LEGO®-Based Therapy and Autism: A Practical, Evidence-Informed Guide

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Executive Summary

LEGO®-based therapy is a structured, collaborative play intervention that uses LEGO building as a setting for practicing social communication and cooperation. In the best-known model, children work in small groups, take complementary roles, and must communicate, share materials, take turns, solve problems together, and negotiate how a model will be built. It is therefore different from simply giving a child LEGO bricks and allowing independent play.

Research suggests that LEGO-based therapy is promising for some autistic children, particularly as a way to create opportunities for social interaction. Early studies reported improvements in social competence and autism-specific social interaction, while a large school-based randomized controlled trial published in 2023 found a small positive effect on teacher-rated social skills. However, the overall evidence base remains limited, and systematic reviewers have cautioned that many studies have small samples or methodological weaknesses. LEGO-based therapy should therefore be described as a potentially useful supportive intervention—not as a cure for autism and not as a replacement for individualized professional care.

What Is LEGO®-Based Therapy?

LEGO-based therapy grew from the idea that a child's interest in LEGO can provide a motivating, naturally structured environment for practicing social skills. The approach was described in clinical research by Daniel LeGoff in the early 2000s. Rather than focusing primarily on teaching social rules through conversation, the intervention places children in a shared activity that gives them a practical reason to communicate.

A typical session involves a small group and a shared building task. Participants may have different roles, such as an engineer who explains the instructions, a supplier who finds the required pieces, and a builder who assembles the model. Roles can be rotated. The adult facilitator guides the interaction, helps children solve disagreements, and keeps attention on communication and collaboration.

The key therapeutic ingredient is not the LEGO brick itself. It is the structured social interaction that occurs while children work toward a shared goal.

How LEGO-Based Therapy Works

- Shared goal: Children work together toward a common building outcome rather than completing entirely separate projects.
- Defined roles: Different responsibilities create natural reasons to communicate and listen to one another.
- Turn-taking: Participants have to wait, exchange materials, and give other children opportunities to contribute.

- Joint problem-solving: Building difficulties create opportunities to ask for help, explain ideas, negotiate, and compromise.
- Joint attention: Children attend to the same materials, instructions, model, and task.
- Motivation through play: A preferred or enjoyable activity may make participation in social learning more engaging.
- Adult facilitation: The facilitator supports communication and social interaction rather than simply supervising construction.

Potential Benefits

Social communication and interaction

The strongest research focus has been social functioning. Studies have reported improvements in social interaction, communication, social competence, and related measures. The 2021 systematic review identified 19 studies and concluded that LEGO-based therapy appeared promising for social interaction, while also emphasizing that the studies were generally small and varied in quality.

Cooperation and turn-taking

A collaborative building task naturally requires children to coordinate their actions. A child may need to wait for a piece, explain what is needed, listen to another person's idea, or give up a preferred approach so the group can continue. These are practical opportunities to practice cooperation.

Problem-solving and flexibility

When a build does not work as expected, children can practice asking questions, considering another person's solution, and adjusting their plan. These experiences may support broader problem-solving and flexibility skills, although the evidence for cognitive or executive-function effects is much less established than the evidence concerning social interaction.

Friendship and participation

Because the activity provides a shared interest and repeated opportunities for interaction, LEGO groups may help some children spend less time playing alone and may create opportunities for friendships and a stronger sense of belonging. Earlier reviews reported improvements in areas including friendships, social interaction, belonging, and family relationships, but these findings should be interpreted cautiously.

What Does the Research Say?

Early clinical research

LeGoff's 2004 clinical trial used a repeated-measures, waiting-list-control design and reported significant improvements in measures related to social initiation, sustaining interaction with peers, and autism-specific social interaction at 12 and 24 weeks. The study helped establish the rationale for LEGO as a therapeutic medium, but it was an early study and should not be treated as definitive evidence.

Randomized comparison with another social intervention

Owens and colleagues evaluated LEGO therapy against the Social Use of Language Programme (SULP) in children ages 6–11 with high-functioning autism or Asperger syndrome. Therapy was delivered for one hour per week for 18 weeks. The LEGO group showed greater improvement on an autism-specific social interaction

measure, while both LEGO and SULP groups showed reductions in maladaptive behavior compared with a no-intervention control. The sample was small, so the findings require replication.

