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Equine-facilitated psychotherapy for at-risk adolescents: The influence on self-image, self-control and trust

Keren Bachi [1], Joseph Terkel[2] and Meir Teichman[2]

Abstract

This article describes the theoretical-conceptual frame of equine-facilitated psychotherapy (EFP) for adolescents at-risk, the unique components of this intervention, and its implementation in an evaluation study. The study was conducted at a residential treatment facility for adolescents at-risk. We examined the outcomes of EFP on self-image, self-control, trust and general life satisfaction. Fourteen resident adolescents comprised the treatment group, and were compared with a matched group of 15 residents who did not receive EFP (control). The treatment comprised a weekly individual EFP session over a period of seven months. The study found a trend of positive change in all four research parameters within the treatment group. Additional indications of the intervention's positive influence were also found and are discussed.

Keywords

equine-facilitated psychotherapy, at-risk adolescents, self-image, self-control, trust

Equine-Facilitated Psychotherapy (EFP) is a form of Animal Assisted Therapy (AAT) that involves horses and takes place in and around the natural surroundings of the stables. Equine-facilitated psychotherapy (EFP) differs in essence from therapeutic riding. Most studies of the latter focus on physiological aspects (Baker, 1996; DePauw, 2000; Taylor, 2001; Vidrine et al., 2002). In contrast, limited research exists regarding mental, emotional, and social components that equine assisted activities/therapies (EAA/T) address (Bachi, 2005; Bizub et al., 2003; Burgon, 2003; Gatty, 2001; Kaiser et al., 2004), and to date, these studies rely on individual researchers' personal doctrines rather than on an overall "EFP theory" (Bachi, 2005). Currently, published literature about EFP consists primarily of anecdotal reports (Dalke, 2008; Hallberg, 2008) and case studies (Karol, 2007) which suggest a common trend and illustrate the need for a unique theory for equine therapy, rigorous research to examine the human-horse bond, and evaluation of EAA/T effectiveness.

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Since the 1990s, EFP has grown rapidly in the United States and Europe. EFP is widely used and is developing in terms of how it is used; educational institutions and insurance companies are increasingly recognizing this form of therapy. However, because EFP programs are expanding, researchers interested in utilizing horses for therapeutic purposes should evaluate its efficacy, determine which populations and diagnoses it is appropriate for, and develop theoretical knowledge to guide this type of intervention. Research is fundamental for the physical and emotional safety of clients and necessary to bridge the gap between the expansion of EFP practice and limited knowledge of the field.

The present study examined the influence of EFP on the self-image, self-control and trust of adolescents residing in a residential treatment facility in Israel. These parameters were chosen because clinical observations and literature (e.g. Muuss, 2002) suggest that they are particularly problematic among this population. Furthermore, numerous studies show that the influence of EAA/T on these variables requires further exploration (Cawley, Cawley & Retter, 1994; Emory, 1992; Ewing, Krawetz & Deperkel, 1993; MacDonald & Cappo, 2003; MacDonald, & Taylor, 2007). Consequently, the results of this study contribute to enriching the state of our knowledge in the field of EFP.

Introduction

Involvement of animals as part of a therapeutic process remained absent from the professional literature up until the 1960s. Levinson (1978), who was the first to relate to professional concepts in this field, contended that a connection to animals, especially during childhood and old-age, can positively affect the human personality (Kruger et al., 2004).

Although therapeutic riding is a comparatively new field, references to recovery processes in the context of human-equine relations can be found in the writings of Orebasius, Galen and others from Greco-Roman times. The pioneering founder of therapeutic riding in the 1950s was Hartel, who was herself rehabilitated from the effects of polio through horse riding (Butt, 1981).

Most references to equine therapy emphasize the physiological aspects. Recently, however, at the beginning of the 21st century, an independent branch of therapeutic riding has arisen, focusing on the mental and social aspects, and termed Equine-Facilitated Psychotherapy (EFP).

