

# How Equine Therapy Enhances Social-Emotional Competence in Children with Autism Spectrum Disorder: Insights from Malaysian Case Studies

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## Introduction

Among various animal-assisted therapy interventions, ET (equine therapy) has gained recognition due to its structured approach and unique benefits (Kunasegran & Subramaniam, 2020), it involves the use of trained professionals who employ horses to achieve therapeutic goals tailored to the client's needs (PATH International, 2021). Globally, ET has been utilized for various conditions, such as ADHD treatment in Spain (Trzmiel et al., 2019), stress reduction among medical students in the U.S (Chakales et al., 2020), complex trauma intervention in New Zealand (Lietz & Napan, 2020), and therapy for neurological conditions in Sweden (Pálsdóttir et al., 2020), whereas Italy uses human-horse contact to induce psychological and motor changes in healthcare settings (Maresca et al., 2020). In Asia, research on ET is limited, example like Japan exploring ET could be useful to activate human brain activities (Matsuura et al., 2020) and China examining the effects of ET on social interaction and communication skills in children with ASD (Zhao et al., 2021). In Malaysia, ET was introduced in 1994 through the Riding for the Disabled Association (RDA) Malaysia (Soeed et al., 2020). As of 2022, RDA Malaysia operates 14 training centers providing ET to children and adults with disabilities, including ASD (David, 2023).

**Keywords:** Equine Therapy, Autism, Social-Emotional

## Introduction

On the other side, ASD is a neurodevelopmental disorder affecting social communication, behavior, cognition, and motor control (Srinivasan et al., 2018). Schwartz et al. (2021) also believe that social-emotional difficulties or inadequate social-emotional reciprocity have remained a defining component of ASD. With the prevalence of ASD continuing to rise (Lord et al., 2020), siblings of ASD child also reported to have social-emotional difficulties in them. (Sacrey et al., 2015), hence, early identification of social-emotional competence is important implications for treatment planning and monitoring (Raza et al., 2020). As ASD is

a multifactorial condition, a wide range of treatment options has emerged, complementary and alternative medicine (CAM) is increasingly being integrated with conventional medical approaches for ASD management. Among the most commonly used and effective CAM therapies are swimming, music therapy, art therapy, and animal-assisted therapy (Zocante et al., 2021). Especially ET have been used for children with ASD to improve their social and behavioral issues (Wiese et al., 2016), as well as cerebral palsy (Tseng et al., 2013), post-traumatic stress disorder (PTSD) (Selby & Smith-Osborne, 2013), stress and depression (Chakales et al., 2020), and other physical and psychological conditions (Matsuura et al., 2020).

However, qualitative research remains limited and **leaving gaps in understanding the lived experiences** of ASD children undergoing ET (Ahad et al., 2021; Preston et al., 2021). As to researcher knowledge, there are intervention studies of ET on ASD children for social motivation, motor- sensory, and social functioning (Bass et al., 2009; Borgi et al., 2016). Despite numerous studies on ET impact on various developmental outcomes, there remains an unclear understand of how ET specifically enhances **social-emotional competence in children with ASD**. Prior to the acceptance of ET in European nations, traditional interventions remained the locally preferred approach, limiting ET's global reach (Kunasegran & Subramaniam, 2020). Research on ET remains predominantly centred in **Western countries**, with limited studies exploring its adoption and effectiveness in non-Western contexts, particularly in Southeast Asia. In addition, given the significant challenges that children with ASD face in social-emotional competence (Bamicha & Drigas, 2022), there is a pressing need to explore innovative interventions that can address these deficits. Hence, this study aim to explore how ET enhance social-emotional competence among ASD children in Malaysia, by capturing firsthand perspectives from parents and coaches, this study can contribute to the future intervention and broaden the understanding of ET effectiveness, particularly in non-western contexts.

