

**Introduction to Lego Therapy as a potential intervention
for facilitating social competence in children with Autism
Spectrum Disorder**

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Social skills deficit is one of the most fundamental characteristics of children with autism spectrum disorder that impacts their everyday functioning (**Kozlowski et al., 2012; Matson et al., 2013**). Though the nature of impairments in social competence of children with ASD has been one of the heavily researched topics of all times (**Dixon et al., 2009; Magill, 1987**), social skills interventions have also been under the attention of researchers for a substantial amount of time (**DeRosier et al., 2011; Flynn & Healy, 2012; Houston, 1999**). LEGO therapy is one such recently developed social skills intervention that focuses on improving social competence of children with ASD through collaborative LEGO play (**LeGoff, 2004; LeGoff & Sherman, 2006; Owens et al., 2008**). The present intervention has been very successful in recent years in bringing out the true interests of children with ASD by emphasizing the use of intrinsically motivating resources (LEGO materials) and more importantly by focusing on their strong ability of detail oriented processing (**Happé and Frith, 2006**), in other words, the weak central coherence (**Frith, 1989**).

In addition, LEGO intervention supports the use of joint attention and executive functions by focusing on activities requiring collaborative work and cognitive planning. This improves the face validity of LEGO therapy, especially in the light of the researches suggesting associations between joint attention (**Jones & Carr 2004; Kasari, 2006**), executive functioning (**Blinkoff, 2011; McEvoy et al, 1993**) and later social behaviours of children with autism. LEGO therapy thus, not only focuses on direct measures of social skills but also emphasizes on supporting other aspects that indirectly facilitate social competence of children with ASD. It must therefore be recognised that, the underlying scientific foundation and the comprehensive approach of LEGO therapy strengthen the roots of this novel social skills intervention. Based on the available research evidence on LEGO therapy (**LeGoff, 2004; LeGoff & Sherman, 2006; Owens et al., 2008**) it can be thus argued that LEGO based intervention may be an effective treatment for facilitating vital social skills of children with ASD.

The purpose of this essay is to mainly introduce LEGO therapy as a potential intervention for facilitating social competence of children with autism spectrum disorder. The article begins by throwing light on the importance of social competency skills and the need for effective social skills interventions for children with ASD. Later on, the essay thoroughly explains the features of LEGO therapy by providing relevant research evidence supporting its efficacy. The main part of the essay critically discusses how LEGO intervention emphasizes naturalistic settings along with addressing joint attention, executive functions and weak central coherence for improving the social skills of children with autism. This is done by individually focusing on the importance of using each of the abovementioned aspects in social skills interventions. Next, the recent research examining the efficacy of LEGO therapy

for children with ASD is evaluated. Finally, the last part of the article describes the scientific nature of LEGO therapy followed by the explanation as to why specifically LEGO materials are effective for facilitating social skills of children with autism. The essay concludes on a positive note by supporting the use of LEGO therapy as an effective intervention.

Social competency skills play a crucial role in enabling positive social interactions necessary for forming and maintaining meaningful social relationships. Typically developing children acquire these sophisticated skills during the course of their development. Children with autism, on the other hand, fail to naturally acquire these complex social skills (**Baron Cohen; 2008**). Hence, ever since the first explanation of Autism by Kanner (**Kanner, 1943; 1968**), this impairment in social functioning has been identified as a defining feature of Autism Spectrum Disorder and as a result, has been one of the profoundly researched topics of all times (**Carter et al., 2005; Reichow & Volkmar., 2010**). Impairments in social competency skills negatively impact the everyday lives of children with autism. As a result, children with autism experience difficulties in initiating successful social interactions and spend a significant amount of their time in solitary and non-social play (**Sigman and Ruskin 1999**). These features of autism may limit the prospects of engaging in successful social communication, gaining social confidence and independence, developing age appropriate peer relationships, practising social strategies and other vital social skills. Moreover, according to a study by **National Research Council (2001)**, the overall long-term outcomes for children with autism may be predicted by a level of impairment in social functioning. Consequently, a substantial amount of research has focused on examining the efficacy of various social skills interventions that aim on improving social competence of children with autism (**Flynn & Healy, 2012; Reichow & Volkmar, 2010**). Only a few studies, however, suggest a strong empirical basis supporting their efficacy (**McConnell, 2002; Owens et al., 2008**). Furthermore, a meta-analysis in the similar field found social skills interventions to be minimally effective for children with autism (**Bellini, 2007**).

