

Therapeutic Horseback Riding for At-Risk Adolescents in Residential Care

Shlomit Weiss-Dagan (✉ shlomit.weiss-dagan@biu.ac.il)

Bar-Ilan University

Nofar Naim

Bar-Ilan University

Dorit Brafman

Ariel University

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Abstract

Background: Over the past two decades, a large body of studies has focused on the contribution of therapeutic horseback riding (THR) to adolescents. The current study aimed to explore what makes this kind of intervention an effective positive psychological transformer.

Methods: This qualitative study focused on at-risk adolescents living in residential care. In-depth interviews were conducted with 19 adolescents. Thematic analysis revealed three themes: participants' presentation; relationship with the horse, including three basic needs, as defined in self-determination theory (SDT), that emerged from the data (competence, autonomy, and relatedness); and THR's influence as described by the adolescents.

Results: Our findings emphasize horsemanship as the core element of the THR interventions with youth at the social margins. This study contributes to SDT by demonstrating the significant role of relatedness in enhancing competence and healthy autonomy.

Conclusions: The study's findings illustrate the significant impact of THR intervention on various aspects of at-risk adolescents' lives.

Introduction

Therapeutic horseback riding (THR) is a form of animal-assisted therapy, which involves using animals in a goal-oriented setting to implement treatment and meet various therapeutic needs [1]. In general, the literature divides equine-assisted therapies into three subtypes: equine-facilitated psychotherapy (EFP), hippotherapy, and THR. In the current study, we focused on at-risk adolescents in residential care who were taking part in THR. THR is a broad term that includes various elements of recreational horseback riding in addition to many other rehabilitative uses of the horse [2]. It is geared toward teaching riding and horsemanship while adapting the instruction to riders' special needs [3]. Therapeutic riding programs usually treat populations with physical and mental disabilities and offer unlimited potential as holistic therapeutic frameworks that seek to improve both physical and psychological aspects of individuals' lives [4]. THR takes place in the natural surroundings of the stables and is designed to promote improvement in human physical, social, emotional, and/or cognitive function that cannot always be achieved by means of traditional treatment or rehabilitation [5,6].

At-risk adolescents are viewed as vulnerable to negative outcomes when they are exposed to adverse risk factors [7]. Delinquency, emotional and behavioral difficulties, family discord, maltreatment, low social competence, academic failure, and socioeconomic factors, e.g., poverty, race, class, and neighborhood of residence [3,8,9] put adolescents at risk. A previous meta-analysis showed that equine therapy is a viable alternative to conventional intervention strategies in this population [7]. There has been a significant increase in studies on equine therapy with children and adolescents [10]. Empirical studies have detailed a variety of positive psychological outcomes of THR intervention with adolescents. These include enhanced self-control, self-image, life satisfaction [3], self-esteem, and self-efficacy as well as anxiety

reduction and behavioral improvements [11,12,8]. But what makes THR an effectual tool for working with at-risk adolescents? The current study aimed to contribute to the existing body of knowledge by answering this question.

The therapeutic role of THR and the horse as an agent of healing

Throughout history, humans have recognized the horse's unique ability to heal minds and bodies. The horse has been used as a therapeutic agent since the days of ancient Greece [13]. Over time, the use of horses for therapy and rehabilitation gained popularity, and therapeutic riding programs proliferated worldwide, beginning in 1943 in Denmark, the birthplace of therapeutic riding [14], and continuing in England in the 1950s [15]. Since the 1990s, equine therapy has expanded rapidly in the United States and Europe [3].

Children and adolescents may be unaware of their presenting problems or not perceive them as problematic and may therefore view therapy as unnecessary [16]. Traditional psychotherapy can comprise a "strange and unusual situation" for them [17 p8]. One of the advantages of using an animal within a therapeutic setting is that doing so can help to reduce client arousal and socially mediate therapy sessions [18]. Riding is a recreational activity, a fact that mitigates the negative connotations associated with treatment or rehabilitation and may enhance both the rider's engagement in therapeutic riding and the desired results [5]. Specifically, equine therapy has been proposed as an alternative treatment for at-risk adolescents, so further investigation into its efficacy is warranted [7].

As herd animals, among which cooperation is very important and bonding between members is exceptionally strong, horses are particularly suitable for therapeutic work. Herd dynamics are associated with life experiences such as friendship, rejection, cooperation, injury, birth, and death [3]. The horse can provide advantages such as being non-judgmental [19] and useful as a metaphor [20] as well as building self-esteem, confidence, and mastery [21]. The horse's large size is another factor that may provide therapeutic benefits, and some theorists contend that its strength and size allow riders to explore issues related to vulnerability, power, and control [22].