The Equine-Facilitated Mental Health Association (EFMHA), originated in the US, defines EFP as an experiential psychotherapy that includes equine(s). EFP is facilitated by licensed, accredited mental health professionals, working with appropriately accredited equine professionals (Equine Facilitated Mental Health Association, 2009). A distinction should be made between three concepts: equine-facilitated psychotherapy (EFP), therapeutic riding and hippotherapy. EFP is often confused with Therapeutic Riding and Hippotherapy. Therapeutic riding is an equine-assisted activity that is geared towards learning riding and horsemanship while adapting to the rider's special needs, while hippotherapy is an equine-assisted therapy that is related to physical aspects, vocational rehabilitation and speech therapy. In contrast, EFP helps people challenged by emotional and mental health conditions. It promotes personal exploration of feelings and behaviors and allows for their clinical interpretation. EFP requires an ongoing therapeutic relationship with clearly established treatment goals and objectives that the therapist and client develop. An example of an EFP approach is for a client to observe and talk about the behavioral dynamics in a horse herd. This offers a window into the client's internal world. Together, the client and therapist explore these projections. Notably, EFP is not appropriate for all people because of safety issues associated with horses and the open environment in which this therapy takes place (Equine Facilitated Mental Health Association, 2009).

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The conceptual and theoretical frame of EFP for at-risk adolescents in a residential treatment facility

The therapeutic alliance of "client-horse-therapist": The therapeutic alliance in EFP is composed of the client, the therapist and the horse. Corresponding to the therapeutic triangle of Bowen (1978), EFP presents a triangle *structured in the treatment* that is not external and therefore provides an opportunity to address the apparent duality within the therapeutic setting. The presence of the horse creates a completion and enhancement of traditional therapy that comprises client and therapist only.

As in every therapeutic system, in EFP too there is a need for a contract between client, horse and therapist. Due to the dependence of the horse, it is important that its welfare be included in the contract.

To enable a meaningful alliance between client and horse and in order for the therapist to facilitate such an alliance, a positive bond between therapist and horse is also necessary. Creating a therapeutic alliance that will support, contain and offer a potential healing experience for negative early life experiences of the client is critical for building trust with the "other" and establishing interpersonal adaptation skills (Bowlby, 1973). Schultz (1999) describes the association between the horse's movement (rhythm) and riding and the human primary developmental process of physical and mental aspects. The therapeutic alliance in EFP offers an opportunity for experiencing attachment both emotionally and physically (and in a non-verbal manner). The stable presence of the horse embraces the client both physically and emotionally, in a manner that is not always possible between a human-therapist and the client.

Therapy utilizing equine characteristics

The horse as a herd animal. Horses are highly suitable for therapeutic work due to their being herd animals, for which cooperation is as important as competition, and the bonding among members is very strong. During the process of domestication horses have come to perceive humans as part of their herd in some aspects, which appears to provide the underlying basis for the bond between humans and horses (Scheidhacker, 2000). In order to maintain and utilize this bond, however, the human must take the role of the leader. Accordingly, the therapeutic process of EFP offers an opportunity to enhance elements of leadership, self-control and the manner of addressing the "other", employing the developing motivation of the client to be in a leadership position towards the horse.

Equine herd members, like humans, vary in character, behavior, life experiences and memories. For successful EFP it is suggested to select the appropriate horse for achievement of a specific therapeutic goal. Observation of the dynamics and interactions among the herd when free-running in the paddock enables mirroring which is facilitated by the therapist and serves to promote awareness and as a catalyst in the treatment process (McCormick & McCormick, 1997). Herd dynamics are associated with life-cycle processes, such as courtship, rejection, friendship, hierarchy, coupling, birth, foal development, injury, and death. During observation and exposure to various situations among the herd there is an opportunity to address these topics in relationship to their appearance in the client. This offers an opportunity to process trauma, primary experiences and perceptions that have been consolidated in the cognitive and emotional mapping of the client.

The sensitivity of the horse to "others". The horse is highly sensitive to "others" in his surroundings and has the ability to provide feedback. He induces interactions that facilitate addressing

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various significant issues during a therapy session. His behavioral flexibility enables him to adapt to persons or situations, to sense the person and respond to him.