The problem of generalization of learned skills is a well documented issue in social skills intervention studies (**Plaisted, 2001**). **Delprato (2001)**, in response to this, recommends using naturalistic settings in order to improve skill generalization. Based on the available literature, it could be indicated that many of the current social skills interventions fail to use naturalistic settings during the treatment procedures and this could possibly be the cause behind the low success rates of behaviour generalization. Some researchers suggest focusing on joint attention skills in early intervention by perceptively stating the association between joint attention and later social behaviours of children with autism (**Jones & Carr 2004; Kasari, 2006; Mundy, 1995**). Research also highlights the importance of executive dysfunction and weak central coherence in maintaining the autism specific symptoms (**Blinkoff, 2011; Frith, 1989; Mastrangelo, 2009; McEvoy et al, 1993**). Given the evidence, it may be safe to suggest that, developing more novel social skills interventions focusing on aforementioned aspects should be of huge importance for clinicians.

LEGO Therapy is one such novel therapeutic approach that is conducted in naturalistic settings and focuses on joint attention, executive function and central coherence in improving social competence of children with autism. This unique social skills intervention is designed

for school age children with ASD and includes mutual LEGO play (**LeGoff, 2004; Baron-Cohen et al., 2008; LeGoff & Shermann 2006**). The present intervention is based on Attwood's notion of "Constructive application" (**Attwood, 1997, p.96; Attwood, 2006**) which focuses on encouraging behaviour change and learning by using one's natural interests. In other words, LEGO therapy successfully demonstrates skill generalization by using naturalistic settings during intervention (**Baron-cohen et al., 2008**). A typical LEGO therapy session includes building a LEGO set in groups of three people (may comprise of adults and typically developing peers along with children with ASD). The division of labour is such that each individual is assigned the work of an 'engineer', 'supplier' and 'builder' in separate turns. The engineer explains which parts go where by following the instructions. The child is free to describe the parts with respect to their size, shape and colours. Next, the supplier searches for the described parts and passes the required pieces to the builder. The builder then assembles the LEGO set according to the directions from the engineer and the printed LEGO manual (**LeGoff et al., 2010**). Successful completion of LEGO activities involves following various social rules, such as maintaining eye contact and joint attention, using appropriate greetings, turn taking, listening, problem solving, sharing and so on (**Owens et al., 2008; LeGoff et al., 2010**). In addition to this, a typical LEGO building activity comprises numerous actions and objects that present the group members with several opportunities for verbal and non-verbal social communication. Along with group LEGO sessions, children are also administered individual sessions to facilitate their personal deficits in a one- to-one way. The duration and frequency of LEGO sessions is individually determined based on the child's current level of social functioning.

LEGO intervention primarily is a type of Play Therapy. Play Therapy distinguishes itself from usual play by addressing and resolving child specific problems in therapeutic as well as natural settings (**Gallo-Lopez & Rubin, 2012; Nedelcu et al., 2010; Reddy et al., 2005**). Current researches evaluating the efficacy of play therapy for autism have produced positive results in this regard (**Hess, 2009; Nedelcu et al., 2010; Simeone-Russell, 2011**). According to **Sutton-Smith (2009)** the 'Self' develops through Play by experiencing intrinsic satisfaction and pleasure. Play therapy allows children with ASD to discover and explore the environment around them, analyze novel ideas and be inquisitive (**Mastrangelo, 2009**). Play can be a powerful tool for therapists and parents to enter the world of children with autism. However, play therapy, a relatively distinguished therapeutic approach, has been criticised for a long time for its inadequate research base (**Ray et al., 2001**). Hence, research examining the efficacy of play therapy techniques, especially LEGO therapy is needed to fill the gaps in the current literature. In addition to using 'play' as a primary tool in therapeutic settings, what makes LEGO therapy effective is its successful use of social groups. Social skills training for children should ideally improve their everyday social engagement and also equip them with the necessary skill-set for developing and maintaining long lasting quality peer relationships (**Rogers, 2000**). Consequently, group interventions may qualify as a rational alternative for such successful social interventions. This seems justifiable as recent studies have found group social skills interventions to be an effective method for teaching vital social skills to children with ASD (**DeRosier, 2004; DeRosier & Marcus 2005; Greenberg et al., 2001**).