Human beings' ability to ride horses presents a unique opportunity for them to understand and relate to the equine experience and deepen the therapeutic process through significant horse-human attachment [23]. The relationship with the horse facilitates the development of trust and love as well as a sense of moral responsibility toward another being [14].

Benefits of therapeutic riding

A growing body of knowledge has demonstrated the psychological benefits of THR. A meta-analysis of studies from 2005 to 2014 found that participation in an equine therapy program effectively increased at-

risk adolescents' overall level of functioning [7]. A study of abuse victims who participated in therapeutic riding found that having a 1400-pound horse respond to their commands in a nonthreatening way provided participants with a sense of validation and contributed to their ability to regain control over their lives [24]. Another study that examined the effects of equine-facilitated psychotherapy (including riding) among at-risk adolescents found an increase in their trust, self-control, self-image, and general life satisfaction compared to a control group [3]. Several studies on the psychosocial effects of participation in equine-assisted activities on children and adolescents found improvement in self-esteem and psychological benefits [8,20,6,25]. A comparative study of the efficacy of equine-assisted therapies with at-risk children and adolescents also showed statistically significant improvements in social behavior [21]. Equine therapy was found to increase the social, psychological, and scholastic functioning of children exposed to intrafamily violence [25]. Another study explored the effect of equine-assisted activities in adolescents with subclinical emotional and behavioral difficulties, demonstrating reductions in anxiety and behavioral improvements [26]. In a study by Burgon [8] that used qualitative interviews to examine the experience of therapeutic horsemanship programs in a sample of at-risk adolescents, the participants described increases in empathy due to the program.

In conclusion, the existing literature on the effect of equine-assisted activities in general and THR in particular consistently emphasizes their beneficial effects on emotional well-being and social and interpersonal relationships. According to Burgon [8], equine-assisted activities may be considered a beneficial intervention for at-risk adolescents, even without a great deal of psychotherapeutic content. This claim, alongside the empirical findings, raises the question of what makes THR intervention so beneficial for adolescents. In order to answer this question, we need to briefly describe the main theories concerning psychological needs and developmental changes in adolescence.

Key therapeutic theories on adolescents

Adolescence is the passage from childhood to adulthood [27]. The participants of the current study were at the stage of middle adolescence, from age fourteen to eighteen. Middle adolescence is marked by the completion of puberty, growth in the capacity for abstract thought, the setting of goals, and thinking about the meaning of life. Psychologically, there may be an increase in self-involvement that alternates between grandiosity and low self-esteem [28]. Peter Blos expanded concepts first spelled out by Margaret Mahler, and reframed adolescence as a second individuation process during which the individual's sense of identity is further elaborated [28]. Do adolescents use THR intervention to further shape and form their identities?

According to Erikson [29], identity formation is the main task of adolescence, and takes place as adolescents are allowed by society to experiment with different roles in what he terms a psychosocial moratorium, i.e., time and space for this exploration of identity-related issues. This synergy between internal and external environmental processes may be relevant to understanding the therapeutic process

of THR intervention because it combines therapeutic intervention and a special setting that provides the necessary time and space (i.e., a psychosocial moratorium) in which it can take place.

Blatt conceptualized personality development as “the result of a complex synergistic transaction of two fundamental developmental lines throughout the lifecycle: the development of increasingly mature, reciprocal, and satisfying interpersonal relationships; and the development of a consolidated, realistic, essentially positive, increasingly integrated self-definition or identity” [30 p128]. Does THR facilitate such reciprocal relationships between adolescents and their riding instructors or horses?

Another theory that can explain the impact of THR intervention is self-determination theory (SDT), a classical theory of development and human motivation [31]. SDT views human behavior as growth-oriented and proactive [32]. Nonetheless, in order to achieve optimal development and functioning, people require positive support from the environment. Hence, SDT frames optimal human development as the interaction between humans who are striving for growth and their social environments, in which basic psychological needs are either supported or thwarted [33]. SDT suggests that people require three specific basic psychological needs—competence, autonomy, and relatedness—in order to be satisfied and thrive [34]. Does THR intervention and the special setting of the farm meet these three basic needs of adolescents? By examining the theoretical questions that arose in our interviews with the participants, the current study sheds light on the psychological process that contributes to the positive impact of THR intervention.

Methods

The participants

The research participants were 19 adolescents (aged 14 to 19), all in residential care and taking part in the THR program. The participants comprised two groups. The first consisted of adolescent males from religious residential care who were not integrated into schools in the community ($n = 11$). The members of the second group ($n = 8$) had been involved in the past with drug abuse, theft, and violence, and came from stricter residential care in juvenile justice facilities supervised by the Israeli Ministry of Social Affairs and Social Services. Previous attempts to treat them had been unsuccessful. Residential care is part of the rehabilitation process and is sometimes a condition for avoiding incarceration. The adolescents had been placed in these institutions either by court order or by child protection social workers. Many of them had serious difficulties, vulnerabilities, and complex family situations, and some had suffered from physical or sexual abuse. The purpose of these institutions is to provide a safe space with clear boundaries for these young people’s growth and education [35].

