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ARTICLE

'Shared Emotions in Shared Weaves': Perceived Positivity Resonance and the Social–Emotional Benefits of Equine-Assisted Therapy

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ABSTRACT: Backgrounds: Children's mental ill health has risen worldwide in recent years, placing increasing emotional demands not only on autistic children but also on their families. A holistic perspective on supportive therapies besides medical treatment is essential. There is a growing need for research and practice that explore equine-assisted therapy through innovative relational frameworks. This qualitative study had two main aims: first, to understand how parents perceived the social and emotional benefits of their autistic child's involvement in equine-assisted therapy; and second, to explore how parents experienced positive resonance with their child during simultaneous parent–child involvement in the therapy. **Methods:** Eighteen parents (twelve mothers and six fathers) were interviewed across two equine-assisted therapy centers in Türkiye and Croatia. The data were analyzed using reflexive thematic analysis. **Results:** Analysis resulted in a synthesis of how parents experienced equine-assisted therapy as a *social and emotional milieu for growth*, as moments of *shared positive affect* (the experiential component of positivity resonance), and as episodes of *caring nonverbal synchrony* (the behavioral component of positivity resonance). Specifically, parents saw the actual and potential benefits of horse-based therapies for themselves and their autistic children, particularly in the shared moments of positive affect that emerged during the riding sessions and in the caring nonverbal synchrony that unfolded through gentle, coordinated movements, mutual gaze, and quiet bodily attunement. **Conclusions:** The findings suggest that this unique parent–child connection is rare in everyday life yet deeply meaningful, offering brief but powerful experiences of warmth, ease, and feeling 'in sync', which contribute to mental health and emotional well-being.

KEYWORDS: Children; equine-assisted therapy; mental health; parents; interpersonal interactions; positivity resonance

1 Introduction

Most children encounter their earliest experiences of decision making within what Alderson [1] (p. 89) describes as the "less-observed private world of the family", where parents are responsible for making

decisions and acting in ways that safeguard their child's well-being and development until the child reaches an age or level of maturity to assume such responsibility themselves [2–4]. When the child is autistic, this parental responsibility often extends well into adulthood [5,6], especially in the presence of co-morbidities such as intellectual disability or mental illness. Moreover, many parents assume an expanded repertoire of responsibilities that involves navigating service infrastructures, mediating between professional systems, providing ongoing emotional and developmental scaffolding, and engaging in various forms of civic and institutional participation to secure conditions that support their child's health, autonomy, and long-term quality of life [7,8].

In addition to autism's core diagnostic characteristics, autistic children commonly present with a constellation of co-occurring conditions, including elevated rates of mental illness, sleep disturbances, and sensory processing challenges [9,10]. Indeed, they demonstrate a heightened risk of mental illness relative to their neurotypical peers [11,12]. Mental ill health is closely linked to diminished self-esteem, restricted social participation, and more sedentary patterns of daily living, which in turn can weaken executive functions [13,14]. Over time, this cycle of negative outcomes associated with mental ill health can undermine behavioral development, impair social and affective skills, hinder educational progress, and limit opportunities in the labor market in adulthood [15–18]. Earlier grounded theory research has shown that children and adolescents often face difficulties navigating healthcare systems that lack a coherent holistic perspective and coordinated care interventions [19]. There is a need to involve children and adolescents actively in their recovery process. A nuanced understanding of how parents conceptualize opportunities for "more meaningful and productive lives" enables recognition of the forms of value they seek for their children [9] (p. 1201). This recognition underscores the imperative for parents and society to ensure genuinely broader opportunities and developmentally attuned accommodations that support the contextual needs of autistic children [5]. In line with calls for a more holistic perspective that extends beyond purely medical treatments, increasing attention has been directed toward animal-assisted therapies [20,21], with equine-assisted therapy representing a particularly promising avenue [12,22].

Equine-assisted therapy includes mounted practices such as hippotherapy and therapeutic horseback riding, as well as non-mounted activities like grooming and caring for the horse [23]. Hippotherapy, delivered by licensed occupational therapists, physical therapists, and speech–language pathologists, uses the horse's movement to target sensory, neuromotor, and functional outcomes [24], whereas therapeutic horseback riding focuses on teaching riding skills through mounted and unmounted activities to support physical, cognitive, emotional, and social well-being [25]. Equine therapy affords a distinctive therapeutic experience, as the act of riding and attuning to a horse creates a level of relational and sensory engagement that cannot be replicated with other animals [26,27]. There is a wide breadth of knowledge on its physical, behavioral, social, and psychological positive outcomes [9,12]. Past research found enhanced fundamental motor functioning, strengthening balance, postural control, coordination, trunk stability, and sensorimotor integration, while also improving gross motor abilities, flexibility, and muscle endurance [28–30]. Gait mechanics also improve, producing more rhythmic and organized walking patterns [31]. Horse-based therapy also produces social engagement and empathy, alongside reductions in maladaptive and aggressive behaviors [32,33].