The work of **Baron-Cohen (2006, 2002)** indicates that, children with autism are especially attracted to systems. LEGO intervention capitalizes on this strong sense of systematic reasoning abilities of children with ASD. It could be suggested that, the successful use of systematic reasoning abilities may lead to acquisition of a new system for social interaction. This process may familiarize children with autism with fundamental norms of social communication that have been formerly imperceptible (**LeGoff et al., 2010**). Consequently, being a systematic, predictable and a structured toy, LEGO is argued to be intrinsically rewarding for children with autism. In addition to this, LEGO can also be sensorily gratifying for children with autism who experience challenges in managing complex patterns of visual and tactile stimuli. **LeGoff (2004)**, in his study has drawn our attention to the fact that participation itself in the Lego group can be inherently motivating for children with ASD and thus external rewards are not required. This aspect of LEGO therapy motivates children participation, which is essential for any child-led therapeutic interventions based on play. **Dewey et al. (1998)** on a similar topic suggested that, construction materials (LEGO is a type of construction material) could serve as an effective means for improving social interactions of children with ASD as opposed to functional or dramatic play. Thus, using LEGO activities for improving social competence of children with autism seems rational. However, even though LEGO intervention seems a justifiable therapy for improving social competence of children with ASD, more research is needed to strengthen the current evidence base.

LEGO therapy was originally designed by Daniel LeGoff, and was primarily evaluated in a study aimed at facilitating social skills in children with autism (**LeGoff, 2004**). The intervention comprised collaborative LEGO play and focused on various aspects of social skills building approaches, namely conforming to social rules, joint attention, making eye contact, using compliments, turn taking and the like. The results indicated significant increase in duration and self- initiation of social interactions of children with ASD by systematically observing participant behaviour in unstructured settings with their peers. Autism specific symptoms like rigidity and aloofness were measured by the Social Interaction (SI) scale of the GARS (**Gilliam 1995**) which was administered to the parent/caregiver of the child. The SI scale of the GARS indicated positive results in terms of social interaction. However, one should be observant while interpreting these results as **Mazefsky and Oswald (2006)**, in a study, found GARS to have frequently underestimated the likelihood of ASD. This may be the result of parental bias towards their children while answering the questions of the SI scale. As a result, one cannot ignore the possibility that, this bias may have affected the overall results of the study. This echoes the results of a research by **South et al. (2002)** who reported similar findings regarding the effectiveness of GARS. Hence, recommendations can be made to utilize the ADOS-G which is considered to be the gold standard for autism research (**Mazefsky and Oswald, 2006**). ADOS-G might be more suitable for LEGO research, as it is the most empirically supported play-based assessments for children with ASD (**Tanguay, 2000**). This play based assessment requires the child to participate in various activities, such as constructive and joint attention tasks. ADOS-G would be an appropriate assessment for LEGO research, because of the similarity of the tasks and more importantly such an evaluation is not affected by parental bias. Turning back to the overall positive findings of the study, **LeGoff (2004)** draws our attention to the fact that LEGO therapy, a less

intensive therapeutic approach, is one of the few therapies that specifically focuses on social competence of children with autism in naturalistic settings. However, care should be taken while generalizing these results as the research participants in the study were not randomly selected. Moreover, the study revealed better results for children with relatively intact linguistic skills. It must therefore be recognized that, more randomized control studies evaluating the efficacy of LEGO therapy are needed before one can reach any valid conclusions.

Besides using naturalistic interests of children with ASD, what enhances the face validity of LEGO therapy is its requirement of practising joint attention skills with other group members. A successful LEGO activity requires joint attention, joint creativity and joint problem solving during the task (**Baron-Cohen et al., 2010**). Joint attention typically comprises of two or more people sharing their attention relating to an event or an object and monitoring other's attention on the same event or object (**Adamson & Bakeman, 1984; Jones & Carr 2004; Krstovska-Guerrero & Jones, 2013**). Impaired joint attention is a fundamental attribute of autism and is one of the earliest indicators of ASD. Joint attention impairments are apparent in the first year of life and typically before any formal diagnosis of ASD has been made (**Baron-Cohen et al., 1992**). Research on joint attention suggests its associations with later social competence and development (**Kasari 2006; Mundy et al., 1996, 1998**). According to studies by **Baron-Cohen (1995)** and **Whalen et al (2006)** joint attention facilitates later development of complex social skills. It could be argued that joint attention plays a cardinal role in the development of social competence, communication and play skills of children with autism. It has thus, been repeatedly suggested that joint attention, a pivotal skill should be of primary focus for early interventions (**Bristol et al., 1996; Jones & Carr, 2004; Kasari, 2006**). In parallel with the work suggesting associations between joint attention and later development of social skills, a number of studies draw our attention to the fact that children with ASD may not only have the ability to learn the abstract skills of joint attention but also to generalize these skills in non-therapeutic settings (**Kasari, 2006**). LEGO therapy thus effectively demands the use of this pivotal skill, by emphasizing on joint activities on the part of the 'engineer', the 'supplier and the 'builder'. Moreover, in case of children with high functioning autism and Asperger's syndrome, one may also ask the group members to jointly decide upon the LEGO design, materials and final creation. Such an activity requires considerable joint attention and problem solving skills to be practised among the group members (**LeGoff, 2004**). On this basis it may be safe to infer that, by primarily focusing on joint attention and using naturalistic interests, LEGO therapy may increase the likelihood of skill generalization in its long term use.

