

# Exploring the Impact of Sand Play on the Psychomotor Development of One-Year-Old Children

Fajar Shidiq Pratama<sup>1\*</sup>

<sup>1</sup>UIN K.H. Abdurrahman Wahid Pekalongan  
1 Jl Kusuma Bangsa 51141 Pekalongan Utara Jawa Tengah – Indonesia  
Email: [fajar.shidiq.pratama@mhs.uingusdur.ac.id](mailto:fajar.shidiq.pratama@mhs.uingusdur.ac.id)

\*Correspondence

## Abstract:

*This study aims to analyze the effect of sand play on the psychomotor development of 1-year-old children. Playing in the sand is believed to stimulate gross and fine motor skills through multisensory activities that involve object manipulation and body movements. With a qualitative approach, this study uses a direct observation method on 30 1-year-old children while playing in the sand. Activities such as digging and moving sand are evaluated for gross motor, while pinching and shaping sand is evaluated for fine motor. The results showed that sand play contributed significantly to children's motor coordination, concentration, and sensory exploration. These findings support the theory of child development which emphasizes the importance of multisensory stimulation in supporting motor growth. In addition to the physical benefits, the study also found that playing sand supports children's social, emotional, and cognitive development, such as interaction skills, logical thinking, and creativity. This study recommends parents and educators to utilize sand play as part of child development stimulation by paying attention to safety and hygiene aspects.*

**Keywords:** *Influence, Sand Play, Psychomotor, 1 Year Old Children*

## 1. Introduction

In early childhood, a child's development encompasses various crucial aspects, including physical, cognitive, socio-emotional, and psychological growth. One significant aspect at the age of one year is psychomotor development, which involves the child's ability to integrate gross and fine motor functions, as well as coordination between the body and mind. At this stage, environmental stimulation plays a vital role in optimizing a child's psychomotor skills.

Playing with sand is a natural form of stimulation that allows children to explore their surroundings through touch, movement, and manipulation. This activity engages various skills, such as grasping, pouring, pinching, and squeezing, which stimulate fine motor development. Additionally, bodily movements when a child sits, stands, or reaches for the sand also involve gross motor skills.

Stimulation through sand play is considered essential because it is multisensory and supports children's creative exploration, even though it is often perceived as a simple activity. Research indicates that experiences involving natural textures, such as sand, can enhance coordination, concentration, and sensory sensitivity in children. However, despite its significant potential benefits, the use of sand play as a medium for stimulating psychomotor development in one-year-old children has rarely been scientifically discussed.

Therefore, this study aims to analyze the impact of sand play on the psychomotor

development of one-year-old children. The findings of this research are expected to provide valuable contributions for parents, educators, and practitioners in understanding the importance of play-based stimulation in supporting optimal child development..

## 2. Methods

This study employs a qualitative research approach, which explores and seeks to understand the meanings individuals or groups attribute to social or human problems (Creswell & Creswell, 2017). Qualitative research aims to gain an in-depth understanding of human and social issues, rather than merely describing surface-level aspects of reality, as is common in quantitative research with its positivist approach.

Qualitative research seeks to discover and narratively describe activities conducted and the impact of such actions on people's lives (Fadli, 2021). The research method used involves direct field observation, where the researcher directly visits children's play areas to observe their behavior while engaging in sand play..

## 3. Hasil

### a. The Impact of Sand Play on the Psychological Development of One-Year-Old Children

Sand play is a common activity for children, whether at home, in parks, or on the beach. This activity not only provides enjoyment but also plays a crucial role in psychomotor development. Psychomotor development involves physical skills that require coordination between body movements and cognitive functions. Through sand play, children can refine both their gross and fine motor skills, which are essential for their overall growth and development.

One of the primary benefits of sand play is the development of gross motor skills (Katyusha, 2024). Activities such as digging, collecting sand, forming sand piles, or building sandcastles engage large muscle groups. Actions like shoveling or transferring sand by hand help improve muscle strength, agility, and body balance. These activities require good body coordination to prevent discomfort or accidents while helping children understand their physical capabilities and limitations.

In addition to gross motor development, sand play also contributes to the refinement of fine motor skills. When children shape sand into different forms or use small tools such as spoons and buckets, they engage the small muscles in their hands and fingers. These activities enhance hand precision, control, and coordination—important skills for future tasks like writing and drawing.