Regarding the psychological benefits, equine-assisted therapy has indicated improvements in social interaction, communicative responsiveness, and emotional regulation, alongside reductions in problematic behaviors, overall autism symptom severity, and stress levels [34,35]. Beside these symptom-focused improvements, riding sessions have been associated with heightened mindfulness, as well as boosts in self-confidence, self-esteem, perceived competence, and genuine enjoyment [30]. Buchanan and Higgins [30]

reported that parents may also experience notable improvements in their own psychological well-being as an indirect effect of their child's participation in equine-assisted therapy. However, research explicitly examining parental outcomes remains scarce, underscoring the need for further studies that attend to the wider relational impacts of such interventions (see also Cleary et al.'s [12] recent scoping review). Inspired from Fredrickson's [36,37] positivity resonance theory, we aimed to fill the aforementioned gaps in the literature. Thus, within the context of equine-assisted therapy, the primary objective of this study was to examine how autistic children's participation in horse-based interventions is perceived by their parents in relation to social and emotional development. In addition, the study aimed to explore parents' experiences of active involvement in horse-based interactions, with particular attention to co-experienced emotions, caregiving processes, and interpersonal synchrony within the parent–child dyad. To address these objectives, a participant-centred qualitative research approach was adopted, and face-to-face interviews were conducted with families from Türkiye and Croatia. Through this approach, the study seeks to contribute to a deeper understanding of shared parent–child experiences within equine-assisted riding contexts.

2 Positivity Resonance Theory

The Broaden-and-Build Theory of positive emotions [38,39] holds that frequent positive emotional experiences help individuals develop enduring personal resources, including optimism and social support. Positivity Resonance Theory [36,37] extends the Broaden-and-Build Theory by focusing specifically on positive affect that is co-experienced. The theory proposes that pleasant states co-experienced with others, characterized by mutual care and interpersonal synchrony, play a particularly powerful role in supporting mental health and in building personal and social resources [36,37]. Emotions are understood as patterns of coordinated change across experiential, behavioral, and physiological systems [40–42]. Analogously, positivity resonance emerges within social interactions in which three elements rise together: the experience of shared positive affect, the display of caring nonverbal synchrony, and the presence of biological synchrony. These components respectively reflect experiential, behavioral, and physiological processes that jointly define the phenomenon [43].

The experiential element, shared positive affect, refers to a pleasant subjective state that two or more individuals experience at the same time. The behavioral element, caring nonverbal synchrony, involves coordinated facial and bodily movements that signal attentiveness to the other person's well-being [44]. These patterns may be expressed through aligned body orientation, shared gaze, smiling, nodding, or subtle forward movements [45–47]. They also include nonconscious coordination of movement form, tempo, and intensity, which further reflects interpersonal attunement [48]. The physiological component, biological synchrony, refers to moments in which the biological processes of two or more individuals shift in coordinated ways. Such coordinated physiological responses have been reported during positive social interactions [49–52].

At this point, it is important to recognize that research on equine-assisted therapy has largely focused on child-level outcomes [12], often giving limited attention to the relational processes through which emotional attunement, co-regulation, and shared meaning emerge when autistic children and their parents participate together. Understanding how these processes unfold during simultaneous riding, and how they create opportunities for positivity resonance, provides an important basis for strengthening therapeutic practices that aim to support not only the child but the family system as a whole. To our knowledge, this study is the first to examine positivity resonance within the context of parent–child equine-assisted riding, offering an initial framework for understanding how shared emotional experiences unfold in this therapeutic setting.

3 Methods

3.1 Participants

Ethical approval was obtained from the Social and Human Sciences Scientific Research and Publication Ethics Committee of Inonu University (Approval Number: 2025-2615). All participants were informed about the aims and procedures of the study, and written informed consent was obtained prior to data collection. To locate potential participants, the study was introduced at equine-assisted therapy centers and affiliated rehabilitation facilities in Rijeka (Croatia) and Malatya (Türkiye), where local therapy staff supported access to families by distributing study information to eligible parents within the Erasmus+ project collaboration.

Eligibility criteria included [53]: (a) being a parent of a child aged 6–12 years diagnosed with ASD, (b) participation in simultaneous parent–child equine-assisted riding sessions, and (c) having recently begun participation in an equine-assisted therapy program, defined as within the past 1–6 months at the time of recruitment. Exclusion criteria were: (a) parents whose children participated in equine-assisted therapy without parental involvement, (b) families with long-term prior experience in equine-assisted therapy exceeding six months, (c) participation exclusively in non-equine or non-riding therapeutic programs, and (d) families who had not yet completed at least one month of program participation. All participating children had a prior clinical diagnosis of ASD based on existing medical or educational documentation provided by parents.

A total of 18 parents participated in the study (Table 1), including twelve mothers and six fathers, aged between 29 and 54 years (M = 40.72). Recruitment was evenly distributed across the two countries, with nine parents from Croatia and nine from Türkiye. The participating children ranged in age from 7 to 12 years, with the majority falling between 8 and 11 years. Participation duration varied from 1 to 6 months (with shorter durations reflecting recently enrolled participants), with most families engaging in the intervention for approximately 3–4 months. Session frequency ranged from once to twice weekly, reflecting both family availability and program structure. Four children were reported to have co-occurring conditions, including attention difficulties, coordination difficulties, and anxiety symptoms, based on information provided by parents from existing clinical or educational records. No additional diagnostic assessments were conducted as part of the study.

3.2 Procedure

Sessions were conducted with children aged 7–12 years at beginner level over intervention periods ranging from 1 to 6 months and typically lasted 30–45 min. Each session included a brief orientation and warm-up, followed by mounted riding activities in which the child rode the horse while the parent was simultaneously present alongside the horse, maintaining close proximity or light physical contact to support comfort and confidence. Riding tasks focused on basic balance, posture, rhythm, and simple directional cues appropriate to the child's developmental level, and sessions concluded with dismounting and calming interaction with the horse. In this context, "simultaneous parent–child equine-assisted riding" referred to the concurrent involvement of parent and child during riding activities, emphasizing shared presence, safety, and emotional support rather than sequential participation.

