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THE EFFECT OF THE SELF-SUPERVISION MODEL INTEGRATING AUTHENTIC MOVEMENT AND EPIMOTORICS' ON SELF-EFFICACY AMONG DANCE MOVEMENT THERAPISTS

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ABSTRACT. Introduction: This study is part of a larger research study examining the effect of a unique model of self-supervision based on Authentic Movement and Epimotorics' on young therapists. It relies on one of the basic assumptions in dance/movement therapy – that psychological/emotional states are reflected in one's manner of movement and body positions, and also that the position and movement of the body influence a person's emotional/ psychological state (Shahar-Levy, 2004; Chaiklin, 2009). This study attempted to demonstrate that the unique self-supervision model would change the sense of self-efficacy of young dance/movement therapists. Supervision in this field bases itself on moving between verbal language and body-movement language, and uses both languages as a source for cognitive and psycho-emotional language knowledge (Payne, 1992; Shalem-Zafari, 2016). **Methods and Materials:** This study utilized film-recordings for observation, the Epimotoric's movement-analysis tool, and questionnaires: Epimotorics' is a method of movement observation and analysis, which relates to visible human movement as "telling" the internal psycho-emotional scenario. The self-efficacy questionnaires that were used provide information about the way the therapists' view their own effectiveness and abilities. **Results**: It was found that the self-supervision model stimulated changes in the movement measures of the participants and showed marginally significant positive change in their self-efficacy. **Conclusion:** It can be suggested that the self-supervision model combining verbal and non-verbal movement languages allows for the use of knowledge stored in the body in combination with cognitive, verbal language. As such, it improves the therapists' experience in relation to their sense of professional capability.

Key words: *Dance/movement therapy*, *movement analysis*, *Self-Efficacy*, *supervision*, *Epimotorics*'.

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Introduction

This study examines a unique model for self-supervision that is based on Authentic Movement and Epimotorics' and its impact on young dance/ movement therapists, namely their movement and their experience of self-efficacy. It aims to highlight the importance of supervision, which can enhance dance/movement therapists' movement and psychological well-being in terms of self-efficacy. It also aims to study the relationship between certain movement measures and self-efficacy.

Supervision is known to be a process of learning, involving support and growth. It is considered essential in learning to function effectively as a therapist and involves professional training and building one's professional identity as a therapist (Watkins, 1997). The main goal of supervision is to help therapists build the skills for them to provide beneficial therapy (Young, 2012). In supervision involving both verbal and non-verbal approaches, the two aspects of experience and cognition are integrated to create a coherent whole (Hartley, 2004).

Dance movement/therapy (DMT) is based on the idea that there is a connection between motion and emotion (Payne, 1992). It assumes that movement patterns and body postures can reflect psychological patterns and that changes in either of these effects the other. DMT is a field that integrates theories, methods, and techniques from a variety of areas, including: psychotherapy (Weiner & Craighead, 2010); nonverbal communication (e.g. Davis, 1982); motor development; and developmental psychology (Kestenberg, 1975; Shahar-Levy, 2009). In order to understand visible movement in DMT, systems for movement observation (Laban, 1974; Shahar-Levy, 2009). This is an important tool that enables the classification of and interpretation of human movement.

One widely-used method of movement analysis is called "Epimotorics'." This conceptual model is based on a developmental, psychoanalytic approach to human emotive behavior,that interweaves the body, movement, and mind. It is and integrative, yet detailed and specific, tool that is used for movement analysis, psychophysical assessment, and DMT, and can be used for diagnostic purposes. The method involves a binary categorization of human psychophysical potentials, represented in the "Matrix of Binary Core-Potentials." When movement is observed, it can be recorded in this "Matrix," and the information can be analyzed, resulting in a movement profile reflective of the physical-emotional universe of the moving person. The Epimotorics' paradigm provides a theoretical framework for understanding this profile, which is influenced by the person's environment, in relation to the universal biological characteristics of emotive-motor behavior (Shahar-Levy 2017).