Horses as powerful animals. The presence of horses in the therapeutic milieu can contribute to serenity, confidence and development of trust. Horses are excellent therapeutic facilitators, especially in cases where there is objection to "going to a psychologist" or collaborating in therapy. Horses are non-judgmental and they project love and acceptance to whoever treats them positively. For example, a horse who had positive experiences with humans will usually seek the affection of a person who caresses him by getting physically closer. Such a mutual body language exchange fosters a deeper emotional connection and supports the growth of a meaningful relationship between horse and human (Brandt, 2003).

Association of the rider-client with those qualities attributed to the horse, as powerful and noble, contributes to the development of a positive self-image and self-confidence (Atwood Lawrence, 2000). As a large and powerful animal, the horse represents a paradox, given that his strength is controlled by human will. Work with horses enables aggression to be redirected in a sublimated, creative and positive manner. The gentle nature of the horse facilitates a sense of freedom and openness, which are especially significant regarding clients with negative social stigma (Bachi, 2000), as often found among at-risk adolescents. Moreover, the impressive presence of a horse tends to elicit emotions, which may provide the basis for beginning a therapeutic process.

The therapeutic essence of horse grooming

A major component of the bond with the horse is created through grooming, which contributes to acquiring internal and interpersonal skills. When a person cares for and invests in a horse it also represents caring for and investing in himself. Caressing a horse reflects back as being caressed oneself, expressing gentle feelings that are otherwise frequently hidden (Bachi, 2000).

Standing next to a horse at "eye level" can conduce to relaxation, openness and confidence. For at-risk adolescents, who may be suffering from direct communication problems, grooming a horse can promote a willingness for dialogue between client and therapist. The horse can serve here as a protective and intimacy-promoting figure, giving the client the option of moving to the other side of the horse's body, which serves as a "dividing space" between client and therapist, enabling the possibility to talk freely while grooming the horse, without the need to sit facing the therapist.

At-risk adolescents, who have often accumulated a deficit in primary parental care, when supplying the needs of the "other"—the horse (whereas their own needs have been partly or wholly unheeded) may display emotions and behaviors that express their needs, conflicts and traumas. Grooming the horse offers an opportunity to address the client's emotional and behavioral load and to process it verbally, when accompanied and followed by the positive experience of finding internal strength through caring for the "other".

The horse's back as a "therapeutic mobile setting"

Being astride a horse offers an opportunity to expand and deepen the experience of the human-animal bond. Touch and movement are dominant aspects of this bond.

The horse's back serves as a therapeutic mobile setting, with the client and therapist riding side by side, and at the same "eye level". This contributes to the sense of intimacy and promotes the therapeutic process. The activity and motion experienced in riding constitute a source of

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pleasure and motivation and are often a factor that encourages at-risk adolescents to collaborate in therapy. Motivation is a critical component for therapy and can facilitate intervention and enable change (Ronen, 1992).

The three-dimensional movement of the horse is similar to that of a human while walking. A well-trained and symmetric horse transfers to the rider movements that develop both physical and emotional aspects of that rider (Kuprian, 1989; Rosenzweig, 1992). Learning to control the horse and the ability to move with him independently and confidently is a major step in the process of building self-confidence and a positive self-image (Karol, 2007). Overcoming fears, increasing self-esteem, responsibility and self-discipline are achieved through bonding with the horse by means of riding and caring for him (Bachi, 2000; Kroger, 1989). In addition, when treating at-risk adolescents, the riding may provide a source of emotional and physical venting and an emotional pause within the overall therapeutic setting.

The activities that can be performed while riding are diverse and can be adapted to each client's special needs. For example, when lack of social skills is a problem, it is possible to apply EFP in a group setting.

At-risk adolescents are sometimes characterized as having a low stimulus threshold and a tendency to turn to psychoactive drugs to meet their emotional, social and spiritual needs. In such cases it is beneficial to focus on riding skills as a means to develop the creative and spiritual aspects of the client, parallel to addressing the mental and physical aspects. Occasionally, following an experience of equestrian art, the rider feels a spiritual "high", which he can compare with the "high" that accompanies psychoactive drug use. The therapist's role is to point out the difference between the two situations: the natural spiritual rise that is due to an experience of harmony among the different senses, versus the experience of an artificial "high" that is the outcome of fractured senses (Bachi, 2000).

