddlers (Whitebread, 2012), which is in consensus with the study findings. Non-

matching combination (random combinations of the object) was majorly seen only in Group I (3.6 to 4 years) which indicates that younger children start developing their representational abilities with toys and once they obtain mastery over the skills, they begin to build symbolisation (Stroud, 1995). Repeated Combination, that is the same play behavior with the same toy directed toward two or more different objects/people or the same play behavior seen with different toys on one object/person, occurred with more frequency across the groups, indicating that children tend to repeat the symbolic behavior (Lifter & Bloom, 1989). The Complex Exploration, wherein two or more actions with object are seen, showed significant differences across the groups in both the play scenarios. Bonawitz et al. (2011) indicated that the pre-school children's play explorations help them learn and with direct instructions, the instances of exploration increase. Moreover, exploration also aids in facilitating the understanding of cause and effect relationship through investigation of novel toys in order to understand how they function (Schulz & Bonawitz, 2007). In this current study, Complex Exploration behavior of pre-school children was exhibited in both the scenarios of play equally.

### **Social Play**

Solitary play is to engage in an activity entirely alone, usually more than three feet away from other children. This type of play was observed only in free play scenario. This is in agreement with the evidence from the literature that, solitary-active behaviours would more often be observed in free play scenario as the unstructured play is more conducive for functional activities (Coplan & Rubin, 1998). Moreover, it could also be the reason why these children are demonstrating social disinterest during the structured toy play scenario (Coplan & Rubin, 1998; Tessier, 2016). Associative play involves engaging in games with other children without coordination or following the rules of the game. These behaviours was observed in higher frequency in structured toy play although there was no statistically significant difference. This supports the findings of Rubin et al (1978) that not much of a change is observed in Associative Play in younger group in comparison to older group. Group Play is to engage in an activity with another child or children, in which the cognitive goal or purpose is shared amongst all group members. Group Play demonstrated higher frequencies

of occurrence in the free play scenario in comparison to structured toy play. This finding is suggestive of the fact that free play encourages more peer and social interaction, and the toys caused children to continue the same pattern of play for a longer duration (Farmer-Dougan & Kaszuba, 1999; Goldstein, 2012).

### **Cognitive Play**

Games with Rules is to engage in a competitive game-type activity following pre-established rules and limits. Games with Rules is viewed as an imaginary situation that promotes symbolic thought. Games with Rules showed greater significance in free play scenario. This aligns with the statement that during unstructured play, pre-school children frequently engage in Games with Rules, which fosters cognitive and sociomoral development, as children construct personal conviction out of the mutual rule discussions with their peers ( Fernie & Devries, 1990; Lehrer et al., 2014).

The occurrence of Simple Pretend Play is when the child engages in pretend play but there is not enough evidence to give them full credit for pretend play. Simple Pretend Play depicted significant differences across the groups. This is in consonance with findings by Onishi, Baillargeon, and Leslie (2007), who explained that in younger children, the type of pretend play is mainly restricted to object-directed or self-directed pretend play, and as the child grows, there is an emergence of more complex forms of pretend play. Further, Simple Pretend Play was most often observed in structured toy play scenario. This could be attributed to the fact that toys trigger children's symbolic expression (Goldstein, 2012), and older pre-school children start pretending with objects more than younger children (Lillard, 2017). Moreover, the use of specific toys involved during structured toy play could trigger the occurrence of Simple Pretend Play.

The Complex Pretend Play is with play acts which are theme-based. Complex Pretend Play had a more frequent occurrence in the structured toy play scenario than free play, and a similar trend was observed in 2, 3, and 4+steps Complex Pretend Play, Complex Pretend Play with Substitution, Pre-Planned Complex Pretend Play, and Multi-theme Complex Pretend Play. Literature evidences that the presence of Simple and Complex Pretend Play increased as a function of age and that pretend play provided multiple opportunities for the child to talk

with their peers, solve social problems, share materials, as well as regulate emotions in response to others (Reichow et al., 2016; Weisberg, 2015). Researchers have also opined that the Pretend Play was a way to facilitate the development of children's reasoning skills, social skills, Theory of mind, Language development, and emotional regulations (Lillard et al., 2013; Whitebread, 2012).

In terms of the play scenarios used, FP scenario required children to utilise their creativity and cognitive abilities to play, which provided a vital experience for children to learn social, cognitive, and communicative skills (Santer et al., 2007). This does not mean that SP hinders the development of a child; rather, it facilitates the development of self-regulation, turn-taking skills, and planning of play acts (Healey & Healey, 2019). As children grow older, they become more sensitive to the context of the play, such as the play scenarios and play partners (Heimann et al., 2006). This could have led children to respond differently to variations in the social contexts and modify their behavior to meet the contextual requirements. Although the study demonstrates considerable benefits, there are a few limitations. Firstly, in the structured toy play scenario, the investigator provided toys the variety of toys could have influenced the play behaviors demonstrated by children. Secondly, the analysis done for the study was manual coding and not software-based analysis so there could have been a small chance of human error and bias that could have occurred.

## **Conclusion**

To conclude, the overall findings showed that the Free Play elicited more types of play in all the domains, and children exhibited good social interaction and language use during Free Play than Structured Toy Play. There were very restricted play types such as object directed play, complex exploration, and few Complex Pretend Plays observed during the structured play. Apart from this, the results obtained from this study facilitates the assessment of pre-school children and in the identification of the children deviating from normal development or the ones deprived of play. The findings of the present study provide an insight about typical Play developmental trajectory among pre-school children in the Indian ethno-cultural background. It also highlights the need for exposure to free play as well as the structured toy

play in pre-school children.

Profiling pretend play behaviors exhibited by pre-schoolers in school setting will contribute to the emerging concept of play-based assessment and intervention which helps to gather information about the developmental deviations of a child in developmental domains such as communication, gross and fine motor skills in a real and functional context by the Teachers, Special Educators, Occupational therapist and Speech therapist working in a school based set up. The study observation helps in providing suggestive counseling/create awareness among the parents, teachers and professionals about the various developmental patterns of play types and behaviours as well as the significance of free play and usage of toys during play among pre-schoolers. Further studies can be conducted in different play scenarios and play partners as well as different toy combinations. Studying play types as well as behaviours based on gender and with different socio-economic cultural variation in Indian context would also be insightful.

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