Sand play also supports cognitive development (Bebclub, 2023). The exploration and experimentation involved in sand play stimulate children's curiosity. For instance, children learn basic physics concepts such as weight, volume, and gravity while building sand structures or observing how sand flows. This fosters logical thinking and problem-solving abilities, which are essential for future formal education.

Beyond physical and cognitive benefits, sand play has positive effects on social and emotional development (Indrianawati & Hasibuan, 2014). When playing with peers or adults, children learn to interact, share tools, and collaborate to achieve common goals, such as building large sand structures. This process teaches essential social skills such as

communication, negotiation, and conflict resolution.

Furthermore, sand play can serve as a means of stress relief and relaxation (Rachmawati, 2024). Engaging in sensory-rich play with sand helps children feel more relaxed. The process of touching, grasping, or digging sand provides a calming sensation, reducing anxiety and tension. This makes sand play an effective tool for promoting children's mental well-being.

In early childhood education, sand play can be an effective tool for stimulating imagination and creativity (Yuliani, 2024). With sand as a medium, children can create various forms and designs according to their imagination. This encourages creative thinking and helps them explore new ways to solve problems or achieve their goals, thereby enhancing their abstract thinking abilities.

Sand play also contributes to language development (Nadia, 2021). While playing with sand, children often describe their creations or discuss their actions. This provides an opportunity to expand their vocabulary and improve their verbal communication skills.

Moreover, sand play enhances sensory perception (Yuliani, 2024). As a tactile material, sand offers various sensory stimuli. Children learn to recognize different textures, temperatures, and moisture levels through this activity. These rich sensory experiences are crucial for brain development, allowing children to better understand their environment in an engaging way.

Long-term benefits of sand play include character building and independence. When children experiment with sand without strict supervision, they learn to take responsibility for their actions. They experience the consequences of their decisions—such as when a sand structure collapses—and learn from their mistakes. This process fosters resilience and perseverance.

Overall, sand play is not just an enjoyable activity but also a highly beneficial one for holistic psychomotor development. With its diverse physical, cognitive, social, and emotional benefits, sand play is an effective way to support children's growth and learning.

## **b. The Significant Impact of Sand Play on the Motor Development of One-Year-Old Children**

Playing with sand has a significant impact on the motor development of one-year-old children, particularly in terms of gross motor skills, fine motor skills, and the coordination between body and mind (psychomotor). This activity not only contributes to physical growth but also involves cognitive elements that enrich a child's learning experience. By allowing children to play with sand, parents can directly support their development in a fun and beneficial way.

- 1) **Gross Motor Development** Sand play is a physical activity that engages large muscle groups, thus directly impacting gross motor development (Kartika, 2024). Examples include:
  - a. Digging sand with hands or using tools like small shovels, which strengthen arm and shoulder muscles.
  - b. Carrying sand in buckets or with hands, enhancing agility and body coordination.
  - c. Building sand piles or sandcastles, requiring balance while sitting, bending, or

standing.

## 2). Fine Motor Development

- a. Children use their small hand and finger muscles while playing with sand, which supports fine motor skill development (Notty, 2024). Activities include:
- b. Shaping sand into different forms, such as balls or small piles.
- c. Using small tools, like spoons or sand molds, to manipulate the sand.
- d. Scooping and transferring sand, which improves precision and hand-eye coordination.

## 3) Coordination Between Body and Mind (Psychomotor Skills) Sand play combines physical movements with cognitive processes, helping children develop:

- a. Hand-eye coordination, such as when transferring sand into a container.
- b. Motor planning, like deciding what to build and how to achieve it.
- c. Body awareness, as they learn to understand their physical limits.

## 4) Encouraging Independence and Perseverance

Children often experience failures while trying to build sand structures. These setbacks encourage them to try again, helping them develop resilience, confidence, and a willingness to learn from mistakes.

## **c. Sand Play as a Form of Stimulation for Psychomotor Development in One-Year-Old Children**

Sand play is an effective way to stimulate psychomotor development in one-year-old children. This activity supports:

1. Gross motor skills, through actions like digging, lifting, and building.
2. Fine motor skills, by refining small hand movements.
3. Psychomotor coordination, by integrating body movements with cognitive processes.
4. Sensory exploration, through interactions with different textures.
5. Social interactions, as children play together and communicate.