The therapeutic setting of the stable and its surroundings

In the literature there are different approaches regarding the importance of the physical setting in therapy (Jung, 1963; Wolfberg, 1954). In EFP great significance is placed on the setting, which is an integral part of the process. EFP is practised in a unique therapeutic setting that includes the stable and its surroundings and the available natural environment, offering an opportunity to use its advantages and confront its limitations.

A client approaching the stable can hide the fact that he or she is attending therapy. This is especially important when dealing with adolescents, who are facing identity formation and object to being labeled "patients". The client and therapist can choose to have a session in a certain location that will have a symbolic meaning and implications for the therapeutic process. For example, a horse stall may be experienced as an intimate, protective and "homely" setting for one client, whereas for another one this same location may threaten and project "suffocation" or stress.

Riding outside of the stable premises usually takes place in natural surroundings, which can be very relaxing, as a non-threatening environment that promotes openness. Time off from daily stress encourages the client to listen to and connect to his physical and mental "self". Therapy carried out in a non-traditional environment (outside a clinic) enables different aspects of the client to emerge and be expressed within an experience of freedom and open space (Bachi, 2000).

Nonetheless, providing EFP in nature can pose difficulties in creating intimacy and protection in an open setting with no physical boundaries, necessitating the establishment of virtual boundaries.

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Systemic and holistic approach

One of the foundations of EFP is its systemic and holistic approach, which is especially significant in regard to the influence of the processes of maturation on the adolescent's overall physical, mental and social perspectives. Often at-risk adolescents have also had emotional experiences that affect their ability to accept touch. When treating this population the exposure to touch through the connection with the horse and the physical dimension of riding can be meaningful for establishment of a healthy physical self-image and the healing of the damaged emotional and sensory motor elements. Moreover, in a wider perspective there is great importance in a systemic approach in the context of working with the families, the social environment of the clients, and the staff of the residential treatment facility, since they are all related to the adolescent but not always in sync concerning their approach toward the adolescent. This approach is essential because of the belief that the component parts of a system can be best understood in the context of relationship with each other and with other systems, rather than in isolation. Furthermore, the current study concerns EFP which took place within a residential facility; however it was not of itself a residential equine therapy program. Utilizing a systemic approach may be useful to consider the implications of residential as opposed to non-residential programs of EFP.

Finally, following theoretical and clinical considerations, and in light of the current limited state of research in the field, the hypothesis examined in this study was that the self-image, self-control, trust and general life satisfaction of the participants in EFP would improve following the intervention, in comparison to the control group.

Materials and Methods

The research population: adolescents in a residential treatment facility

Adolescents in a residential treatment facility are generally defined as having severe personal and adaptive needs and, in comparison to "normal" adolescents, have difficulty in adjusting to normal development. Such difficulties include below-average age-related knowledge, strong antagonism to social norms, lack of interpersonal communication skills, a lack of work and study skills, lack of self-control in frustrating or competitive situations, exaggerated use of physical and/or verbal violence in order to "solve" conflicts, and a tendency towards self-harming (Wozner et al., 1996).

Participants: The research population comprized a group of adolescents (age 14 to 18) in a residential treatment facility. Due to ethical considerations the distribution in this study was not random, but according to referral to EFP as indicated by the case manager of each adolescent. Twenty-nine pupils were included in the study and were assigned to either the treatment group or the control group: 14 were referred to EFP, and 15 pupils, similar to the treatment group in age, social skills, behavioral problems, etc., served as control, being exposed to horses only during agriculture studies and leisure activities. The participants in the treatment group participated in 14 to 26 therapy sessions, with the exception of two latecomers, who took part in nine sessions only.

Details of participants. About 40% of the participants' parents were divorced; 70% of the families were of "low" socio-economic class, and the rest belonged to an "average-low" socio-economic class. Among the treatment group 20% of the participants had been sent to the residential treatment facility following a court order and under the supervision of a child protection service worker; and another 20% following a court order and under the supervision of a probation officer. 60% of the treatment group had no court order. Among the control group 37% of the participants had been sent to the residential treatment facility following a court order, either under the

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supervision of a child protection service worker or under the supervision of a probation officer; 13% had court orders (of both kinds) and 50% had no court order.