An extension study of the previous research by **LeGoff (2004)** indicated significant improvements in social skills by evaluating long-term outcomes of LEGO intervention for children with autism (**LeGoff & Sherman, 2006**). One of the essential findings of this research is the evidence suggesting facilitated social competence and adaptation in natural settings as measured by the Social Interaction (SI) scale of GARS and the Social Domain scale (SD) of the VABS. According to LeGoff (**LeGoff & Sherman, 2006**) the findings of this study are supplementary to their previous LEGO intervention that evaluated short term

gains of children with ASD on social skills. The long term use of LEGO may give an adequate amount of time for participants to master the necessary skills which perhaps enhance the overall performance. The emphasize of this 3 year longitudinal study on the child's task accomplishment and performance might have initiated child motivation to take part in analogous activities in non-therapeutic settings thereby increasing the likelihood of skill generalization. Moreover, the time duration of such a longitudinal experiment might also increase the comfort level of the children by allowing them to confidently engage in attempts of social communication. Both the studies reveal generalization of social competency skills beyond the therapeutic settings. Although the findings of this research seem promising, there are nonetheless a few limitations, such as non-randomization and different therapists for different groups, that limit the generalization of the results to wider populations.

A more recent research, supporting the findings of LeGoff (**LeGoff, 2004**) tackles this issue by using a randomized block design to evaluate the efficacy of LEGO therapy for improving social skills of children with high functioning autism and Asperger's syndrome (**Owens et al., 2008**). In comparison with the previous studies, GARS-SI and VABS revealed significant reductions in autism related social difficulties and maladaptive behaviours after the administration of LEGO therapy. As mentioned earlier, parental bias may possibly have overestimated the effectiveness of LEGO intervention. In addition, it could also be suggested that, comparatively enhanced social abilities of children with high functioning autism and Asperger's syndrome might have positively impacted the overall results. This calls for the need to conduct LEGO research particularly emphasizing the social skills of children with severe symptoms of autism. **Owens et al (2008)** support the efficacy of LEGO therapy by emphasizing considerable improvements on the maladaptive behaviour domain of VABS. This suggests suitability of using LEGO intervention for children displaying a great deal of autism specific maladaptive behaviours. Analogous with the previous research, the generalization of learned social skills in non therapeutic settings was also systematically observed on the school playground, where the children demonstrated increased duration of social interactions. This systematic observation by the clinicians would balance the effect of parental bias, if any, on the VABS and GARS assessments. The evidence thus seems to be strong that, LEGO therapy may be a promising intervention in the coming future.

In addition to emphasizing joint attention skills, a typical LEGO session also requires attention, forward planning of activities, self-monitoring, cognitive flexibility, maintaining focus, generating and altering goals in response to changing circumstances, in other words, the executive functions of the brain. Executive functioning allows individuals to make choices and engage in goal directed behaviour (**Suchy, 2009**). Research in the similar field indicates impairments in executive functioning abilities of children with autism (**Corbett et al., 2009; Liss et al., 2001**), however, gaps in executive functioning are not a universal feature of autism (**Griffith et al., 1999**). Turning to the task of LEGO therapy, it becomes clear that the participants must constantly use aforementioned aspects of executive functioning in order to reach the desired goal. The indications are therefore that, LEGO therapy indirectly focuses on the facilitation of executive functioning abilities of children with ASD. Furthermore, on a similar topic studies by **McEvoy et al., (1993)** suggest

association between deficits in executive functioning and deficits in social competence and joint attention skills in children with ASD (**Ozonoff & McEvoy, 1994**). It must therefore be recognized that improving executive functioning abilities of children with ASD may imply facilitating joint attention and ultimately enhancing social skills. However, caution should be taken during the LEGO intervention, as studies examining the improvements in executive functioning abilities of children with ASD have revealed mixed results (**Fisher and Happé 2005**).