### Methodology

In line with the purpose of the study, a qualitative case study is used for this study. In this study, researcher will focus on exploring level one ASD children that been with ET for at least three months. Hence, the participants were selected based on the following criteria: parents of ASD children (age between 5-12 years old) that have attended ET sessions for at least three months, and ET coach that guides the ASD children (age between 5-12 years old) for at least three months. After selection, there are five parents of ASD children that been in ET sessions for at least three months, and two ET coach to provide a comprehensive understanding of each ASD child's development and response to the therapy. The information was gathered from face-to-face semi-structured interview and documents analysis.

### Results

From the perspective of parents and ET coach, the themes on how parents and ET coach experience enhancement of social-emotional competence in ET among ASD children can be explained through three main themes of "social competence", "emotional competence", "self-regulation" and "behavioral control".

*Main Theme 1: Social Competence*

From the findings of the interviews from parents and ET coach, there are significant advancements in this area, including 'improvement in verbal communication', where children became more articulate and expressive. Another notable change was in 'being responsive', with children showing increased engagement and quicker reactions in social interactions. Additionally, children were 'able to make friends', indicating a newfound ability to form and maintain peer relationships. All sub-themes will be elaborated with the interview quotes as follows:

*Improvement in Verbal Communication*

Parent R1 highlighted remarkable progress in his child's verbal communication abilities. He noted that his child has transitioned from using single words to forming sentences that convey his needs more clearly:

"Yes, right now he has word by word, we understand what he wants, I think this is improvement already"

Parent R1 elaborated on this improvement:

"Before that, I only understood one word only when he talk, now I can understand more as he is able to form proper sentence, like 'I want to eat' "

This development signifies a shift from minimal to more structured communication. Parent R2 also mentioned that his child now engages in simple conversations and shares experiences from school, which was not possible before ET:

"He can chat with people now, can talk about what happen in school, although only two to three sentences, but previously he used to unable to chat with"

This ability to converse and narrate events marks a significant milestone in his child's communication skills. Additionally, parent R3 observed that his child can now express preferences and needs more effectively:

"He used to be only saying yes or no, now he can answer and talk like expressing he wants to eat".

Parent R4 reported that feedback from teachers indicated noticeable progress:

"He doesn't talk to us that much, but his school teacher actually gives us feedback, said that he's actually having progress in talking"

Parent R5 noted a specific advancement saying:

"Now he able to talk more, example like saying 'I am hungry' "

Additionally, the coach observed that children are not only increasing their vocabulary but are also beginning to engage in basic conversational exchanges:

"Now better, parent R4's kid can do two-way communication, but certain questions only"

#### *Being Responsive*

Parent R5 noted changes such as the child starting to respond when called from behind and recognizing her name:

"There are changes, like when we call her from behind, she has started listening, she already knows her name, when we call her name, she looks, and started responding".

ET coach confirmed these observations, noting that the child understands and responds to instructions more effectively:

"Example like parent R3's kid understands the instruction, it is good, and got respond of what I'm asking".

The ET coach also mentioned that R3's child has become more proactive in seeking interaction:

"And then time goes, he knows come and find me when arrived, I will call him, he already knows".

Additionally, the coach observed R5's child not only increasing their vocabulary but are also beginning to engage in basic conversational exchanges:

"Communication now much better, in terms of, I questions something, parent R5's kid can respond, but simple questions la, example she can say hi teacher, or when I ask, what colours is this, she can answer".

#### *Able to Make Friends*

Parent R1 highlighted this progress by stating:

"He shows something progress on his attitude and his behaviour, now he can mingle round with friends".

This indicates a shift in the child's social interactions and willingness to engage with peers. Parent R2 added that the child has started engaging in interactions:

"She starts playing with friends and her sister, and she has more interaction with people now"

This suggests that the child is becoming more comfortable in social settings and initiating play. Parent R4 also noted:

"Since he started riding, he has started to make friends, and willing to share toys".