Both facilities are for boys only. Seven of the participants were aged 14 to 16, while most were 17 years old ($n = 10$) and another two were 18 to 19 years old. Three reported that their parents were divorced, one of them shared that his father had passed away, and two had been raised by single mothers. Five were immigrants. Eight reported histories of drug abuse. Their period of residence at the facilities ranged from

four months to four years. Six had previous horseback riding experience. All the participants had experienced frequent transitions between schools and residential care facilities.

Reflexivity

In describing the data collection process, we cannot ignore its reflective element. Both first authors are middle-class, academic, adult women and social workers. These aspects of our identity were known to the participants. We introduced ourselves as social work researchers. Both interviewers felt that the fact that they were social workers had considerable impact on the participants. Since their past encounters with social workers had taken place in the framework of their placement in residential care or their interactions with an authoritarian probation officer, for many of them the profession had negative associations. From an intersubjective perspective, this knowledge affected our initial interactions with the participants, and we took special care to create a pleasant, non-judgmental atmosphere to counteract any possible effects of these associations. To overcome the gaps in age, socioeconomic status, and education that existed between us, we took a stance that acknowledged the valuable knowledge the participants had acquired through their life experience. We endeavored to convey the message that their knowledge was valid and no less important than ours, since we were genuinely curious about it and sought to learn from their insights.

Research setting

The study was conducted at the TRCI (Therapeutic Riding and Canine Center in Israel), a THR farm. The adolescents' routine at the farm included six weekly hours of THR sessions. During the sessions, participants rode the horses freely in an enclosed area or in the area surrounding the farm; took riding lessons in which they were taught riding techniques and learned how body language and attitude affect horses; cared for the horses after riding, including washing, brushing, and feeding them; and took part in group sessions on the riding experience and the relationship with the horse. Horse care is an essential part of the therapeutic process and includes a gradual process of increasing adolescents' autonomy in taking care of the horses' needs. At the beginning of the process, the riding instructors supervise the horse care. Sometimes at this stage, adolescents may become frustrated and impatient with the horses, but as their relationships with the horses become stronger, they become capable of placing the animals' needs before their own. When the instructors feel they can trust them, they are gradually allowed a greater measure of autonomy in horse care. Part of the intervention's aim is to provide a stable, predictable setting with clear order and boundaries. In this regard, both riding techniques and horse care have clear rules.

According to their instructors, when adolescents begin THR interventions, their communication is characterized by verbal and physical violence. Due to their behavioral patterns and social exclusion, the purpose of the THR intervention, as defined by their residential care facilities, is to promote psychological,

social, and behavioral change that will enable them to integrate into society through normative channels such as military service (compulsory in Israel), employment, and higher education.

Data collection methods

The study was approved by the ethics committee of the authors' university. The residential care facility obtained the parents' permission for the adolescents to take part in the study. We invited 21 adolescents to participate. Two of them refused. Nineteen adolescents agreed voluntarily to participate, and each signed an informed consent form. Pseudonyms are used here, and other identifying information was changed to preserve participants' anonymity.

We began the data collection by presenting the aims of the study to the adolescents' riding instructors at the farm and their counselors from the residential care facility. We did so based on the understanding that collaboration between adolescents and adult researchers should be supported by the institutions involved [36], especially when it concerns at-risk adolescents who have trust issues.

The data collection methods included in-depth individual interviews. The study consisted of 19 semi-structured interviews conducted by the first two authors with 19 adolescents over the course of two months in 2019. Some took place on the farm and some at the residential care facility. The interviews lasted between 40 and 80 minutes each. At the beginning of the interviews, we explained to the participants that we were exploring their experiences at the farm and learning from their knowledge. Our main request was "Tell me about your experience at a therapeutic riding farm." We also asked each of them to talk about a significant experience they had had at the therapeutic riding farm. Furthermore, we asked them to tell us whether and how their experience at the farm and their relationship with the riding instructor influenced them.