The movement measures in Epimotorics' reflect psychological-emotional states, whether on their own or in different combinations called "conglomerations" (Shahar-Levy, 2017). For example, indirect movement together with an inward direction can reflect a person's desire to move away from interaction with others.

The present study, besides for examining movement measures, also examines therapists' sense of self-efficacy. Self-efficacy (SE) is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events affecting their lives (Bandura, 1991). The present study is the first instance of examining therapists' movement and their sense of self-efficacy, in relation to a self-supervision model using Authentic Movement and Epimotorics'.

Research Design and Methodology

The present research is part of a larger study that explores the effects of the self-supervision model implementation. The current stage took place over the course of one academic year (2016-2017).

The study population included 12 participants from the Jerusalem, Israel region. All participants were newly-practicing therapists. They were divided into two equal groups: Six participants in the control group, DMT supervision with an experienced supervisor. The other six participants, in the study group, received supervision using the self-supervision model examined in the study. Three participants were males (25%) and nine were females (75%). Their ages ranged from 29 to 38 (M=32.75, SD=3.08). All of the participants hold a Master's degree (M.A).

Research methods: 1) Observation, which involved filming the participants' movement, before and after the implementation of the supervision. The movement was broken down into smaller paraphrases, and was coded and analyzed using the Epimotorics' method to assess certain movement measures. The Epimotorics' method is a statistically validated tool (Skrzypek, 2017) for movement-analysis developed by Shahar-Levy (2004), who herself helped to adapt the tool for use in the present study. The filmed movement was coded by two movement experts. The collected data was examined for inter-rater consistency, and was found to be reliable.

2) Questionnaires measured self-efficacy and were administered twice to both groups, before and after the implementation of the supervision. The questionnaire was developed by Chen & Gully (1997), and translated into Hebrew by Grant (1998). It consists of eight items, and was reported to have internal

consistency ranging between .76 and .90. The current research's internal consistency was found to be very good for the first measurement (before the implementation of the self-supervision model; α=.79). After the implementation there was a need to deduct a single item (number 8). Afterwards, the internal consistency was found to be identical to the above-mentioned (α=.79). Nevertheless, in order to compare both measurements, it was decided to deduct the same item in the 'before' measurement (α=.77).

Results

The current section will examine the research hypotheses regarding the assumed effects of the self-supervision model.
Prior to the examination, a series of Mann-Whitney tests were performed, in order to detect baseline differences between the study groups. Table 1 presents baseline differences between the study groups (control/self-supervision), in movement measures and self-efficacy.

Table 1. Baseline differences between the study groups (control/self-supervision) in movement indicators and self-efficacy

	Group						U	p
	Control (n=6)			Self-Supervision (n=6)				
	Mdn	Mean Rank	SD	Mdn	Mean Rank	SD		
Inward Movement	2.00	3.67	0.52	4.00	9.33	0.41	1.00	.004
Outward Movement	2.50	8.75	1.05	1.00	4.25	0.41	4.50	.02
Round Curved Shapes	2.50	6.50	0.55	2.50	6.50	1.05	18	1.00
Straight Linear Shapes	2.00	6.50	1.03	2.00	6.50	0.82	18	1.00
Horizontal Alignment Shapes	2.50	7.50	0.82	1.50	5.50	1.21	12	.31
Vertical Alignment Shapes	2.00	5.33	0.75	3.00	7.67	0.52	11	.21
Quick Movement	1.50	6.25	0.82	1.50	6.75	1.38	16.5	.80
Slow Movement	3.00	6.50	0.63	3.00	6.50	1.10	18	1.00
Fragmentary Movement	1.50	5.42	0.98	2.00	7.58	1.60	11.5	.28
Continuous Movement	2.50	6.25	0.82	2.50	6.75	1.05	16.5	.80
Indirect Movement	3.00	4.33	0.75	4.00	8.67	0.41	5.00	.023
Direct Movement	0.50	7.00	0.55	0.00	6.00	0.52	15.00	.58
Self-Efficacy	2.71	7.33	0.20	2.65	5.67	0.38	13.00	.41

As seen in Table 1, significant differences were found between the study groups regarding inward movement, outward movement, and indirect movement. The study group was found to be initially higher in inward and indirect movement, and lower on outward movement compared to the control group.