Table 1: Participants' demographic.

Participants' Pseudonym (Sex)	Country	Parent Age	Child Age	Child Sex	Co-Occurring Conditions	Duration of Participation	Session Frequency
Ana (Female)	Croatia	34	9	Female	n/a	4 months	Twice weekly
Marija (Female)	Croatia	45	10	Male	Attention difficulties	3.5 months	Once weekly
Ivana (Female)	Croatia	43	11	Female	n/a	3 months	Once weekly
Katarina (Female)	Croatia	29	8	Female	n/a	1 months	Twice weekly
Martina (Female)	Croatia	52	11	Male	n/a	2.5 months	Once weekly
Petra (Female)	Croatia	36	8	Male	n/a	3.5 months	Once weekly
Ivan (Male)	Croatia	40	9	Female	n/a	1.5 months	Twice weekly
Marco (Male)	Croatia	48	7	Female	n/a	5.5 months	Once weekly
Josip (Male)	Croatia	32	10	Female	Coordination difficulties	2 months	Twice weekly
Ayse Female)	Türkiye	35	11	Male	n/a	4.5 months	Once weekly
Fatma (Female)	Türkiye	50	12	Female	n/a	2.5 months	Once weekly
Emine (Female)	Türkiye	41	9	Male	n/a	6 months	Once weekly
Zeynep (Female)	Türkiye	38	12	Male	Anxiety symptoms	3.5 months	Twice weekly
Hatice (Female)	Türkiye	49	11	Female	n/a	1 months	Once weekly
Merve (Female)	Türkiye	45	9	Male	n/a	4 months	Twice weekly
Ahmet (Male)	Türkiye	33	8	Male	n/a	2.5 months	Twice weekly
Mehmet (Male)	Türkiye	54	12	Male	Attention difficulties	6 months	Once weekly
Mustafa (Male)	Türkiye	29	8	Female	n/a	4 months	Once weekly

Footnote: n/a: Not available or not reported by parents (e.g., when parents did not have a medically confirmed diagnosis or chose not to provide information).

3.3 Data Collection

Data were collected through semi-structured, in-depth interviews [54]. Interviews were conducted by Author Yalin Aygun in Türkiye (Turkish language) and Author Draščić Šarinić in Croatia (Croatian language). Both interviewers were members of the Erasmus+ research collaboration and had prior experience with qualitative interviewing. Interviews were carried out face-to-face in participants' native languages to ensure comfort and depth of expression. Parents were asked to describe the benefits they observed in their children during equine-assisted riding, as well as the moments in which they perceived shared positive experiences indicative of positivity resonance in themselves and their children. The interviews focused on three key areas aligned with the aims of the study. First, parents were asked to describe their history of involvement with equine-assisted therapy (for example, how they began participating, how long they had been attending sessions, and what motivated their continued engagement). Second, parents were invited to discuss the benefits they observed in their autistic children during equine-assisted riding, including emotional and social changes they believed the sessions supported. Third, the interviews explored parents' experiences of moments that felt shared or mutually uplifting, with a particular emphasis on instances in which they perceived emotional connection, mutual care, or synchrony that might reflect positivity

resonance for themselves and their children. No need for debriefing or further elaboration arose as a result of the interview or the process of recalling experiences. The interviews lasted between 20 and 45 min, with an average duration of approximately 32 min, and produced a total of 100 typed pages of verbatim transcription (Times New Roman, 12-point font, A4 page size, 1.5-line spacing).

After initial translations by Draščić Šarinić and Yalin Aygun, each transcript was independently reviewed by a second bilingual team member to ensure meaning equivalence. Any discrepancies were resolved through team discussions, and crucially, these language checks and meaning controls were conducted during Erasmus+ Sports transnational project meetings with face-to-face coordination among multiple participants. Culturally specific expressions and key idioms were collaboratively discussed in these face-to-face coordination and monitoring stages, ensuring cultural accuracy. Furthermore, the analytic team revisited original-language excerpts during theme refinement to ensure the English quotations reflected relational and affective nuances. Thus, translation was treated as an interpretive step, safeguarded at multiple stages within the Erasmus+ sport framework. This process involved overlapping responsibilities between translation and analysis, with decisions reached collaboratively through ongoing team dialogue.

3.4 Data Analysis

A reflexive thematic analysis by Braun and Clarke [55] was conducted following the six-phase analytic process [56]. Analysis commenced with repeated, immersive readings of the interview transcripts to achieve deep familiarization with the breadth and nuance of parents' accounts. During this phase, the analyst recorded reflexive notes capturing initial analytic impressions, points of curiosity, and emerging questions, recognizing that interpretation begins at the point of engagement with the data rather than after formal coding.