Data analysis methods

The thematic analysis process included several phases, and we followed Braun and Clarke's [37] phase process. In the first phase, we conducted an inductive analysis. Each of the authors read each interview separately and gave each paragraph a preliminary title. Next, in the second phase, each of the authors compared inter-interviewee and intra-interviewee responses and identified dominant codes. In this way, 24 distinct codes were generated. In order to increase credibility, we looked for commonalities in the codes and definitions. Codes that were present in both lists were included in a separate list. Next, we reviewed all the data again and each of us performed an initial deconstruction of the texts and sorted them into general themes that arose from the data. The themes facilitated the comparison and identification of shared meanings and patterns that emerged from gathering all the data relevant to each one. Throughout this process, we utilized three themes: adolescents' background; relationship with the horse; and the influence of THR. Then we checked whether the themes worked in relation to the coded extracts and the entire data set and created a thematic map. Next, we defined the subthemes using the previous list of

codes. As we sorted the codes into subthemes [38], we realized that the SDT principles of basic needs had emerged spontaneously from the horse–man relationship theme. This discovery led us to conduct a deductive analysis of this specific theme, classifying and arranging the sub-themes according to the three basic needs of SDT theory: autonomy, sense of competence, and relatedness to the horse. A validity assessment of the final dataset was produced by double checking to ensure the codes that referred to quotations were applied consistently across all interviews.

Findings

The findings included brief descriptions and definitions of each theme and quotes from the transcripts that illustrated and exemplified them. First, we present the adolescents' description of their life experiences in their own words. Then we illustrate the theme of the horse–adolescent relationship and the three basic needs as defined by SDT that emerged from the data: competence, autonomy, and relationship with the horse. Finally, we discuss THR's influence on the personal changes described by the adolescents.

The participants' presentation of their past and current difficulties

I've been through many educational institutions in my life . . .

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We begin by introducing the subjective self-presentation of the participants and their personal histories. Since the adolescents who participated in the study experienced social exclusion throughout their lives, we sought to make their voices heard and enable them to define and introduce themselves in their own words. We focus here on the main difficulties shared by the participants. More than 15 participants reported histories of frequently moving between schools and residential care facilities:

I've been in three residential care facilities . . . and at one boarding school before that.

Most of the religious adolescents had entered residential care at their parents' request or following the recommendations of members of their extended families, friends, or community members after not fitting into other schools. The adolescents from juvenile justice facilities were there due to court or social welfare orders, as mentioned above.

Most of the adolescents shared a lack of a sense of belonging and a strong sense of social exclusion. These feelings stemmed from their experiences of being from immigrant families, failing to integrate into schools, moving frequently, lacking acceptance in religious society, feeling different, and more:

I wasn't like the other kids there. In terms of behavior . . . how I dressed, my appearance . . . They liked to go and play . . . with their friends at that youth center, and I liked to smoke and drink and go out with kids from another settlement.

Some of the interviewees spoke of being deprived, abusing drugs and alcohol, and engaging in theft and violence:

Before I entered the rehab framework, I was on the streets . . . I took drugs from age eleven.

Some mentioned their age-inappropriate responsibilities or experiences:

From age eight . . . I worked in gardening. I would clean stairwells [in apartment buildings]. I didn't want to ask my parents for anything. I didn't want to need anyone or ask for money.

At age thirteen, I would hang around with people aged seventeen, eighteen, twenty-nine, or thirty. Let's just say that a thirteen-year-old kid shouldn't have been hanging around with them.

Others described the negative influence of their neighborhoods:

I can tell you that in my neighborhood, everyone who was with me, people in their twenties and thirties, they're all in prison now.

It's the neighborhood . . . I went through things there that I shouldn't have gone through . . .

The above excerpts highlight a variety of difficulties experienced by the adolescent participants in our study, who revealed a series of past and present struggles and challenges, such as frequent moves between schools, a lack of a sense of belonging, social exclusion, criminal offenses, drug abuse, and age-inappropriate responsibilities. The participants' past challenges can shed light on THR's contribution to their present ability to cope.

Relationship with the horse

The relationship with the horse was the most dominant aspect of the adolescents' THR experience. We had not expected this aspect to comprise such a significant element of their experience. As we analyzed this theme, as mentioned above, SDT emerged from the data. Accordingly, we present this theme through the three basic needs emphasized in this theory: competence, autonomy, and relatedness.

Sense of competence: *I did want to give up and didn't allow myself to . . .*

The *need for competence* reflects human beings' desire to effectively master their environment and experience a sense of competence within it [39]. Almost all the interviewees mentioned their improved sense of competence following their THR experience. They attributed this sense to having learned how to ride horses successfully and how to be patient, having undergone a long process that required

perseverance, and having made progress and acquired skills in riding, the fruits of their labor. Some reported that their relationships with the horses and the processes they underwent increased their sense of competence and mastery. One spoke of the horse's strength and its contribution to the confidence and ability involved in horseback riding:

Sure, once you get on a horse and learn how to control it you realize, wow! The first time you get on a horse, you don't understand how people do things with it . . . it increases your self-confidence and sense of self-worth . . . you see that you're controlling such a powerful animal and the more you learn, the more you understand its power and its gentleness. You learn about yourself.