The first research hypothesis assumed that movement measures would change as a result of the implementation of the self-supervision model. The following changes were hypothesized: A decrease in inward movement, quick movement, fragmentary movement, and indirect movement after the implementation of the self-supervision model; and an increase in outward movement, round (curved) shapes, (straight) linear shapes, horizontal (alignment) shapes, continuous movement, vertical alignment shapes, slow movement, and direct movement.

In order to examine the above-mentioned hypotheses regarding changes in movement measures, a series of statistical analyses were performed. First, a series of Wilcoxon tests for dependent samples were performed for each of the study groups - in order to examine changes in the movement measures according to the time of measure (before and after). Table 2 presents the differences in the movement measures, before and after, within the control group. Table 3 presents the differences in the movement indicators, before and after, within the study group. Figure 1 presents the significant differences within the study group.

Table 2. Wilcoxon test for dependent samples, control group (N=6)

Movement Measure	**Z**	***P* - value**	**Time**	**Median**	**SD**
Inward Movement	-1.00	.32	Before	2.00	0.52
			After	2.00	0.75
Outward Movement	-1.73	.08	Before	2.50	1.05
			After	2.00	0.89
Round Curved Shapes	0.00	1.00	Before	2.50	0.55
			After	2.50	0.55
Straight Linear Lines	-1.41	.16	Before	2.00	1.03
			After	1.50	0.82
Horizontal Alignment Shapes	-1.41	.16	Before	2.50	0.82
			After	2.00	0.63
Vertical Alignment Shapes	-0.58	.56	Before	2.00	0.75
			After	2.00	0.63
Quick Movement	0.00	1.00	Before	1.50	0.82
			After	1.00	1.37

Movement Measure	Z	*P* - value	Time	Median	SD
Slow Movement	-0.58	.56	Before	3.00	0.63
			After	3.00	0.41
Fragmentary Movement	-1.00	.32	Before	1.50	0.98
			After	1.50	1.21
Continuous Movement	-1.00	.32	Before	2.50	0.82
			After	2.00	0.75
Indirect Movement	-1.73	.08	Before	3.00	0.75
			After	2.50	0.82
Direct Movement	-0.58	.56	Before	0.50	0.55
			After	0.00	0.52

Table 3. Wilcoxon test for dependent samples, study group (N=6)

Movement Measure	Z	*P* - value	Time	Median	SD
Inward Movement	-1.84	.07	Before	4.00	0.41
			After	2.50	1.05
Outward Movement	-2.25	.02	Before	1.00	0.41
			After	4.00	0.52
Round Curved Shapes	-1.73	.08	Before	2.50	1.05
			After	3.50	0.55
Straight Linear Lines	-1.34	.18	Before	2.00	0.82
			After	2.00	0.51
Horizontal Alignment Shapes	-1.86	.06	Before	1.50	1.21
			After	3.00	0.52
Vertical Alignment Shapes	-0.58	.56	Before	3.00	0.52
			After	3.00	0.41
Quick Movement	-1.34	.18	Before	1.50	1.38
			After	2.00	0.89
Slow Movement	-0.41	.68	Before	3.00	1.10
			After	3.00	0.75
Fragmentary Movement	-2.06	.04	Before	2.00	1.60
			After	0.00	0.84
Continuous Movement	-1.89	.059	Before	2.50	1.05
			After	4.00	0.42
Indirect Movement	-2.04	.04	Before	4.00	0.41
			After	2.50	0.82
Direct Movement	-2.26	.02	Before	0.00	0.52
			After	3.00	0.52