### *Better Eye Contact*

Parent R5 observed that the most significant improvement was her increased interaction and prolonged eye contact:

"The biggest improvement is that there is interaction with us, there is longer eye contact with us, before it was only for a moment, now we call, she will look at us and wait for instructions. Then, when we joke with her, she will look into our eyes, she will look at us now"

The ET coach corroborated these observations, noting a significant extension in the children's attention spans. He explained:

"Now is better, before this, maybe 10 seconds I can see his eye contact, now maybe can go up to one minute, so the attention has been improved in six months"

### *Main Theme 2: Emotional Competence*

From the findings of the interviews with parents and ET coach, parents and ET coach observed significant improvements in this area, including children becoming "more calm" during and after ET sessions, showing increased ability to manage their emotions. Another notable improvement was "less tantrum," with children experiencing fewer and less intense temper tantrums. All sub-themes will be elaborated with the interview quotes as follows:

#### *More Calm*

Parent R4 noted that after a one-month break from therapy due to a festival and a two-week holiday, the child displayed only a slight increase in tension, suggesting an overall improvement in managing stress:

"I think about one month we didn't go (ET) because it was raya, we went off for holiday for two weeks, we could see that he's a bit tension only".

Additionally, R5 mentioned:

"She is a lot of steaming last time, yeah, but now gradually, even if she doesn't go, like I told you, in one month, we didn't go for horse therapy, she is still consider emotional stable"

#### *Less Tantrum*

Parent R5 mentioned the emotion stability to changes in routine:

"She knows that if the session cancelled due to rain, she has to go back, if drizzling only, she can ride a horse, not so much anger already"

The coach also confirmed this progress:

"Parent R4 child steaming reduce already, steaming now he just like to play with his hands".

### *Main Theme 3: Self-regulation*

From the findings of the interviews with parents and ET coach, the third main theme identified is 'self-regulation'. Parents and ET coaches noted several specific enhancements in this area, including 'able to concentrate' where children demonstrated better focus and attention during activities. Another significant improvement was 'higher sitting tolerance' with children being able to remain seated and engaged for longer periods. Parents and ET coaches reported notable improvements in this area, including 'increased independence', where children exhibited increased ability to manage their own behaviours and follow rules. All sub-themes will be elaborated with the interview quotes as follows:

#### *Able to Concentrate*

Parent R1 noted a marked improvement in his child's ability to concentrate and remain seated during activities:

"After he riding the horse, he is more focus, can sit, like during dinner when eating, he can focus".

Parent R2 also noticed that his child developed two-way communication skills and could now maintain focus for longer durations:

"After therapy, it's okay, start having focus, can do two-way communication longer".

#### *Higher Sitting Tolerance*

From the parents and ET coach perspective, higher sitting tolerance highlighted improvements in children's ability to sit for longer periods and focus on reading while seated. Parent R1 further emphasized that the most significant change was his child's ability to sit in one place for extended periods:

"The most significant is he can sit at one place for a longer times, more than five minutes".

Parent R5 highlighted this progress:

"Now he can sit still, when people give him books, he will read, or do any tasks that has been given to him"

The ET coach also indicating enhanced sitting tolerance and compliance with classroom expectations:

"Parent R3 also feedback that, the school teacher says the kid can sit on the chair more than five to ten minutes, sitting tolerance is better".

#### *Increased Independence*

Parent R1 highlighted his child's improved understanding and anticipation of routine activities, specifically mentioning the weekly ET sessions:

“He would know like Saturday morning he have to come here; he will know he have to go here with the teacher for the helmet”.

Parent R5 add on:

“She knows she has a schedule too, like horse session is on Saturday, and Monday to Friday is school days, then she will go to bed early”.

#### *Main Theme 4: Behavioural Control*

From the findings of the interviews with parents and ET coach, children were ‘able to follow instructions’ more effectively, showing greater compliance and understanding. Another significant change was ‘aggressiveness reduced’, with children showing fewer aggressive behaviours. All sub-themes will be elaborated with the interview quotes as follows:

##### *Able to Follow Instructions*

Parent R2 also observed similar improvements. He mentioned that teachers reported better focus and adherence to instructions:

“After horse therapy, her class teacher actually said there is improvement, can focus already, mostly she can follow instructions now”.