Systematic reviews

A 2017 scoping review identified 15 empirical studies involving 293 participants ages 5–16. Fourteen studies reported at least one improvement in social or communication outcomes or related areas. The authors concluded that LEGO therapy showed promise but that more rigorous studies were needed.

A 2021 systematic review identified 19 studies and reached a similar overall conclusion: LEGO-based therapy appears promising for social interaction in autistic children, but the small samples and generally low quality of the available evidence limit confidence in the size and generalizability of the effects.

The large I-SOCIALISE randomized controlled trial

The most important later evidence is the I-SOCIALISE school-based cluster randomized controlled trial. It included 250 children and young people ages 7–15 from 98 schools. Schools were assigned to either usual support or usual support plus 12 weekly LEGO-based therapy sessions. Groups generally involved three children and a trained teacher or teaching assistant.

The primary analysis found a modest positive difference in teacher-rated social skills favoring LEGO-based therapy, but the result narrowly missed conventional statistical significance (standardized effect size 0.18; p=0.06). A per-protocol analysis was statistically significant, with a standardized effect size of 0.21. The researchers concluded that the intervention produced a small positive clinical difference and should be considered in school settings, while recommending further research.

This distinction matters: the trial provides stronger evidence than the early small studies, but it does not show that LEGO-based therapy produces large changes in autism or social functioning for every child.

What LEGO Therapy Is—and Is Not

- It is a structured social-learning activity using collaborative LEGO building.
- It can be facilitated by trained school staff or other appropriately trained adults, depending on the program and setting.
- It may complement other educational, developmental, or therapeutic supports.
- It is not a cure for autism.
- It is not simply the same thing as free LEGO play.
- It should not be presented as a replacement for individualized professional assessment or treatment.
- Benefits should be judged by meaningful goals for the individual child, not by whether the child completes a particular LEGO model.

Examples of LEGO-Based Activities

1. Engineer, Supplier, Builder

Give three participants different roles. The engineer describes what piece is needed and where it belongs; the supplier finds the piece; and the builder assembles it. Rotate roles so each participant practices different communication and cooperation skills.

2. Shared Challenge

Give the group a goal such as building a bridge that can support a small object. Avoid prescribing one correct solution. Encourage the children to discuss ideas, test solutions, and decide together what to change.

3. Build-and-Explain

Each child creates a small model and then explains one part of it to the group. Peers can ask questions or make suggestions. This can provide a low-pressure opportunity to practice expressive and receptive communication.

4. Collaborative Story Build

The group builds a simple scene together and creates a story around it. Participants can take turns adding an element to the story while negotiating what happens next.

5. Free-Build Collaboration

Two children choose a shared project and must agree on what to build. The goal is not the finished model but the process of negotiating, sharing decisions, and working together.

Tips for Parents and Caregivers

- Start with the child's interests. Motivation is important, and forcing participation can undermine the purpose of the activity.
- Keep the task achievable. A project that is too difficult can turn a social opportunity into a source of frustration.
- Focus on interaction rather than perfection. The completed model is secondary to communication and cooperation.
- Use short, predictable sessions at first and increase duration if the child enjoys the activity.
- Give choices whenever possible, such as choosing between two projects or deciding which role to try first.
- Model respectful problem-solving: 'We have two ideas. How can we choose one?'
- Allow breaks and respect sensory needs. Some children may find the pieces, noise, visual clutter, or group setting overwhelming.
- Watch the child's response. A successful activity should create meaningful opportunities for engagement, not simply require compliance.

Considerations and Limitations

The evidence does not support making broad claims that LEGO therapy improves every aspect of autism. Research has focused primarily on social interaction and communication. Evidence for executive functioning, academic skills, language, motor development, emotional regulation, or other outcomes are more preliminary.

Research studies also differ in their participants, session length, outcome measures, facilitators, and intervention methods. This makes it difficult to determine exactly which children benefit most, how much therapy is optimal, or how well gains generalize from a LEGO group to other settings.

The 2026 implementation analysis of the I-SOCIALISE program also offers an important practical lesson: facilitators generally delivered the program with high fidelity, but researchers noted that adults could

sometimes focus too much on completing the LEGO build instead of facilitating meaningful social interaction. In other words, the social process—not the finished LEGO model—should remain the central focus.