Participants spoke of the experience of not giving up on themselves. They described the sense of competence that emerges from persevering. They also mentioned hard work, challenges, and responsibility as meaningful factors that had significant impact on their sense of competence:

. . . the path to success is to fall a few times and not either to succeed or to fall . . . with horses you have a thousand failures and occasionally a small success. Most of the time, it's failures and occasionally you have such a small success, and it fills you with happiness.

Another issue related to participants' sense of competence is the ability to face and overcome their fears. One of the participants described his inner struggle with his fear of the horse and the satisfaction of mastering it. Another spoke of overcoming the trauma he had experienced after falling from the horse and how this experience had contributed to his sense of competence:

At the farm, I fell. A horse threw me. I went to the hospital, got X-rays. Then I was afraid to mount the horse. I didn't want to do it anymore. So, for about six months, I . . . got on for a few minutes, my hands shaking and said "no, not interested," that's it. I would always try and then get nervous when I suddenly remembered what had happened to me. Until I got to my horse, Donatello. I reached out to him and trusted him. I don't know why. I had a connection with this horse. In the end, he helped me . . . I don't know how. Today . . . with the help of the horse I . . . [can] go in, hug him, kiss him . . . I do everything alone. I don't need anyone to be with me . . .

To sum up, we can see that the participants' sense of competence increased thanks to their undergoing diverse positive experiences, persevering, experiencing stability, gaining a sense of control over the horses, and overcoming their fears. The next theme highlights the adolescents' universal need for autonomy and the special meaning of autonomy in the context of the relationship with the horse.

Autonomy: I like to do things when I want to, not because someone is forcing me to.

The *need for autonomy* is satisfied when an individual experiences choice and volition in his actions and perceives himself as the origin of his actions. Autonomous actions are those that are self-endorsed and

congruent with one's values and interests [39]. Our participants felt and expressed their need to achieve autonomy, freedom, and independence as part of their maturation process. For example, some of them described with great appreciation the freedom of choice the residential care framework had given them. Some talked about their encounter with authority in general as an experience that had challenged their autonomy and made them fight for their independence. In the context of THR, some participants also emphasized their perception of free choice:

If you don't come [to THR] for a while, they will kick you off of the farm. But even here [at the farm], let's say I have a choice. If I don't want to ride today, I won't ride. There was a time when I didn't want to ride, and then I saw how everyone was progressing, and I said well, I'll try. Slowly, slowly you evolve and progress. You know? This is what I have wanted all my life. I wanted my independence.

The next excerpt shows specifically how the relationship with the horse affected the need for autonomy and demonstrates how this relationship clarified for participants the boundaries of their autonomy and the meaning of autonomy in a relational, intersubjective context.

It's . . . easiest to give up and say it doesn't depend on me, it depends on the horse, the horse decides. And what it mainly taught me is that many things depend on me too. We work together . . . I started looking for the gray areas in riding . . . like the difference between pulling too hard or too weakly to get the [desired] action and doing it exactly right . . .

A sense of freedom and choice are part of autonomy. The participant quoted in the last excerpt described the horse as an extrinsic entity that had the power to decide and take control when he attempted the jumping exercise with it. In the context of the relationship with the horse, some of the participants discovered the boundaries of their own autonomy and became more sensitive to their horses. As the following excerpt reveals, when the rider relinquishes control, the horse begins to cooperate, and the resulting mutual trust can bring success.

Once, there was a competition that I trained for a lot and . . . I was supposed to do jumps . . . I was the only one from the team who did jumps, and I was very excited. And I was last. Everyone was finished, everyone was sitting and then I came in with the horse . . . I was very, very stressed and I had done these obstacles with the horse dozens of times. Really. I knew every obstacle and where everything was, and nothing should have surprised me. Because I was stressed . . . I completely ignored the horse and was only focused on myself and . . . I got to the obstacle and the horse didn't jump and I was so frustrated and started cursing . . . I really started getting upset and then they told me to get off the horse. I dismounted, and I was frustrated and blamed the horse and said, "he's having a bad day" and . . . then a week later I came, and the horse was the same horse, and everything was the same and I realized how much my stress had affected those subtleties.

To conclude, the subtheme of autonomy revealed the universal need of our adolescent participants for autonomy and the sublimation of that need within their relationships with the horses. They had a unique opportunity to let go of their need for mastery in their relationships with the horses, which were free of

power relations. Doing so helped them to be more sensitive to the horses, cooperate with them, and progress.