Among the treatment group 57% had no police file, 21% had one police file and the rest had between two to five files relating to physical violence and/or drugs and/or, property theft and/or traffic offences. Among the control group, 40% of the participants had no police files, 26% had one police file and the rest had between two to eight files relating to physical violence, drugs and property.

From the therapeutic perspective, during the experimental year 60% of the participants in the control group were not referred to any therapy while 40% participated in various other forms of therapy. No significant statistical differences were found between the two groups.

Independent variable. EFP intervention, according to the theoretical background presented above. The research group participated in individual once-weekly EFP sessions of 50 minutes each, for a total of seven months.

Parameters Examined

Self-image. This was measured using items from the Offer self-image questionnaire (OSIQ) (Offer et al., 1977), relating to three types of "self" (psychological, social and coping), that were expected to be influenced by EFP. This questionnaire has been used in various studies of adolescent populations and its reliability and validity are established (Offer et al., 1981). In this study we used the Hebrew version translated by Flum (Seginer & Flum, 1987). Reliability of the three types of "self" that were chosen for this study revealed the following Cronbach's alpha: "psychological self" $\alpha = .87$, "social self" $\alpha = .82$, and "coping self" $\alpha = .81$.

Self-control. This parameter was measured using a schedule for assessing self-control behaviors of adolescents, designed by Rosenbaum (1980). This schedule assesses individual tendencies to apply self-control methods in order to solve behavioral problems. The Hebrew version of this schedule has not yet been formally published (Rosenbaum, personal communication); therefore, in this study we used the version common in various academic studies. The schedule's reliability, according to test-retest reliability, is $\alpha = .86$, internal consistency (Cronbach's alpha) is $\alpha = .86$-$.87$ (Rosenbaum, 1989).

Trust. This was examined using selected items from the Children's Interpersonal Trust Scale written by Hochreich (1973) and adjusted for adolescents at a residential treatment facility. This scale was developed based on Rotter's (1971) Interpersonal Trust Scale for adults. The children's version presents daily situations that may be encountered while interacting with different social agents (authority figures, friends etc.) and options of reaction to these situations. Seven items were chosen from the original scale for the purpose of this study and in accordance with the Hebrew version that was translated and tested in the work of Maital (1976). The reliability of the scale was found to be $\alpha = .88$ (Hochreich, 1973).

General life satisfaction. This was measured using Student's Life Satisfaction Scale adjusted for adolescents (Huebner, 1991). The scale is based on the theoretical assumption that general life satisfaction of adolescents can be evaluated by the adolescents themselves with no connection to specific domains such as family, friends or school. The Hebrew version used here is presented in Seeman's (2004) work. Cronbach's alpha reliability of this scale is $\alpha = .82$.

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Procedure. In order to evaluate the influence of EFP on the adolescents residing at the treatment facility, a set of questionnaires was administered prior to therapy and at the end of the year. An additional examination involved in-depth-interviews with the treatment group including questions concerning their relation with the horses, the mutual influence of client and horse, and what they felt they had gained from EFP. Additional interviews concerning any changes that had taken place among the clients were held with the social workers (case managers) who had referred the clients to EFP.

Since the study comprised a relatively small group of participants, a one-year follow-up of the participants was conducted in order to evaluate the longer-term effects of the EFP.

At the beginning of the school year the clients were referred to EFP according to criteria defined by the therapy staff. Following the agreement of the adolescents, their guardians, and the treatment facility staff to participate, staff members who were unaware of the research hypothesis handed out the questionnaires. Completion of the questionnaires took place concomitantly for all participants, who were given help to complete them when necessary. The interviews with the research group and the referring agents were held following the second round of questionnaires. Additional data, collected by the residential facility and with no connection to the research (concerning absence and dropouts of the participants from the treatment facility), were also noted.

Results

Examination of the research hypothesis

Multi-variants with repeated measures analysis were conducted in order to test the research hypothesis, in which the research and control groups served as between-subjects factors and the repeated measures served as within-subjects factors.