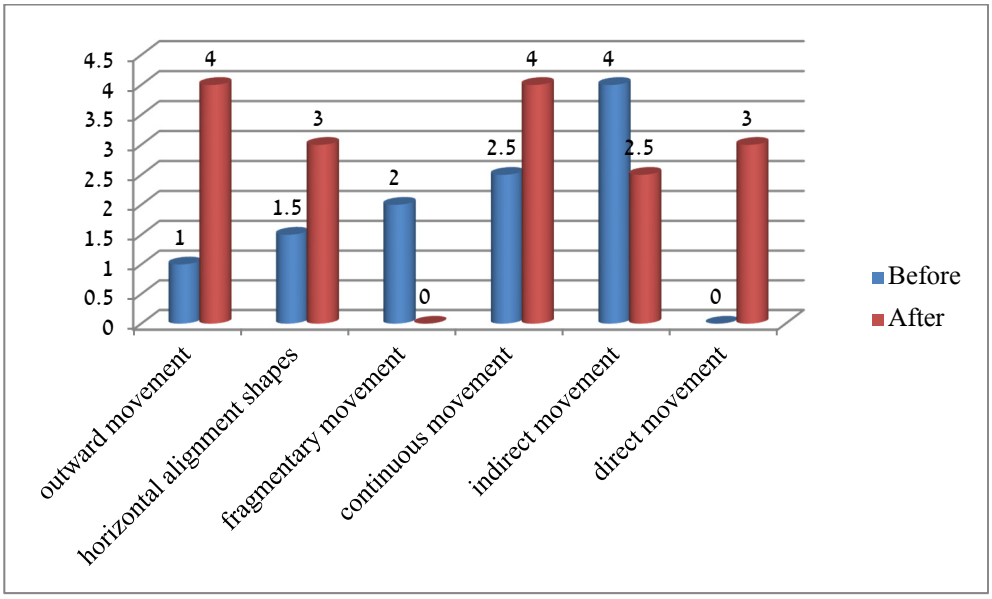

Figure 1. Movement indicators, significant differences within the study group

As seen in Table 2, no significant differences were found amongst the control group between the two measures. Table 3, on the other hand, presents ranking differences in movement measures after the implementation of the self-supervision model amongst the study group. Outward movement and direct movement increased significantly after the implantation of the self-supervision model, whereas fragmentary movement decreased significantly. In addition, horizontal alignment shapes and continuous movement increased, with marginally significant results.

After establishing the existence of significant differences and the lack of differences within each group, a series of Mann-Whitney tests were performed in order to examine the differences between the study groups during the second measurement (after the implementation of the self-supervision model).

Table 4 presents the differences in movement measures between the study groups (control/self-supervision), after the implementation of the self-supervision model. Figure 2 presents the between-groups movement measures significant differences, after the self-supervision model implementation.

Table 4. Differences in movement measures between the study groups (control/self-supervision), after the implementation of the self-supervision model

	Group						U	p
	Control (n=6)			Self-Supervision (n=6)				
	Mdn	Mean Rank	SD	Mdn	Mean Rank	SD		
Inward Movement	2.00	5.92	0.75	2.50	7.08	1.05	14.50	.55
Outward Movement	2.00	3.83	0.89	4.00	9.17	0.52	2.00	.008
Round Curved Shapes	2.50	4.25	0.55	3.50	8.75	0.55	4.50	.019
Straight Linear Shapes	1.50	4.75	0.82	2.00	8.25	0.41	7.50	.045
Horizontal Alignment Shapes	2.00	3.83	0.63	3.00	9.17	0.52	2.00	.007
Vertical Alignment Shapes	2.00	4.42	0.63	3.00	8.58	0.41	5.50	.026
Quick Movement	1.00	5.50	1.37	2.00	7.50	0.89	12.00	.32
Slow Movement	3.00	6.58	0.41	3.00	6.42	0.75	17.50	.92
Fragmentary Movement	1.50	7.75	1.21	0.00	5.25	0.84	10.50	.20
Continuous Movement	2.00	3.83	0.75	4.00	9.17	0.52	2.00	.007
Indirect Movement	2.50	6.50	0.82	2.50	6.50	0.82	18.00	1.00
Direct Movement	0.00	3.50	0.52	3.00	9.50	0.52	0.00	.003

As seen in Table 4, significant differences were found between the groups for outward movement, round curved shapes, straight linear shapes, horizontal alignment shapes, vertical alignment shapes, continuous movement, and direct movement – all of which were higher for the study group compared with the control group. In conclusion, the first hypothesis was partially affirmed.