As far as the systematic nature of LEGO activities is concerned, it can be argued that the present intervention capitalizes on the weak central coherence of children with autism. LEGO activity requires local information processing in order to identify single pieces from the whole picture. Research evidence indicates that, children with ASD exhibit a detail oriented processing style (**Happé and Frith, 2006**) or weak central coherence that is; they tend to centre their attention on individual pieces of information as opposed to the whole context (**Frith, 1989; Morgan et al., 2003, p. 647**). For instance, children with ASD in general outperform typically developing children on tasks requiring local information processing, such as embedded figures test, puzzles, block design tests and the like. It must therefore be recognized that, children with ASD are privileged by activities for which information processing can be piecemeal, however, they face challenges in tasks requiring global information processing (**Mastrangelo, 2009**). Since the present intervention shares common features with abovementioned tasks requiring local information processing, children with ASD would also excel on the similar LEGO task and thus, would be naturally inclined towards the intervention. This brings us back to the point made earlier in this article about LEGO therapy being intrinsically motivating to children with autism. Given the evidence it may thus be inferred that, LEGO therapy attempts to facilitate social competence of children with autism in a comprehensive manner by focusing on more than one aspect of social competence.

The primary thought behind LEGO interventions is to initiate motivation of children to cordially work together by constructing LEGO sets in small groups (**Owens et al., 2008**). LEGO therapy can be especially important for occupational therapists due to the similar elements and strategies used in both the interventions. Occupational therapy often includes completion of tasks in small groups that are indented to facilitate social competency skills of children with autism and may comprise of peer modelling approach to promote social interaction (**Case-Smith & Arbesman, 2008**). Apart from working in small groups, LEGO therapy can also be administered in pairs, also known as ‘Freestyle’ activity. Such a task permits children with ASD to clearly express their ideas and more importantly to take other’s perspectives into consideration (**Owens et al., 2008**). According to **LeGoff and colleagues (2010)**, a principal feature of LEGO activity is the development of motivation for social self efficacy (**Bandura, 1997**) and social interaction by engaging in an intrinsically gratifying group activity. This is accomplished by using a technique referred to as “horizontal task analysis” which includes “breaking down a task into interdependent components that can be engaged in simultaneously or that at least can occur in parallel” (**LeGoff et al., 2010, p. 118**). In addition to this, an ideal social skills intervention comprises personally relevant

experiences, positive social interactions in which others are perceived as supportive and accommodating and self is perceived as efficient and finally, mutual achievements as a result of constructive interdependence. The personally relevant experiences encourage positive interactions with fellow members which may eventually lead to mutual achievements in groups. Based on the available research evidence, it has thus been argued that LEGO therapy highlights all the aforementioned aspects of successful social learning (**LeGoff et al., 2010**). Another vital feature of LEGO intervention is the numerous opportunities that one gets for initiating constructive one- to- one social interaction. **LeGoff (2010)** calls this as an inbuilt characteristic of the LEGO set building course itself. According to him, every LEGO task, be it simple or complex, comprises of multiple steps, each entailing social communication, joint attention, joint decision making and problem solving. Besides emphasizing vital social skills, LEGO therapy may also improve the fine motor skills of children with autism. Moreover, LEGO therapy does not require much monetary commitments and can be easily applied in school or home settings. However, further research is required to evaluate the effectiveness of using LEGO therapy with children of all ages and demonstrating different severities of ASD in a school context. This argument seems reasonable as autism can now be diagnosed as early as at eighteen months of age (**Pang, 2010**). Based on the similar idea, recent research has explored the effectiveness of using LEGO therapy with a preschooler (**Pang, 2010**). The self originated checklist indicated enhanced behaviour of a preschooler in areas of fine motor, language and social emotional skills. This study thus, well supports the aforementioned finding of **Owens et al. (2008)** which indicates improvements in maladaptive behaviours of autism. Despite the promising results, one should be perceptive in generalizing the results of this single case study to other preschool children with autism as the self originated checklist may sometimes overrate the usefulness of LEGO interventions. In addition, a single participant may not be the right representative for the target population. Nonetheless, this study widens the scope of LEGO therapy to improvements in verbal language and fine motor skills which could be the primary research theme of the future studies. Studying language development may be reasonable considering the associations between joint attention (the primary requirement in LEGO activity) and language development (**Jones and Carr, 2004**).