Trust variant prediction testing. Different and negative tendencies between the two groups could be identified from the multi-directional variance test of the trust variant: in the research group there was an increase of means between both measures (M=2.714 before, M=3.071 after), whereas the control group showed a decrease of means (M=3.4 before, M=3.0 after); however, the result was not significant: the measurement effect (F=.005, p>.05), the group effect (F=.993, p>.05) and the interaction between the measure and the group (F=1.425, p>.05) were not significant. Despite the lack of significance, a clear trend of increase in trust was found in the research group versus a decrease in the control group.

Self-control variant prediction testing. The measure effect was significant within an 8% error margin (F=3.402, p≤.079); i.e. there was an increase in self-control between both measures. This increase occurred in both groups (research group- before M=2.734, after M=3.081; control group- before M=2.96, after M=3.2), although that of the research group was greater than that of the control. However, neither the group effect (F=.563, p>.05) nor the interaction between the measure and the group (F=.119, p>.05) were significant.

Self-image variant prediction testing. The multi-directional variance test result of the self-image variant was not significant: the measure effect (F=1.393, p>.05), the group effect (F=0.63, p>.05) and the interaction between the measure and the group (F=.017, p>.05), were not significant.

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General life-satisfaction variant prediction testing. Different and negative tendencies between the two groups could be identified from the multi-directional variance test of the general life-satisfaction variant: the research group showed an increase in means between both measures (M=2.51 before, M=2.75 after), while the control group showed a decrease in means (M=2.744 before, M=2.66 after). However, the result of the multi-directional variance test was not significant: the measurement effect (F=.257, p>.05), the group effect (F=.133, p>.05) and the interaction between the measure and the group (F=959, p>.05), were not significant. Despite the interaction between the groups and the measures being not significant, a clear tendency of increase in general life-satisfaction was found in the research group versus a decrease in the control group.

Absence of the participants from the residential treatment facility. A comparison of the change in means of absentee days of both groups between the two school semesters revealed the increase in percentage of absence in the control group to be 99.34%, versus 81.38% in the research group.

Dropout from the residential treatment facility. A follow-up showed that five participants (out of the 15 original) from the control group had dropped-out of the residential school during the research period. This had occurred prior to the handing-out of the "after" questionnaires. In contrast, among the research group no one dropped out during the research period. Examination of the individual dropout reasons revealed that none had been as a result of improvement in the participant's condition.

One year later a follow up. Since the study comprised a relatively small group of participants, a one-year follow-up of the participants was conducted in order to evaluate the longer-term influence of EFP. The findings one year later showed that among the treatment group—two participants had been conscripted into the military (compulsory service in Israel), two had transferred from the residential facility to regular schools and returned to their homes, one had dropped-out and the rest had stayed at the school. 79% of the treatment group had acquired no new police records, while 21% had one new police record. Among the control group 40% of the participants had no new police records, 47% had one new police record and the rest had two or three new records relating to drugs and/or property and/or bodily offenses. In addition, an examination regarding drug use during this year revealed that among the treatment group 71% of the participants had not used drugs, 21% had used drugs once and 7% had used cannabis twice. In contrast, among the control group only 20% of the participants had not used drugs, 27% had used drugs once, 27% had used them twice and the rest had used cannabis, alcohol and/or other drugs three or four times.

Discussion

The research hypothesis posited that adolescents participating in EFP would show a greater improvement in various parameters relative to those of the control group. Although the hypothesis was not confirmed statistically, the data do indicate a trend in this direction.

Trust. The results revealed a trend of increase in trust among the research group versus a clear decrease among the control. To the best of our knowledge, no quantitative studies on trust in the field of EFP have been done; however, a qualitative study by Vidrine et al. (2002) revealed results similar to those of the present research. Those authors reported an increase in feelings of trust, confidence, acceptance and warmth among at-risk children who had participated in group EFP.

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Early attachment is a basis for development of trust (Erikson, 1950; Muuss, 2002; Rotter, 1971; Tene, 1998; Wrightsman & Baker, 1969). Tene (1998) contends that when treating institutionalized adolescents, it is first necessary to change the way in which they perceive the world and build trust to replace alienation and hostility. Only after this can their pattern of behavior be changed. These ideas are related to the aforementioned process that occurs in the therapeutic triangle (client-horse-therapist), where the beginning of the process includes the building of trust and a reformative experience of early life attachments. This may explain the result of preservation, and some increase, in the level of trust among the research group, versus a decline in trust level among the control group. An improvement in the parameter of trust may offer a basis for a more significant change during the continuation of the therapeutic process in aspects related to socialization and education, such as self-control and self-image.