Relatedness: *Riding is a job you do together with the horse.*

The *need for relatedness* is associated with social belonging. Relatedness is satisfaction derived from a sense of connectedness with others, caring for others, and being cared for by them. According to SDT, the need for relatedness stems from the desire to feel connected to others [39]. We found that, in some cases, there was a difference between the way in which participants spoke of the relationship with the horses and the way in which they spoke about their relationships with people. Most of them felt a lack of relatedness and reported feeling alienated and having difficulty forming close relationships and connections with others, such as staff members or other boys.

Nonetheless, we were able to identify the central, fundamental need for trust when the participants spoke about their meaningful relationships with the horses. One talked about the different ways in which he allowed himself to connect with his horse, despite his difficulties in connecting with people:

It annoyed me that they took Shrek [his horse] . . . and didn't tell me ahead of time. I was suddenly informed two weeks later, as if they had just taken him. It was very annoying. It's your horse, yours. So, with the new horse, I was devoted, I gave him all my love, all my warmth. But today I know that even if I leave someone, even though I don't know what will happen, I know that . . . I'll soon take everything he says with a grain of salt. I'm very emotionally closed in that way. I also have a hard time with love.

Some participants talked about nonverbal communication with the horse and the sense that there was a mutual understanding between them:

I felt as if she [the horse] felt safe with me because she was insecure and used to being scared and hadn't found a leader and was part of the herd . . . even today she loves me when I come to say hello. What I learned is that she's an animal . . . she can't talk . . . I have to know when something hurts her, when she doesn't want to do something, when she feels good, what she likes.

This participant also spoke of the process of relinquishing control after establishing a connection with the horse and learning to trust it:

. . . Meanwhile, I made all sorts of decisions. I think the most significant thing . . . was . . . the jumps. There . . . you do something beyond [the usual]... it requires a lot of precision and . . . trust in the horse and suddenly you're in situations . . . where you know that you're not in control . . . that the work here is both the horse's and yours . . . and at the moment of the jump you let go of everything and let her do the work. I learned to trust.

Most of the participants talked about the horse as a symbolic projection of a human being, as in the following excerpt:

Yes, sometimes . . . like people, horses can get up on the wrong side . . . and then you go to the horse and immediately notice that he's a little sad or nervous. And then you need to know what to do. And how to communicate with it and how to calm it down if necessary . . . or how to say to it, OK, get up, wake yourself up.

Some participants also felt that the relationship with the horse made them more sensitive to others, as this excerpt demonstrates:

Riding . . . is working together, working with the animal, understanding it and being considerate of it. For example, it's having a hard day and you have to understand it and say, OK, don't make such an effort. And you'll still do it. And that is teamwork. You have to take care of the animal after you ride, wash it. It's like a part of you . . . The work with the horse helps you show more emotions, notice things. The horse may be limping a bit or something like that and sometimes you can't see it, but you understand it doesn't feel well. You learn to look from the outside, to check all kinds of things to make sure they're OK. It taught me a great deal . . . to invest in relationships . . .

The influence of THR

Most of the adolescents described the THR as a positive experience. Some of them experienced excitement and expectation before coming to the farm. They spoke about enjoying the experience, which helped them stay despite the obstacles and challenges they faced all week long at the residential care facility.

The adolescents emphasized riding and horse care as enjoyable activities. Some referred to the relaxing effect of riding as exercise or as a way to release aggression and energy. This is an important part of THR, especially for at-risk adolescents, who may exhibit physical and verbal violence at the beginning of the therapeutic process. Several of them felt that riding had a positive impact on their functioning for the rest of the day and even the next day. One reported the following:

It's a little hard to see the impact of riding and understand what it is affecting me, but I do understand and know it only does me good. It makes me more energetic at school and it's a place to come and let go. It's not like you get up in the morning and go study. You get up, come to the farm, to a place that's more comfortable, somehow easier for me and more . . . I don't know how to explain . . . and then I go back to boarding school and feel much better there.

The participants also spoke of their effort to cope with their low frustration threshold while riding. One of them explained:

Sometimes it's a bummer here, sometimes not. But have to cope with it if I want to stay here. So it's nice here actually. There are moments, but okay, when you don't succeed at something, you need to work collaboratively. For the horse it's not like that, so it's frustrating, and I have a low frustration threshold, so I get upset quickly, and then I have to deal with it . . . here I have to go on. In other places, if I was feeling

badly, I would leave. Here I have to make an effort. Because I like it. Yes, I like it, even if there are frustrations . . .