Initial coding was then undertaken through a flexible, line-by-line process that attended closely to participants' language and meaning-making. Coding focused on parents' descriptions of perceived benefits of equine-assisted riding for their autistic children, alongside accounts of shared moments during simultaneous riding sessions [57,58]. This phase was primarily inductive (bottom-up, e.g., Frith and Gleeson [59]), particularly in relation to social-emotional and developmental changes, with codes generated directly from the data rather than from a pre-established framework. At the same time, the analysis was theoretically sensitized (top-down) [60] by the study's conceptual grounding in positivity resonance, which guided analytic attention toward both the experiential components of shared positive affect and the behavioral components of relational synchrony, such as mutual gaze, embodied coordination, and moments of attuned interaction. As coding progressed, coded segments were collated and compared across the dataset to identify preliminary patterns of shared meaning. These early clusters were treated as provisional and subject to ongoing scrutiny. Through an iterative and recursive analytic process, potential themes were actively reviewed, refined, merged, or separated to ensure internal coherence and clear distinction between themes. For example, early codes relating to "emotional calm", "enjoyment", and "togetherness" were initially treated as discrete but were later integrated when sustained comparison demonstrated that they functioned as interrelated facets of shared relational experience in parents' narratives.

The interpretive process was explicitly reflexive. Rather than attempting to bracket this positioning, reflexivity was operationalized through analytic memo-writing, in which assumptions, expectations, and alternative readings were documented and revisited throughout analysis. Coding and initial theme development were led by Author Yalin Aygun, with ongoing reflexive dialogue and analytic input from Authors Sakir Tufekci, Fatma Hilal Yagin, and Cemil Colak. These discussions served to challenge emerging interpretations, question thematic boundaries, and refine conceptual coherence. Analytic rigor was thus

supported through transparency and reflexive interrogation rather than through inter-rater reliability, consistent with the principles of reflexive thematic analysis.

Throughout theme refinement, attention was paid to variation and contradiction within the dataset. Accounts that diverged from dominant patterns, such as ambivalence about benefits or uneven experiences of connection, were retained and analytically engaged. These instances were used to test and sharpen thematic boundaries, ensuring that themes represented patterned meaning across diversity rather than idealized uniformity. As analysis progressed, themes were further defined and named with careful attention to their central organizing concepts and their conceptual alignment with the study's aims. The entire dataset was reread by Yalin Aygun and Sakir Tufekci to ensure that themes adequately captured the contours of parents' accounts and that no salient meanings had been overlooked. Practical tools, including handwritten notes, visual mapping, and digital organization via Microsoft Word and Excel, functioned as supports for reflexive engagement rather than as mechanisms that structured or constrained analytic decisions.

In the final phase, themes were written into a coherent analytic narrative supported by vivid and representative data extracts. The analytic write-up aimed not merely to summarize parents' experiences but to interpret the meaning-making processes through which emotional and social benefits and moments of relational connection were understood, situating these accounts within a broader conceptual framework of shared affect and relational synchrony during equine-assisted riding.

4 Results

4.1 Social and Emotional Milieu for Growth

Social interaction and communication emerged throughout the interviews as parents reflected on the social and interpersonal changes they observed in their autistic children after participating in horse-based riding therapy. Horse-based activities appeared to support a range of socially oriented behaviors, including greater responsiveness, more purposeful eye contact, and a clearer interest in engaging with others. When asked about communication, Josip (HR, 32) voiced, *"Before riding, she rarely reacted when someone spoke to her. Now we see small but steady changes: turning toward us, answering briefly, or showing she has heard what was said."* Hatice (TR, 49) similarly explained, *"Once she came home wanting to share something, even if it's just a few words or gestures about what they did with the horse."* Such reflections suggested that riding fostered more intentional self-expression and a greater readiness to communicate. Shifts were also noted in how children engaged with their immediate social environment. Marco (HR, 48) observed, *"She has begun showing interest in being near other children at the center, even watching what they are doing or standing closer during activities"*, while Merve (TR, 45) remarked, *"He still avoids starting conversations, but now they look at others in a more focused and meaningful way."* Subtle changes such as reduced hesitation, more sustained eye contact, and a greater tendency to seek proximity were interpreted as meaningful indicators of emerging social awareness.

Parents' accounts further illustrated this emerging social awareness. Ivan (HR, 40) explained, "Our child [she], who once struggled to interact with others, is now more willing to be near people, using gestures, smiling, or brief looks to show interest." Zeynep (TR, 38) observed increased relational openness at home, stating, "He now approaches us more often, either to show something or just to be close." Ahmet (TR, 33) also described a rise in everyday cooperation: "He now waits his turn and listen to others in a way he never did before." These narratives suggested that parents perceived some of these social shifts as carrying over into everyday relational contexts.

A particularly rich account captured the depth of this interpersonal engagement:

> With the horse, something was different. She watched the instructor closely, looked back at us, and then tried to follow what was happening. It was the first time we had seen this kind of shared attention; the horse seemed to give her a reason to connect, almost like a best friend who does not need words but still invites her into interaction. (Katarina, HR, 29)

Improvements in responsiveness to social cues were also described within the interviews, and several accounts noted that children had begun to follow simple instructions more reliably. Marija (HR, 45) explained, *"He responds faster to 'stop', 'go', or 'turn', and looks at me to check if he is doing it right."* Further descriptions highlighted cooperation in group contexts, with Mehmet (TR, 54) noting that *"During group riding activities, she waits, listens, and works together better than before."* The voices highlighted emerging capacities for joint attention, reciprocal engagement, and collaborative behavior, all of which constitute foundational components of interpersonal functioning.