This indicates a growing understanding of simple tasks. Additionally, parent R5 mentioned:

“If the shirt is worn, I ask her to undress and put the shirt into the basket, now she knows, when dressing up, she is able to wear the shirt after being told, last time she can’t”.

Parent R4 also emphasized this improvement:

“If I ask him to throw the trash, he knows, he already knows how to follow the instructions”

##### *Aggressiveness Reduced*

Parents have reported a notable reduction in aggressive behaviours among their children after participating in ET. Parent R4 shared:

“It’s amazing how fast we can see the difference, within three months, we could see that he stopped hitting us”

This indicates a significant improvement in managing aggressive impulses. Additionally, R3 mentioned:

“There was a break (ET sessions) about six months, at that period, he's sometimes get agitated, but it's fine, at least he doesn't hit us anymore”.

#### **Discussion**

The findings is align with Xiao et al. (2023) that concluded that ET can significantly enhance the social and behavioural skills, as well as the language abilities of children with ASD.



Participants highlighted significant advancements in the ASD child's verbal communication, moving from single-word responses to forming complete sentences. This development allows the child to express needs and engage in more meaningful interactions. In addition, there are also close associations between verbal communication skills and early receptive language skills and social-emotional competence in the early years according to Rautakoski et al. (2021). ET was also shown to improve social and communication behaviors and the number and kinds of words spoken during a standard language sample in another study (Gabriels et al., 2018). In this study, ASD children becoming more expressive and responsive during interactions. According to Tan and Simmonds (2018), parents of children with ASD also reported that ET improved their children's social interactions and conversations. One study highlighted significant enhancements in social skills and behavior for children with ASD who participated in ET, including improved interactions and friendships in community settings (Xiao et al., 2023). The systematic review by Xiao et al. (2023) also provides evidence that ET programs substantially improve social cognition and communication, which can contribute to better relationships and friendship-building. ET has shown a positive impact on the emotional competence of children with ASD, particularly in enhancing their emotional regulation, other studies supported that parents described ET as having a calming effect (Kalmbach et al., 2020). Kalmbach et al. (2020) also mentions there is notable reductions in tantrums and meltdowns as a result of participation in ET. ET has been shown to significantly improve self-regulation among children with ASD, this findings supported by a study reported that 5-week ET intervention led to a significant reduction in hyperactivity in children with ASD compared with the baseline period (Peters et al., 2022). This is largely due to the engaging and organized nature of the tasks (Collacchi et al., 2023). This ability to adhere to routines provides stability and predictability in the child's life. ET appear to offer children a unique form of experiential learning, where they must listen and follow directives to work with the horses effectively, reinforcing their capacity to follow multi-step instructions (Xiao et al., 2023). ET has been found to play a significant role in improving behaviour control among children with ASD, and another research reports that parents view that increased opportunities for self-care in daily living of their child is important experience (Kalmbach et al., 2020). Additionally, ET has been linked to a reduction in aggressive behaviours. The calming effect of working with horses helps ASD children manage their emotions more effectively, leading to fewer incidents of frustration or aggression. For example, a meta-analysis found that ET interventions significantly helped youth reduce externalizing behaviours such as aggression (Fuller-Lovins et al., 2023).

## Conclusions

This study contributes to the growing body of research on ET by addressing the gaps in understanding its impact on social-emotional competence in children with ASD. For Malaysian children with ASD, integrating ET into conventional therapeutic frameworks could diversify intervention strategies, particularly in settings where traditional therapies have limited impact. Given the scarcity of studies in the Malaysian context, this research encourages further exploration of ET's feasibility, cultural relevance, and long-term effectiveness in this region.



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