The second research hypothesis assumed that the self-supervision model would enhance the self-efficacy of novice dance movement therapists. Due to the lack of differences between the study groups baselines (as shown in Table 1), in order to examine the hypothesis, a series of Wilcoxon tests for dependent samples were performed for each of the study groups - in order to examine changes in self-efficacy according to the time of measure (before and after the implementation of the self-supervision model).

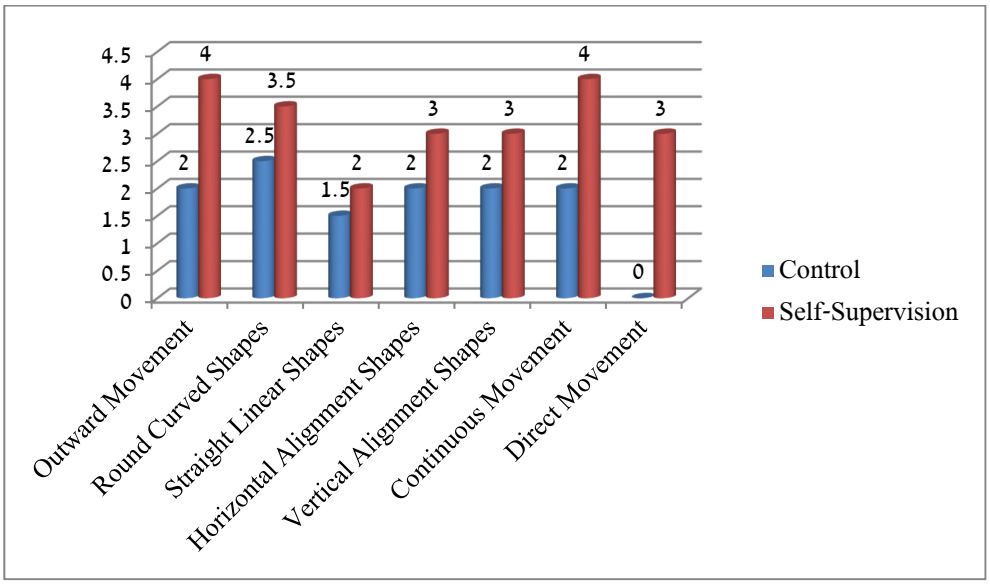

Figure 2. Between-groups movement indicators significant differences, after the self-supervision model implementation

No significant differences in self-efficacy were found amongst the control group (Z = -0.41, p = .68). On the other hand, marginal significant differences were found amongst the study group (Z = -1.75, p = .08). After the implementation of the self-supervision model (Md = 2.64, SD = 0.38) the level of self-efficacy was higher compared to before the implementation (Md = 2.56, SD = 0.38). Therefore, the second hypothesis has been fully affirmed.

Discussion

According to the Epimotorics' method and as demonstrated in other studies (Federman. 2011; Kleinfeld. 2013; Kołoło et al. 2012; Feniger-Schaal & Lotan, 2017) movement measures can be reflective of psychological parameters.

As discussed above, combinations of movement patterns can reflect certain psychological states or shifts. The following combination was found in the present study: A decrease in inward movement and increase in outward movement, together with an increase in horizontal shapes and direct movement. This combination of movement qualities reflects a greater sense of confidence and presence, as well as an interest in others and a desire to connect (Shahar-

Levy, 2004). The combination of an increase in continuous movement and outward movement together with a decrease in fragmentary movement can point to enhanced self-worth, body-image, and a sense of legitimization experienced by participants (Shahar-Levy, 2004; Laban, 1974).