Through riding, the adolescents experienced a process that required perseverance and long-term investment. At some point, they began to see the fruits of their hard work; their riding techniques improved, and they gained the horses' trust. This persistent investment in riding influenced them to invest more consistently in other activities (e.g., other sports) and invest more in their studies. As one participant told us:

After the farm, I have a math lesson and the day is much harder, but even though it ends in the evening, it's an easier day for me. That's what I feel. It's good for me. It helps me let things out, you know, not sitting all day ... I don't know if I could do it.

Their persistence in the riding process helped them learn how to cope with failures and enjoy success, as one of the participants explained:

When the road to success involves falling several times and either succeeding or falling, when you're with horses you have thousands of failures every day and once in a while a small success. Most of the time, it's failures and occasionally you have one of those small successes and it fills you with happiness.

The entire process the adolescents underwent through therapeutic riding intervention, the relationship with the horses, their caring for them, and their progress with riding helped them to be more patient in general. Moreover, their experience with the horses taught them about the mutual give-and-take nature of all relationships. In this regard, one participant reported the following:

The farm taught me something about relationships, that you should always be patient and if you take something, you should always give something, and you don't necessarily have to receive something . . . but you should never go halfway. Because, for example, the horse gives you something and he thinks you're with him, then don't ever just clean his body and not his legs.

Only three adolescents described their experiences as negative. It seems that each one of them had a different reason to feel that way about the THR, for example a lack of connection to the horse or a lack of interest in the riding style taught at the farm. With the exception of these three adolescents, for the rest of the participants, THR was a meaningful and constituent experience, as the findings demonstrate in detail.

Discussion

In this study, we aimed to deepen our understanding of THR's contribution to at-risk adolescents in residential care. More specifically, we wished to learn more about the mechanisms that made THR an effective therapeutic intervention among at-risk adolescents. Our findings are presented as a narrative, from the prologue of the adolescents' background and difficulties, through the relationship with the horse in THR, to the epilogue of THR's influence on the adolescents. The adolescents' backgrounds are fraught with difficulties and challenges in different areas of their lives. The adolescents described in their own

words educational, social, and familial problems. We adopted an approach according to which the personal life story of each adolescent is part of his social context. Their delinquency, alcohol and drug abuse, and frequent moving between schools—all of these negative life experiences—are rooted in their social contexts, their neighborhoods, and their socioeconomic status. Due to these background factors, many of the participants did not have an equal opportunity to achieve success. For this reason, THR provided most of them with a unique opportunity to flourish for the first time. The THR farm is, in this sense, a space in which the adolescents can experience new roles, responsibilities, and physical and relational challenges. The moratorium of the THR farm provided the adolescents with an opportunity to experience new internal and external experiences important for their growth and rehabilitation.

In our interviews, we asked the adolescents to tell us about their experience at a therapeutic riding farm and were surprised by the dominant role their relationships with the horses played. It was clear that these relationships were an important ingredient, and as we categorized their words, the three basic needs of SDT emerged from the texts. Since the 1980s, the formal theory and applications of SDT have expanded greatly [34,40] and received extensive empirical attention. To the best of our knowledge, SDT [32] has never previously been implemented in a THR setting. Our findings show that the SDT framework may be applied to the treatment of at-risk adolescents in the THR context.

The need for competence is the need to feel effective, to feel one has an impact on one's environment and is achieving positive outcomes [34]. One may satisfy this need by actively seeking challenges that extend one's skills [41]. The riding experience is instrumental in this process. Our findings demonstrate the contribution of the THR intervention to the participants' sense of competence. The interviewees described how riding contributed to their ability to cope when they fell, to overcome fears, and to persevere. THR also revealed their ability to control a powerful animal and succeed. These experiences boosted their competence. The sense of competence subtheme is significant for these adolescents, especially considering their past negative experiences and failures.

The need for autonomy is part of the maturation process. According to Muuss [42], autonomy is one of the most vital components of identity development in adolescence. Furthermore, Blos [43] defines autonomy as a crucial part of the second individuation process of adolescence. In the context of THR and through their relationships with the horses, it seems that the participants gained complex insights regarding autonomy in terms of both their need for it and its limitations. Their relationships with the horses were instrumental in supporting their maturation processes and teaching them to see beyond themselves and their own needs. For example, the THR experience taught them both that they could not force their will on the horses and that horses do not necessarily cooperate. They learned that when they relinquish control, the horse begins to trust them, with the result that their trust in the horse increases and they make progress. This life experience with the horse has the potential to help them in their relationships with people.

In his classic paper on egocentrism in adolescence, Elkind [44] described the gradual transformation of adolescents from being primarily concerned with themselves to recognizing the difference between their

own preoccupations and the interests of others. The riding experience and the connection with the horse can help adolescents understand the meaning of autonomy. Even when a degree of dependence on another person exists, freedom of choice is a key component of autonomy [32], yet sometimes our free choices are limited by others. The challenges of riding and connecting with the horse force adolescents to acknowledge their limited autonomy and differentiate between themselves and the animal. This insight is crucial to establishing mutual rather than self-interested interpersonal relationships [44], and brings us to the third component of the SDT framework, relatedness.