Emotional regulation emerged throughout the interviews as parents reflected on the changes they observed in their autistic children after participating in horse-based riding therapy. The therapeutic environment, characterized by the horses' rhythmic, wave-like movement and a calming sensory atmosphere, had appeared to lessen frustration. When describing emotional outbursts, Fatma (TR, 50) reflected, *"My daughter, who used to react intensely when she didn't get what she wanted, has now moved away from prolonged crying episodes"*, suggesting that reactions previously marked by intensity had begun to resolve into shorter and more manageable responses. Ivana (HR, 43) similarly emphasized the calming effect of the sessions, noting that *"Impulsivity decreases and emotional regulation improves"*, which indicated that riding had helped stabilize affective states that had once been difficult to manage.

Reductions in anxiety, both within and beyond the therapy setting, were frequently described. As Hatice (HR, 49) explained, *"It helps reduce anxiety during and after sessions and provides a sense of security"*, highlighting how the embodied, predictable rhythm of the horse had contributed to a sense of emotional safety that extended beyond the immediate context. She also described a comparable pattern: *"Therapy helps the child calm down and maintain emotional balance in stressful situations"*, reinforcing the view that equine-assisted activities had nurtured coping capacities that autistic children could apply in their daily routines.

One parent provided a particularly detailed account that illustrated how these emotional changes unfolded in everyday life:

> Before therapy, my child would often react with intense frustration, crying for extended periods of time and feeling overwhelmed by situations that felt unpredictable. However, since starting the riding sessions, I've noticed a noticeable change. The horse helps my child calm down more quickly, and the emotional outbursts that once dominated our days have become shorter and much less frequent. After therapy, I see a new balance; my child is more relaxed, less anxious, and more open to interacting with us, as if the calming effect of the horse carries over into our home in the way a new family member would. Even in stressful moments, he now pauses, takes a breath, and tries to express what he is feeling instead of bursting into tears or anger. I feel like the horse gives my child a sense of security that carries over into the rest of the day. (Martina, HR, 52)

Parents also described emotional expression as becoming more apparent for several children. Ayse (TR, 35) observed, *"He uses words more frequently to express emotions"*, pointing to a growing capacity to articulate internal states rather than relying solely on behavioral displays. Ana (HR, 34) echoed this positive change, explaining that *"She became more open in showing emotions, using gestures such as smiling or waving her arms to express joy or excitement, in the same effortless way one might respond to a best friend who does*

not need words to be understood", which the parent interpreted as greater ease in both verbal and nonverbal emotional expression. Emine (TR, 41) described the emergence of more natural affective signaling, stating, *"Emotional responses became more natural and authentic, such as smiling more frequently during activities"*, indicating that her child had begun to exhibit more spontaneous emotional reciprocity.

4.2 Shared Positive Affect—An Experiential Component of 'Sync'

The experiential aspect of positivity resonance was reflected in parents' accounts describing how co-experienced emotional moments shaped riding encounters between parent and child. The child's presence on the horse was often described as creating an atmosphere of warmth, ease, and shared emotional presence that gave the activity a distinctive relational quality. Riding could be understood as a meaningful family experience, a protected period of uninterrupted time together, or a context that supported a deeper sense of closeness. Subtle expressions of positive emotion from the child, such as a brief smile, soft laughter, or a gentle turn of the head, were articulated as evoking corresponding affective responses and inviting fuller participation in the moment. Reports also suggested that these moments sometimes left a lingering emotional trace that occasionally surfaced later in everyday life, functioning almost like a positive flashback in which the warmth and connection experienced during riding briefly reappeared and shaped how ordinary interactions were felt and remembered. Such co-experienced affect did not seem to arise in other therapeutic settings, indicating that the riding environment offered a uniquely supportive and emotionally safe context in which relational closeness could unfold.

Zeynep (TR, 38) described how moments of shared positive emotion unfolded during the ride:

> There were times when he smiled, not a big smile, but a genuine one. Seeing it created a warm feeling in me. Then he looked over again, almost as if he wanted me to notice it. We were enjoying the moment together, and it felt very natural. I cannot fully explain it, but the feeling stayed with me afterward.

Shared positive affect perceived as a central experiential element of the riding sessions, with parents describing a sense of warmth, enjoyment, and emotional closeness that felt both rare and meaningful in their everyday lives. Emine (TR, 41) explained that she valued the experience simply because *"being with him there"* carried an emotional quality that she could not easily define. Marco (HR, 48) described moments when his daughter laughed and he *"laughed too without thinking"*, which made the experience feel natural and infused with a shared sense of joy. Ivana (HR, 43) recalled instances when her daughter turned toward her with quiet excitement, creating a feeling that *"the moment belonged to both of us"*. For Fatma (TR, 50), the activity held significance primarily because it strengthened their relationship: *"Being with my child is my motivation. I do not have a passion for riding."* She elaborated that preparing together, walking to the arena, and talking afterward made the experience *"fun"* and contributed to a growing sense of closeness. She described these episodes as *"all about connection and shared joy"*, highlighting how co-experienced positive emotion shaped the meaning parents attributed to the sessions and their sense of relational closeness.

Riding was also interpreted as an activity that could support family cohesion in contexts shaped by autism. Mehmet (TR, 54) articulated this perspective:

> It is a good activity for our family, especially because of my child's autism. All of my children can be involved in a way that feels comfortable for each of them, and it gives her a sense of accomplishment without any pressure or comparison. They can all take part at their own pace. It is not about competition, so from a family perspective, it was good to have them riding together, and each of them enjoyed it in their own way.