There were initial differences present between the control group and the study group, in the movement qualities of inward movement, outward movement, and indirect movement. These differences can perhaps be explained in light of the fact that the study group included religiously observant men and women, who hold by a religious prohibition against touching members of the opposite sex. This fact likely caused a greater presence of the measures of inward movement and indirect movement and a decrease in outward movement, because of the cultural influence of avoiding touch between the sexes.

The fact that in the control group significant differences were not found between the two before-and-after measurements, while in the study groups significant differences were found after the intervention, can testify to the beneficial impact of the self-supervision model examined in this study.

If the movement measures are contemplated through the perspective of the binary paradigm of the Epimotorics', then one must contemplate them in terms of pairs of measures, and not in terms of single, stand-alone measures (Shahar-Levy, 2017). In this framework, as can be seen in Table 5, changes occurred in five out of the six pairs of movement measures. The facts that changes occurred in one side of the binary pair points to an influence on the other side of it as well (Shahar-Levy, 2017). In light of this perspective, one can relate to the hypothesis as having been confirmed. The confirmation of the second hypothesis in a significant manner strengthens this way of relating to it and to the clear results of the model's beneficial impact on the therapists, in general, and specifically on the young therapists' sense of self-efficacy. This is similar to results from a study by Kleinfeld (2013) that found that the use of movement increases one's revealed and hidden sense of self-worth.

Among the control group, self-efficacy did not change. In the experimental group, participants' SE showed marginally significant positive change after the training in the self-supervision model, which may indicate that Self-Efficacy was positively affected by the training. Kololo et al. (2012) also found that self-efficacy, self-esteem, and body-image were associated with physical activity.

Table 5. Pairs of Binary Movement Measure – Hypothesis and Results

Hypothesis	Movement Measure	Verification of Hypothesis		Movement Measure	Hypothesis
⇧	Outward Movement	☆	☆	Inward Movement	⇩
⇧	Straight Linear Shapes	☆		Round Curved Shapes	
	Vertical Alignment Shapes		☆	Horizontal Alignment Shapes	⇧
	Slow Movement			Quick Movement	
⇧	Continuous Movement	☆	☆	Fragmentary Movement	⇩
⇧	Direct Movement	☆		Indirect Movement	

Decrease in movement measure = ⇩
Increase in movement measure = ⇧
Results that verified the hypothesis = ☆

Although the number of participants in this study is small, there has been precedent for research with small sample sizes (e.g. Wiedenhofer, Hofinger, Wagner, & Koch, 2016). Widenhofer & Koch (2017) argue that smaller samples frequently reflect effects that would be present in larger groups, as well.

Conclusions

This study aimed to produce findings regarding the effects of a unique self-supervision model on novice dance/movement therapists. The findings show a clear impact of the training in the self-supervision model on the participants in the areas of self-efficacy and enhanced movement qualities. The movement measures that showed significant change in the study are movement qualities that reflect attitudes of attachment and empathic connection, as well as confidence and presence (Shahar-Levy, 2017). This may point to the

ability of the supervision model to enhance therapists' skills in these areas – skills crucial to successful therapy.

It appears probable that the self-supervision model integrating verbal and non-verbal/movement expressions allows for the use of knowledge stored in the body and the integration of this knowledge into cognitive, verbal knowledge. In this way, it seems to improve the therapist's skills, and the therapist's experience of his own skills in terms of professional ability. Supervision in the field of DMT may benefit from incorporating aspects of this self-supervision model, namely the intentional and structured use of verbal and non-verbal tools.

This study examined the impact of the self-supervision model on therapists and their sense of self-efficacy, with the results suggesting that the movement measures that improved were associated with improved self-efficacy. In light of this, the movement measures that were responsive in the present study could be incorporated into further research examining how physical activity incorporating these movement qualities impact emotional/psychological states.

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