The need for relatedness is the need to feel connected to others and experience a sense of belonging. It is satisfied when one develops close and intimate relationships with others [41]. Previous studies have emphasized the importance of the therapeutic relationships between adolescents and care workers and considered them an important tool for achieving behavioral change in adolescents in residential treatment and/or their families [45]. Similarly, our findings indicate that the relatedness between at-risk adolescents and horses can be productive and provide a remedial experience at several levels.

Obviously, every relationship is unique and what is helpful in each one can vary. Nonetheless, our findings emphasize the importance of the relationship with the horse, a relationship that includes a sense of relatedness and belonging and makes personal growth possible. Needless to say, like other kinds of relationships, the rider–horse relationship is complex. The correct match between horse and rider, which is based on physical features and personality traits, is essential for successful therapy or rehabilitation [5,2]. But when there is a good match, this relationship is a crucial factor in facilitating positive change in at-risk adolescents.

As mentioned in the findings section, three of the participants described their experiences as negative, and this may be explained by the lack of connection to the horses revealed in their statements. One of these three participants also reported that he felt disconnected from the residential care staff, supporting our explanation that without relatedness, there is no positive change.

The satisfaction of the needs for competence, autonomy, and relatedness can increase motivation for self-enhancement [46]. These needs are also associated with psychological well-being [47] and when they are not met, maladaptive outcomes may result [48].

The third theme, THR's influence as described by the adolescents, reveals different aspects of this influence. Some of these aspects relate to the effect of the interrelated mental and physical benefits of riding, such as the relaxation effect, the opportunity to release aggression, and improvement in scholastic achievements. The other aspects of influence relate to the consequences of their positive relationships with the horse. Our findings indicate that while adolescents find it difficult to connect with others at home, with staff, or with their peers, the relationship with the horse may serve as a gateway to relationships with other people. One of the most important influences of THR is that it assists them in applying their new positive experiences, such as trust, mutual give-and-take, and sensitivity, to other relationships in their lives.

Limitations

In the current study, we used thematic analysis approaches to analyze our findings. These methods have their limitations. First, breaking the text down into codes and themes may affect the meaning of the text as a whole, and the constant comparison of texts may affect the depth of understanding of individuals' states of mind. Second, this method brings our personal sensitivity and knowledge as researchers into our interpretations of the texts. Other researchers may have chosen other frameworks or arrived at other interpretations. Another limitation relates to the study design. We did not compare the THR experience of the adolescents in this study to the experiences of other populations, so we cannot be certain that the findings apply exclusively to at-risk adolescents. Moreover, we did not employ a linguistic study design, so we do not know the effect of THR intervention after we conducted the interviews.

Conclusions And Implications

According to Harville Hendrix, the renowned couples therapist, "we are born in relationship, we are wounded in relationship, and we can be healed in relationship..." [49 p35]. While Hendrix's focus is on our relationships with significant others, our findings demonstrate that similarly intense, powerful relationships can also exist between adolescents and horses and form the core of the therapeutic experience. According to the SDT approach, experiences that integrate the basic psychological needs for autonomy, relatedness, and competence are important [50] and can help individuals develop inner resources that help them to cope with adversity [51]. "Just as the organic development of a plant depends on the nutriments of soil, sunlight and water, healthy psychological development of the person requires, according to SDT, some basic nutriments in the form of social support for psychological growth" [52 p195]. Our findings emphasize the relatedness aspect of the SDT framework. The relationship with the horse can be likened to rich soil in which the participants' sense of competence and autonomy can grow and flourish. The increase in their sense of competence, their experience of perseverance and stability, and their success in controlling the horses and overcoming their fears and traumas all took place in the context of their relationships with the horses. Moreover, the ability to understand the meaning of autonomy and its limitations and implications originated in the context of these relationships. The relationship with the horse is a key element of THR. After all, relationships shape our emotional worlds, within which we may be wounded and within which we may heal.

Declarations

Ethics approval and consent to participate:

The study was approved by the ethics committee of Bar-Ilan University and all participants signed a consent to participate.

Consent for publication:

All authors gave their consent for publication.

Availability of data and materials:

Not applicable.

Competing interests:

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Authors' contributions:

Authors' contributions: S.W.D wrote the main manuscript text. S.W.D. and N.N collected the data and analyzed it. D.B. Contributed to the discussion and interpretation of the findings. All authors reviewed the manuscript.

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