Participation was also shaped by how the riding sessions created brief experiences of warmth and emotional connection. Ahmet (TR, 33) explained this dynamic:

> "[Riding] still remains a shared activity. And yes, each one of us has an individual experience, it is a unique moment. It is about the enjoyment and sharing in the moment. It is a shared moment; it is a shared activity."

Positive emotion was often described in terms of co-experienced affect that unfolded only within the shared presence of parent and child. Martina (HR, 52) articulated this connection by noting that *"when he is there and I see a lightness in the expression, something opens in me too. If I were alone, none of this would happen. But when we are together, something gets odd; we feel it together."* Emotional closeness also contributed to a sense of safety surrounding the activity. Ahmet (TR, 33) explained that *"I wouldn't feel comfortable if he were doing this alone. It feels meaningful when we are there together"*, while Petra (HR, 36) emphasized the importance of accompaniment by stating, *"I am a big believer that you should never experience this alone because should something happen emotionally or physically, it is always best to have someone with you. So always my son and I try to be together."* These descriptions illustrate how shared positive affect was intertwined with feelings of security, mutual presence, and emotional resonance that were central to how the experience was lived and understood.

Parents frequently reflected shared positive affect as a salient feature shaping how they understood and sustained their engagement with equine-assisted riding. For many, the opportunity to spend emotionally meaningful time with their child was describe as the primary motivation for continued participation. According to parents, as involvement deepened, the social environment surrounding the sessions gradually expanded. Relationships with instructors, volunteers, and other families developed into a supportive network that fostered confidence and a growing sense of ease within the setting. Families who had participated for longer periods often took on informal mentoring roles by welcoming newcomers and helping them feel comfortable, which contributed to a broader culture of collective engagement. Participation also retained a distinctly relational character. Most parents preferred to attend alongside their child, and many encouraged siblings or relatives to join, reinforcing the idea that riding was more than a therapeutic activity. Rather, it functioned as a relational space in which shared presence, emotional closeness, and family cohesion were enacted and strengthened over time.

4.3 Caring Nonverbal Synchrony—A Behavioral Component of 'Sync'

Parents described moments during equine-assisted riding in which they and their autistic children appeared to fall into a subtle, shared rhythm, experienced as a form of caring nonverbal synchrony. These instances were characterized not by overt or deliberate coordination, but by naturally emerging gestures and bodily adjustments that signaled mutual attentiveness and a softening of emotional distance. Parents interpreted these fleeting patterns of synchrony as indicators that their child felt safe, receptive, and momentarily more at ease within the interaction. Parents experienced such attunement as more than physical alignment; it was framed as a relational space in which connection, calm, and responsiveness could unfold with less effort than in everyday settings. These moments seemed allow parents to perceive small but meaningful shifts in their child's emotional steadiness, contributing to a sense that the activity facilitated a more grounded and reciprocal parent–child dynamic over time.

Merve (TR, 45) vividly described a moment of unexpected attunement during the ride:

> When he turned slightly to look at me, I realized my body moved with his—I leaned forward at the exact same time. I hadn't planned it; it just happened. It felt as though we were moving together

> in a single moment. Sometimes we would smile at each other without saying a word, and in those quiet exchanges, I felt a deep sense of connection between us.

This account was interpreted as illustrating how spontaneous, caring alignment in posture and gesture can emerge naturally within the riding context, which parents understood as an embodied form of nonverbal synchrony grounded in shared attention rather than deliberate coordination. Ivan (HR, 40) described a comparable experience:

> During the ride, I noticed that when she relaxed her shoulders, mine relaxed too… And when she straightened up, I found myself doing the same. It was as if my body responded to hers without any conscious decision. There were moments when we nodded at each other almost simultaneously, and it felt completely natural. It gave me the sense that we were understanding each other in a different way.

Parents also reported moments of interpersonal attunement in the subtle ways they and their oriented toward one another during the ride. Ana (HR, 34) recounted one such moment:

> Sometimes she would look toward me, just briefly… and I would meet that gaze. It was a small moment, but it felt meaningful. We held that gaze for a second, and then she smiled. I smiled too… It felt like we were both present—really present.

Subtle interpersonal shifts (e.g., shared gaze, brief smiles, or slight adjustments in posture) were described by parents as quiet indicators of engagement and a sense of being emotionally available to one another. Some parents described these moments as emerging almost beneath conscious awareness. Zeynep (TR, 38) reflected: *"I realized that when the horse moved, our bodies moved together, and somehow my movements matched my child's… It felt like we were part of the same rhythm. I think he sensed that I was with him, really with him…"*

Coordinated bodily movement shaped by the horse's gait reported by parents as unique opportunities for them and their children to experience a felt sense of togetherness, and caring nonverbal synchrony became a distinctive feature of the therapeutic encounter. Some aspects of this synchrony were described directly, such as shared smiles, brief exchanges of gaze, or simultaneous shifts in posture. Other aspects emerged indirectly when parents spoke of *"being in the same moment"*, "*feeling connected"*, or *"moving together"*. Across the interviews, these experiences reflected mutual attention, responsiveness, and goodwill, which are central to interpersonal attunement. Within equine-assisted riding, this form of synchrony functioned as a nonverbal channel of communication that complemented emotional and relational gains. Parents described it as a rare opportunity to experience embodied connection with their autistic child.