The following example presents the subject of trust in the therapeutic process and beyond it, through use of the horse's back as a "holding" environment: In the treatment of 'A', who had been raised in conditions of parental neglect, when asked about the care he had experienced from his mother he brought up memories of disappointment and unfulfilled needs. 'A' was then requested to lie upon the horse's back on a blanket and was borne by the horse, in a slow and rhythmic walk, while A's head rested on the horse's pelvis and his hands, body and legs were relaxed and exposed to the horse's warmth and cradling-relaxing movement. This process promoted feelings of trust and confidence between 'A', the horse and the therapist. Towards the end a dialogue was held about the level of trust and acceptance of beneficial aspects of the "other".

Self-control. A higher level of improved self-control was shown among the research group than among the control. Similar to the current findings, MacDonald & Cappo (2003) also noted an increase in internal locus of control versus external; whereas Bowers & MacDonald (2001) did not find any such change.

Several theories address the motivation for self-control as a heredity-congenital factor (Adler, 1956; Skinner, 1995) whereas others address it as a learned-acquired factor (Bandura, 1997). EFP is directed towards self-control functions that are learned-acquired, in correlation to the produced benefit from their application. This approach matches Rosenbaum's (1993) definition of redressive and reformative self-control, which is geared towards coping with stressors and gratification delay. As theoretical support, the positive results of the present research in EFP indicates that there are many opportunities for improvement of a client's self-control, due to the motivation that arises in the client-rider to act as a leader of the horse, or in redirecting aggression in a sublimated and positive manner, while interacting with the horse.

An example of work on the skills of self-control is presented in the case of 'S': One of the main treatment goals was that of coping with S's bursts of outrage. When asked about the connection between the riding and his life, 'S' referred to the "horses paces" from "canter to trot", when he was trying to keep the horse in canter and the horse "fell back" into trot. He compared the "falling back" of the horse to the "falling" that happens to him during his bursts of outrage. During his treatment the use of this metaphor was continued by identifying the physical and experiential signs of "falling" of the horse first, and later identifying the signs prior to S's outbursts. The triggers that caused anger, stress and anxiety were identified, followed by a discussion about the possible ways to react to the signs that were raised through the horse—and parallels in real life; that is, how to "hold" himself within the frame and ways of verbalizing emotions and expressing them while communicating with himself and his surroundings.

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Self-image. The results showed an increased level of self-image among both groups, with no significant difference between them. Self-image is a relatively common topic of study in the field of therapeutic riding. Other studies too have reported a positive change of self-image among therapeutic riding participants (Cawley et al., 1994) and some have reported even a significant change in this parameter (Emory, 1992; Krawetz & Deperkel, 1993; MacDonald & Cappo, 2003;). Contrary to these findings, Bowers & MacDonald (2001) did not find a change in self-worth among their participants. Other studies (e.g. Ewing, et al., 2007) also demonstrate that evidence of improvement of self image, among adolescents treated with EFP is limited and requires further exploration.

An explanation for the improvement of the self-image parameter in this research can be found in various elements of EFP: first, attending therapy in a normative and non-threatening environment, in which the client is approached as a "rider" rather than labeled as a "patient"; and second, the bonding with the horse and the ability to move with it freely and independently during the empowering process that occurs while absorbing a sense of the horse's nobility.

From the literature on adolescence (Muuss, 2002), which also reflects the research population, self-image is one of the most complex topics that characterize adolescents in general, and especially those in a residential treatment facility. Consequently, research into EFP is vital in order to establish the effective use of this intervention for this population. There appears to be a need for development of EFP strategies that are geared specifically towards an increased sense of self-image.