Safety and Accessibility

- Choose LEGO pieces appropriate for the child's age and developmental level.
- Consider choking risk for young children and children who mouth objects.
- Adapt instructions for communication differences, including visual supports when useful.
- Consider motor, visual, and sensory differences when selecting pieces and tasks.
- Provide a quieter environment or breaks if the group becomes overwhelming.
- Do not use participation in LEGO activities as a test of social ability or compliance.

How Autism Play Guide Should Talk About LEGO Therapy

For a family-resource website, the most accurate message is that LEGO-based therapy is a promising, structured way to use collaborative building to create opportunities for social communication and problem-solving. The research supports cautious optimism, not sweeping claims.

A strong Autism Play Guide article should distinguish between three things: ordinary LEGO play, structured LEGO-based social activities that parents or educators can use, and formal LEGO-based therapy delivered within a defined intervention program. This distinction protects families from exaggerated marketing claims while still showing them how LEGO can become a valuable tool for connection and learning.

Bottom Line

LEGO can be much more than a construction toy. When children build together under thoughtful adult guidance, the activity can create natural opportunities to practice communication, cooperation, turn-taking, joint attention, negotiation, and problem-solving. Research—including a large randomized controlled trial—suggests that structured LEGO-based therapy can produce small improvements in social skills for some autistic children.

At the same time, the evidence remains developing. The most responsible conclusion is that LEGO-based therapy is a promising complementary approach, particularly for social interaction, but it should be individualized and should not be portrayed as a treatment that changes or cures autism. For families, the greatest value may be that LEGO provides a motivating shared activity where social connection can grow around something children genuinely enjoy.

References and Further Reading

1. LeGoff, D. B. (2004). Use of LEGO as a therapeutic medium for improving social competence. Journal of Autism and Developmental Disorders, 34(5), 557–571. DOI: 10.1007/s10803-004-2550-0.
2. Owens, G., Granader, Y., Humphrey, A., & Baron-Cohen, S. (2008). LEGO therapy and the Social Use of Language Programme: An evaluation of two social skills interventions for children with high functioning autism and Asperger syndrome. Journal of Autism and Developmental Disorders, 38, 1944–1957. DOI: 10.1007/s10803-007-0510-1.

3. Lindsay, S., Hounsell, K. G., & Cassiani, C. (2017). A scoping review of the role of LEGO® therapy for improving inclusion and social skills among children and youth with autism. Disability and Health Journal, 10(2), 173–182. DOI: 10.1016/j.dhjo.2016.10.010.
4. Narzisi, A., et al. (2021). Could You Give Me the Blue Brick? LEGO®-Based Therapy as a Social Development Program for Children with Autism Spectrum Disorder: A Systematic Review. Brain Sciences, 11(6), 702. DOI: 10.3390/brainsci11060702.
5. Wright, B., et al. (2023). I-SOCIALISE: Results from a cluster randomised controlled trial investigating the social competence and isolation of children with autism taking part in LEGO® based therapy ('Play Brick Therapy') clubs in school environments. Autism, 27(8). DOI: 10.1177/13623613231159699.
6. Wright, B., et al. (2023). Play brick therapy to aid the social skills of children and young people with autism spectrum disorder: the I-SOCIALISE cluster RCT. Public Health Research, 11(12). DOI: 10.3310/VGTR7431.
7. Wang, H.-I., et al. (2022). Cost-utility analysis of LEGO based therapy for school children and young people with autism spectrum disorder: results from a randomised controlled trial. BMJ Open, 12(1), e056347. DOI: 10.1136/bmjopen-2021-056347.
8. Biggs, K., et al. (2026). Lessons learnt about implementing LEGO based therapy (Play Brick Therapy) based on fidelity data and experience from a large school-based randomised controlled trial. PLOS ONE, 21(2), e0336952. DOI: 10.1371/journal.pone.0336952.
9. National Institute for Health and Care Excellence (NICE). Autism spectrum disorder in under 19s: support and management. Guidance CG170.

Editorial Note for Autism Play Guide

This report is intended as educational material for families and caregivers. It is not medical advice. Before describing a specific program as 'therapy,' Autism Play Guide should identify whether it is a formal intervention delivered by a trained professional or a home/school LEGO activity inspired by the research. Claims should remain proportional to the evidence.