5 Discussion

This study seeks to understand how parents perceive the social and emotional benefits of their autistic child's involvement in equine-assisted therapy, while also exploring how parents experience positivity resonance during shared parent–child participation in the therapy.

The results portray the autistic children's and their parents' accounts of equine-assisted therapy as an emotional and social milieu for growth and characterize their experiences of the intervention as a shared experience of relief from everyday stress, an opportunity to nurture mutual confidence through moments of connection, an occasion to strengthen parent–child relational closeness, and a context in which triadic synchrony with the horse was interpreted as supporting emerging orientations toward joint attention and hypothesised co-regulatory processes. The results also suggest that parents perceived changes experienced

during equine-assisted therapy as carrying over into everyday contexts, with children being described as approaching daily situations with greater calm and engaging more readily in social interactions within home and community settings. The affective and relational changes marked by parents in this study resonate with theories proposing that both horses and humans engage shared mammalian social–neurobiological systems that may support co-regulatory and stress-reducing processes [61]. This remains an important area for future theory and research [12]. Many aspects of social regulation are fundamentally mammalian, and functional social behavior is central to sustaining relationships and community life [62]. Within this theoretical framing, it is unsurprising that regular interaction with an attuned animal within a supportive therapeutic setting, together with parent participation, was experienced as regulating for the autistic child, inviting an interpretation of emotional regulation as a relationally supported process that may extend into the wider family context [20,21].

According to Eriksson's theory, young persons are affirmed in their identity and individuality through experiences of acceptance, trust, and supportive companionship [63]. In line with this view, parents play an important role in early social development by offering the relational support that helps children participate socially and feel more secure in everyday interactions [64,65]. Studies have shown that many structured health-promotion programs do not fully meet young people's broader relational needs, particularly their need for stable and emotionally accessible relationships that support social and emotional growth [66]. Viewed through a family lens, the horse in the interview transcripts appeared as a *"best friend who does not need words"*, a "trustworthy partner", and a *"new family member"* that felt emotionally accessible to autistic children and contributed to a strengthened sense of well-being. Such contact is often experienced as less demanding than interactions with peers, which aligns with commonly reported interpersonal difficulties among children and adolescents with mental health challenges [9,16,34,66]. Moreover, horses are frequently perceived as intuitively understanding the child's emotions and needs, which appeared to foster a sense of relational safety and encouraged a deepening bond between child and animal [9,67]. This friendship developed through quiet, honest, and genuine forms of communication that were experienced as more manageable than the verbally mediated interactions typically required in human relationships [68].

The results of the study are supported by previous research in animal-assisted therapy that shows positive outcomes in fostering relational connection, emotional engagement, and more comfortable participation in social situations [12,21,25,33,69]. For scholars, the relationship with the horse is experienced as mutual and as offering a special kind of interaction that cannot be found in contact with other animals, humans, or material things [9,34]. The children's experiences of mutual friendship with the horse correspond with previous studies showing that positive relational bonds are associated with enhanced happiness and calmness [70,71], resilience [9,34], social support [30], self-esteem [34], emotional well-being [72], self-regulation [72,73], and prosocial behavior and social motivation [73,74]. Experiences of being able to strengthen self-reliance through synchronized interplay with the horse are also manifested in powerful newfound feelings of lightness, freedom, and a sense of becoming 'unstoppable', which is described as a source of strength that helps children cope with everyday life challenges [34]. The grounded theory "building up bit by bit" proposed by Carlsson et al. [67] offers a complementary lens for understanding these developments, illustrating how gradual relational strengthening and emotional stabilization can provide children with a more secure foundation from which to engage with everyday life. Such protective factors for good mental health are widely recognized in autism research [65,75].

In line with Eriksson's broader view of health as shaped through experiences of faith, hope, love, and playful engagement with other living beings [63], the findings of this study reflect how equine-assisted therapies can activate similar health-promoting forces. The synchrony, joy, and relational ease surfacing

across parents' narratives during their interplay with the horse invite a theoretical reading in which such encounters may open space for emotional openness and motivation, and be experienced as supporting a sense of inner strength. For autistic children, these qualities appear to create a context in which well-being is supported not through formal therapeutic instruction but through embodied, reciprocal, and play-like interaction with the horse. Such processes can underscore the potential value of equine-assisted therapy as a relational and experiential pathway for supporting mental health. The benefits of horse-based therapies are seen in the generation of states of being that support or enable good mental health, rather than in specific improvements in measured levels of mental health [9,67].

The results point to parents' accounts of co-experienced positive affect during horse-based sessions as heightening the experiential intensity of shared moments, even in the absence of verbal exchange, with pleasant experiences being felt as more vivid when jointly lived. Recent theorizing on collective emotion and positivity resonance suggests that affect co-experienced between individuals (a macrolevel affective phenomenon) may carry distinctive qualities and correlates that are not fully accounted for by individual-level or purely transactional models [37,76]. Indeed, the benefits associated with positive affect become amplified when that affect is shared [77], and moments of dyad-level or co-experienced affect offer a clear indication of how the collective is feeling as a whole [78]. Thus, such positivity is a particularly powerful contributor to mental health outcomes and growth in personal and social resources, beyond the benefits associated with positive affect *per se* or social interaction more broadly [36,37]. The vast majority of previous studies suggests that experiences of positivity are heightened in social contexts. In these studies, shared emotional experiences are viewed as primary drivers of increased positive affect, with evidence showing that shared laughter is perceived as more pleasant than unshared laughter [43,79] and that enjoyable activities, such as game playing, elicit stronger emotional responses when they occur in social rather than solitary contexts [80]. It is further noted that communicating personal positive events with others was associated with increased daily positive affect and well-being, above and beyond the impact of the positive event itself and other daily events [81]. Even expressing gratitude [82] or eating chocolate without communicating [82] has been shown to be more emotionally rewarding when shared with others. The frequency of co-experienced positive affect is uniquely linked with enhanced well-being, strengthened relational bonds, and group-level qualities [78,83], independent of the frequency of individually experienced positive affect and co-experienced negative affect [78].