The following example demonstrates how it is possible to improve the rider-client's self-image in way that is related to body-mind connection. 'L' had been raised in a family with a violent father. At the early stages of the treatment 'L' could not bear any physical touch from an "other", even a tap on her shoulder. As result of her attraction and motivation to grooming horses she gradually accepted touch, first from the horses and later, within the building of trust, a significant change was seen in her acceptance of human touch. Additionally, her female self-image developed and changed from a state of neglected external appearance and covering her face with a wide-brimmed-hat, to a state of self-grooming and facial exposure. The therapeutic process included processing the complex relationship with her parents and the traumas that she had experienced. Complementary to this, therapeutic work was geared towards those physical aspects that brought about increased emotional equilibrium and better social adaptation, alongside an increase in self-image and sense of self-control in her life.

General life-satisfaction. No prior studies of general life-satisfaction appear to be available in the EFP field. The present findings show a clear trend of increase in general life-satisfaction among the research group participants, versus a decrease among the control group.

An increase in general life-satisfaction may provide a source of energy, assertiveness and creativity (Veenhoven, 1991). It may also offer a tool to cope with the pressure of daily life and can be helpful in the prevention of behavioral problems in adolescents (Mcknight et al., 2002). Literature reveals a connection between life-satisfaction and an individual's mental well-being (Seeman, 2004). Research into life-satisfaction shows a greater effect of interpersonal parameters on mental well-being, in comparison to demographic parameters (Ben Zur, 2003). Since both the research and control groups in the present study present similar demographic data, it can be assumed that the difference found in life-satisfaction levels as a result of the EFP intervention was a consequence of improved interpersonal parameters.

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Additionally, from the decrease in life-satisfaction noted among the control group in our study, it can be suggested that adolescents who reside in a treatment facility and do not participate in therapy, may experience a deterioration in their level of general life-satisfaction.

Absence of the participants from the residential treatment facility. The drop in absentee rate found between the two semesters in the research group in comparison to the control, indicates a trend of relative improvement. This finding should be addressed with caution, however, since in the control group only 10 participants completed the year, while in the research group 14 participants remained till the end.

One year later a follow up. The social differences found between samples one year later, as well as the differences in offences and drug use also seem to support EFP as a useful approach to improvement of fundamental aspects of adolescent's lives.

Innovations and comments concerning the research process

This study has revealed several new findings in the context of field studies of EFP. Given the difficulties of standardizing samples, research into EFP for at-risk adolescents within the setting of a residential treatment facility is an innovation in terms of the conditions of research. Compared with similar studies on the influence of EFP on at-risk adolescents, who remained in their home environment, having all the participants reside in a treatment facility with similar living conditions, reinforces the reliability of the findings. The study in particular highlights the following three aspects, which it approached in an innovative way: First, the intervention was a therapeutic process given by an EFP specialist who is both a certified social worker (MSW) and a certified therapeutic riding instructor. This is in contrast with earlier studies on the emotional-mental-social influence of therapeutic riding or horsemanship that were not carried out by certified therapists (Vidrine et al., 2002). Second, the study had both an experimental and a control group. Third, the research was planned as a relatively long-term study (seven months), in comparison with earlier studies in the field (MacDonald & Bowers, 2001; MacDonald & Cappo, 2003; Vidrine et al., 2002;).

As noted, due to ethical considerations the distribution in this study was not random. In the control group 40% of the adolescents also participated in other forms of therapy, a fact that may have made the differences between the research and control group less clear. Nevertheless, the differences found between the two groups in most parameters indicate the significance and strength of this unique intervention.

Future Research

This research was a pilot study, as the first academic work conducted in Israel in the EFP field. Its findings are expected to contribute to future research regarding establishment of an appropriate methodology for such studies, and concerning a general theory of EFP. Due to the relatively small sample size lowering the possibility of obtaining significant results, it is suggested that future research should be designed similarly, but should incorporate larger sample sizes that will enable extrapolation to a larger population.

It is also clear that there is room for additional tools to evaluate the therapeutic process, the developmental sequence and the occurrence of change among the EFP participants. We therefore suggest the use of qualitative measures in parallel to quantitative ones.

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This study can thus be regarded as offering an additional direction in the construction of an academic approach to the developing field of EFP. It is considered as a pilot study for learning and lesson production for the benefit of future research.

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