Despite a comprehensive therapeutic approach, the treatment strategies that are typically utilized in this intervention are analogous with other social skills interventions, such as peer support, guided social problem solving, using social rules to guide behaviour and the like. However, what makes LEGO therapy different from other social skills interventions is its use of LEGO play materials, which are intrinsically appealing to the target group, and which encourage successful social interaction and communication through interactive and mutual play (**LeGoff, 2004**). Here, one might wonder why specifically LEGO is such an effective tool for therapy for children with ASD and what makes LEGO so attractive that it helps maintain the interest of many children with autism? According to **LeGoff (2004)**, the response to these questions lies in the characteristics of LEGO materials themselves, and the way they were originated. LEGO material is a simple toy that permits imagination and originality within a structured framework. Moreover, LEGO intervention is believed to be easily applicable in school settings, where typical social skills therapies may not be most favourable (**LeGoff & Sherman, 2006**). Furthermore, the educational division of LEGO has

been supporting the use of LEGO in classrooms by evaluating the effectiveness of LEGO materials in contrast to more conventional educational materials (**Iturrizaga, 2000; Noble, 2001**). **Iturrizaga (2000)**, in his study, evaluated the impact of LEGO materials with typically developing children on psychological and academic measures and found considerable improvements in all the studied variables. Furthermore, the students demonstrated improvements in sociability and self-confidence. It must therefore be recognised that, working with LEGO materials naturally entails social interactions with the group members. As **Iturrizaga (2000)** suggests, such a task would support in-group learning, which is an influential approach of effective mediation. Moreover, **Noble (2001)** in a similar study evaluated the educational impact of LEGO Dacta materials with special needs students along with typically developing peers. The children with special needs demonstrated improved social skills, motivation, increase in joint skills and enhancement in task engagement. However, one should be cautious while interpreting these results as the study did not use systematic measures to monitor reliability of the LEGO intervention and thus the improvements in behaviours may be a consequence of other interfering variables. Though there have not been many studies evaluating the use of LEGO as a specialized intervention for children with needs especially autism, the extensive use of LEGO materials in academic settings certainly suggests an unexplored potential for its use as a therapeutic intervention.

Turning back to the usefulness of LEGO therapy, it would be highly heroic on the part of the therapists to claim complete cure for social skills deficits in children with autism. Nonetheless, by using the LEGO approach one could reach a new equilibrium for social skills interventions for autism. As **Pang (2010)** points out that successful use of LEGO therapy may lead to improved team work, creativity and imagination. It would be interesting to systematically study the improvements in imaginative concept of children with autism after administering the LEGO intervention. It would also be of interest to compare the efficacy of other play based interventions with LEGO therapy. Future studies should invest in LEGO research as **Owens et al.(2008)** support the usefulness of LEGO therapy by stressing on the economical feature of LEGOs. This particular characteristic of LEGO therapy may perhaps widen its scope to children coming from all economic strata. Whilst many existing social skills therapies emphasize on facilitating specific social behaviours (**Graetz, 2003; Morrison et al., 2001**) or social reasoning abilities, the LEGO intervention aims at improving overall social abilities in addition to specific performance attributes (**LeGoff et al., 2010**). In other words, the approach attempts to fundamentally alter the social development of children with ASD, which eventually leads to generalized and constant improvements in social competence. According to LeGoff (**LeGoff et al., 2010**), the advantages of LEGO intervention are likely to be more significant as it is supported by gains in core social skills and social identity, rather than merely reflecting on shallow changes in specific social skills abilities. Successful use of LEGO therapy may lead to enhanced peer identification, social efficacy and the development of social identity and confidence in children with ASD. The strong theoretical foundation and a multi-domain approach encourage one to think of LEGO therapy as an effective and a sophisticated social skills intervention.

Given the evidence, it can thus be concluded that, LEGO therapy holds great potential to be a successful social skills intervention for children with autism. This may be an advent of a new therapeutic approach in the history of autism research that aims at facilitating the social competence of children with autism spectrum disorder.

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