Parents play a crucial role in ensuring safe and effective sand play by:

1. Providing clean and safe sand.
2. Supervising children to prevent risks.
3. Encouraging interactive and creative play.

## **4. Discussion**

Findings from this study indicate that sand play has a significant impact on the psychomotor development of one-year-old children. These results align with early childhood development theories, particularly multisensory theory, which emphasizes the importance of sensory exploration in motor development. Activities such as digging and shaping sand not only engage gross and fine motor skills but also strengthen body-mind coordination.

Unlike previous research, this study highlights the holistic benefits of sand play, including its influence on cognitive, social, and emotional development. For instance, while Indrianawati & Hasibuan (2014) focused on social-emotional aspects, this study provides a broader perspective on its physical and cognitive benefits.

However, certain limitations were observed. Sand play requires close supervision to ensure children's safety, and not all families have access to clean, safe sand. Therefore,

developing guidelines for safe sand play practices is essential to maximize its benefits without compromising child safety.

## 5. Conclusion

This study demonstrates that sand play significantly contributes to the psychomotor development of one-year-old children. It enhances gross motor skills through whole-body movements, refines fine motor skills through precise hand movements, and promotes body-mind coordination. Beyond physical benefits, sand play also strengthens cognitive, social, and emotional abilities. Children learn about weight and texture, develop communication skills, and boost their creativity. With its multifaceted benefits, sand play serves as an effective and natural stimulation method for holistic child development, particularly during early childhood.

## References

- Bebeclub. (2023). *8 Manfaat Bermain Pasir untuk Perkembangan Anak*. Bebeclub.Co.Id. <https://bebeclub.co.id/artikel/tumbuh-kembang/1-tahun/manfaat-main-pasir-anak#:~:text=Manfaat Mainan Pasir untuk Perkembangan Anak 1 1.,Panca Indera ... 8 8. Lebih Jarang Sakit>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Fadli, M. R. (2021). Memahami desain metode penelitian kualitatif. *Humanika: Kajian Ilmiah Mata Kuliah Umum*, 21(1), 33–54. <https://doi.org/10.21831/hum.v21i1>.
- Indrianawati, F., & Hasibuan, R. (2014). Pengaruh Aktivitas Bermain Pasir Terhadap Kemampuan Sosioemosional Anak Kelompok B Di Tk Anissa Bangah, Gedangan-Sidoarjo. *PAUD Teratai*, 4(1), 2–11. <https://ejournal.unesa.ac.id/index.php/paud-teratai/article/view/10827>
- Kartika, R. (2024). *Stimulasi Motorik Kasar dan Halus Anak melalui Permainan Menyenangkan*. Kumparan.Com. <https://kumparan.com/raynakartika/stimulasi-motorik-kasar-dan-halus-anak-melalui-permainan-menyenangkan-23YkT8wJitK>
- Katyusha, W. (2024). *7 Manfaat Bermain Pasir untuk Anak dan Tips Amannya*. Hellosehat.Com. <https://hellosehat.com/parenting/anak-1-sampai-5-tahun/perkembangan-balita/manfaat-anak-bermain-pasir/>
- Nadia. (2021). *6 Manfaat Anak Bermain Pasir bagi Tumbuh Kembang*. Berkeluarga.Id. <https://berkeluarga.id/2021/09/02/6-manfaat-anak-bermain-pasir-bagi-tumbuh-kembang/>
- Notty. (2024). *Tahukah Anda, Bermain Pasir Ternyata Memiliki Manfaat Bagi Tumbuh Kembang Anak*. Temanmama.Org. <https://temanmama.org/tahukah-anda-bermain-pasir-ternyata-memiliki-manfaat-bagi-tumbuh-kembang-anak/>
- Rachmawati, A. (2024). *10 Manfaat Bermain Pasir untuk Anak dapat Menumbuhkan Kreativitas*. JabarEkspres.Com. <https://jabarekspres.com/berita/2024/04/24/10->

---

manfaat-bermain-pasir-untuk-anak-dapat-menumbuhkan-kreativitas/

Yuliani, E. (2024). *Dunia Si Kecil: Manfaat Bermain Pasir untuk Perkembangan Otak*. Kompasiana.Com.  
<https://www.kompasiana.com/elsayuliani7930/673737f9ed64155550387552/dunia-si-kecil-manfaat-bermain-pasir-untuk-perkembangan-otak>