Specifically, the results indicate episodes of synchronized bodily engagement, including shared gaze, subtle smiles, brief nods, forward leans, and bodily adjustments emerging in relation to the horse's gait and rhythm. These moments were articulated by parents as brief episodes of embodied connection, within which heightened attunement and relational closeness were perceived, while co-regulation was framed as a tentatively inferred relational process rather than a directly observed effect. This finding is consistent with the findings of Valdesolo and DeSteno [84], Jones and Wirtz [85], Hove and Risen [86], and Vacharkulksemsuk and Fredrickson [87] that show causal links between nonverbal synchrony and compassion, perceived emotional support, affiliation, and embodied rapport, respectively. Such nonverbal attunement functions as an implicit signal of engagement, support, and responsivity within dyadic or group-level interactions, conveying a sense of attentive care [88,89].

6 Limitations and Future Research Directions

This study has several limitations that should be acknowledged. The research was carried out with parents from two equine-assisted therapy centers, which may limit the generalizability of the findings to other destinations. Although the qualitative accounts provide credible insight into how parents experienced

shared emotional moments during horse-based riding, program structures and local conditions may differ in other settings. Recruitment procedures restricted the researchers from directly approaching potential participants, resulting in an opt-in sample. While this approach avoided any suggestion of undue influence, it also meant that parents who were more available or positively inclined toward the therapy may have been more likely to participate. Interview length was influenced by the considerable time constraints faced by parents caring for autistic children, limiting opportunities to explore some experiences in further depth.

An additional limitation concerns the scope of positivity resonance examined in this study. Because the study relied on qualitative interviews, it was possible to capture only the experiential and behavioral components of shared positive emotion as articulated by parents. Physiological synchrony (the third constitutive element of positivity resonance) could not be assessed within the present design. Accordingly, the findings reflect parents' interpretations of shared affective moments and nonverbal attunement, rather than offering a full account of positivity resonance in its complete theoretical sense, which depends on the convergence of experiential, behavioral, and physiological processes. Future research could build on these findings through next-step, multimethod designs that remain feasible and ethically appropriate within equine-assisted therapy settings. Such approaches might include brief in-session micro-observations of parent–child gaze, posture, and bodily orientation, paired and child-friendly elicitation methods to complement parental accounts where appropriate, and basic physiological measures (e.g., heart rate or skin conductance) that allow the assessment of physiological synchrony without disrupting the therapeutic context. Integrating these elements alongside qualitative narratives could yield a more comprehensive understanding of how shared emotional processes are enacted, perceived, and potentially coordinated across multiple levels during horse-based interventions.

The study also relied solely on parental insider-views, without observational measures or reports from children, which may have provided deeper detail on how moments of connection emerged *in situ*. In addition, the study did not aim to measure clinical mental health outcomes, so interpretations related to reduced anxiety or improved emotional balance reflect parents' observations rather than diagnostic indicators. More targeted research, including studies with families of autistic children who have identified mental health conditions, may provide greater depth in understanding how such shared experiences support well-being. Future work involving a broader range of participants and additional methodological approaches may also help clarify how these relational experiences contribute to therapeutic and familial outcomes.

7 Conclusions

The findings of this study illustrate equine-assisted therapy as an emotional and social milieu that was perceived by parents as supportive for their autistic children. The shared sense of relief from everyday stress and anxiety, together with moments of mutual confidence and relational closeness, were described by parents as creating a context in which children felt more secure and more open to engagement. Parents described these encounters as easing tension in daily life and to support emotional comfort, both during the sessions and afterwards in familiar home and community settings. The quiet, genuine, and intuitive nature of the interaction with the horse was described as offering children an accessible and trusting form of companionship, experienced as less demanding than verbally mediated interactions. This friendship, and the ease with which children connected with the horse could helped nurture emotional strength, confidence, and a sense of belonging.

Specifically, parents articulated moments of synchronized interplay between themselves and their children as brief yet meaningful experiences of attunement, with the horse providing a relational context within which such shared moments were understood. These moments, marked by warmth, shared positivity,

and nonverbal coordination, were experienced as contributing to a sense of calm and confidence for the child, while parents described feeling greater closeness and ease within their caregiving role. Such co-experienced positivity may reflect the kind of high-quality social connection shown to be especially powerful for sustaining mental health. This suggests that equine-assisted activities can offer a meaningful and accessible way for families to share moments that support emotional well-being and participation in daily life. The experiences described by parents show how these moments of shared positivity can amplify relief, promote calmness, and encourage children's willingness to take part more fully in everyday situations. Interactions grounded in acceptance, trust, and supportive companionship contribute to strengthened identity, increased confidence, and a more hopeful orientation toward daily challenges, consistent with the view that emotionally accessible relationships and meaningful engagement with living beings help children feel affirmed and understood.

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