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THE CONTRIBUTION OF A UNIQUE SUPERVISORY MODEL TO NOVICE DANCE/MOVEMENT THERAPISTS

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Abstract

Problem Statement: This pilot study aimed to demonstrate the link between a unique self-supervision model and changes in movement. It is part of a larger study examining the connection between movement measures and emotional intelligence and self-efficacy.
Purpose: The self-supervision model combines Authentic Movement and Epimotorics,' a tool for movement observation and analysis. We examine the model's impact on novice dance/movement therapists, measuring movement abilities, emotional intelligence, and self-efficacy. We also examine the relationship between the movement and these psychological measures.
Methods: The group included dance/movement therapists or those integrating body-movement perspectives in their work. Video recordings captured movement before and after the supervision model training. Analysis of movement measures was informed by Epimotorics'.
Findings and results: The results show that some movement parameters were affected more than others. Of 44 measures examined, 12 showed significant changes, e.g. Round curved shaped ($Z = -2.24$, $p < .05$; $Mdn_{pre}=1.00$, $Mdn_{post}=3.00$).
Discussion: These results, significant unto themselves, led to refining the movement parameters for the continued research. They indicated a need for a more specific tool, in order to cross-check the movement parameters with emotional intelligence and self-efficacy questionnaires. If the larger study demonstrates a correlation between these, we can hypothesize that the impact on the relatively small sample would also be present in larger samples.
Conclusion: The correlation tested could lead to a breakthrough wherein movement measures may reveal information about emotional intelligence and self-efficacy and vice versa: Questionnaires on emotional intelligence and self-efficacy could provide information about one's movement.

Keywords: Dance/movement therapy, movement parameters, emotional intelligence, self-efficacy, nonverbal knowledge.

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1. Introduction

This article presents findings from the pilot study of a doctoral research study in the field of dance/movement therapy. The research seeks to demonstrate the relationship between a unique self-supervision model and changes in movement.

Literature from the past few years has discussed dance as a multisensory experience that provides a "more complete mode of self-expression than speech or writing" (Hanna, 1995). Dance addresses the person on several levels, namely at the bodily, emotional, cognitive, and cultural levels. Dance supplies us with ways of feeling our physical self and detecting solutions for problems in everyday life (Hanna, 2006). Our body posture and the way we move, affects how we perceive the world around us and how we feel, which is continuously being uncovered by the growing research in the field of embodiment (Fuchs & Koch, 2014; Koch, 2011, 2013, 2014; Koch, Morlinghaus & Fuchs, 2007).

Recently, research in this area of supervision has examined the effects of supervision on dance/movement therapy students and therapists. These studies can be divided into two main categories: Those that examine the effects of using verbal language to relate to movement on psychological indicators, such as emotional intelligence and self-efficacy (Wiedenhofer & Koch, 2017) and those that study the effects of movement and dance use on body/movement indicators that reflect dynamic psychological dimensions (Federman, 2001; Ko, 2014). Models are lacking for supervision and research that integrate these two positions (Shalem-Zafari & Grosu, 2016).

This study aims to demonstrate the connection between a unique self-supervision model and changes in movement. It utilizes a tool called Epimotorics', which is an approach that provides a solid basis for movement analysis (Specktor, 2015; Skrzypek, 2017). This pilot is part of the larger study examining the effects of this new self-supervision model on movement indicators. The larger study will examine the changes in movement, as well as the relationship between the movement indicators and emotional intelligence and self-efficacy.

The current study is based on a workshop given at the Seventh Annual Expressive Arts Therapies Summit in 2016 in New York City. The workshop was based on this self-supervision model. The present study rests upon two important theories in dance/movement therapy: Authentic Movement (Payne, 2008; Whitehouse, 2000) and the Epimotorics` (Shahar-Levy, 1996, 2004, 2012, 2015; Specktor, 2015; Skrzypek, 2017). Both theoretical approaches relate to the mutual influence between words (cognition) and movement (emotion); this reciprocal relationship is a central concept in dance/movement therapy.

2. Problem Statement

The pilot study is based on a short-term intervention**.** Other studies in the dance/movement therapy literature have provided precedent for studies that discuss a single event, such as Koch, Morlinghaus, & Fuchs (2007), who studied the specific effects of a single meeting with a depressed psychiatric patient. Another example is a study by Koch et al. (2016) about a one-time intervention using tango dance for people with Parkinson's, evaluating psychological changes related to the intervention.

Clearly the number of participants in such a study is small. However, there are studies in the literature with a small number of participants; these include a study by Wiedenhofer, Hofinger, Wagner, & Koch (2016) with 6 participants, examining health effects of non-goal-orientation in movement. Widenhofer & Koch

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(2017) write about ways of utilizing a small sample size. They argue that when research demonstrates the occurrence of certain effects in a smaller sample group, one can frequently assume that similar effects will be present in larger sample sizes, as well.

3. Research Questions

3.1. The broader research question

In what ways does the self-supervision model facilitate dance/movement therapists' movement ability, emotional intelligence, and self-efficacy?

3.2. Research question of the pilot study

In the pilot study, we examine which movement indicators are affected by the use of the self-supervision model, and how they are affected.

4. Purpose of the Study

4.1. General research goal

The general research goal of the larger study is to develop a model of self-supervision based on Authentic Movement and Epimotorics` movement analysis.

Subsidiary research aims:

- To examine the influence of a self-supervision model, integrating Authentic Movement and Epimotorics` movement analysis, on novice dance movement therapists' movement ability, emotional intelligence, and self-efficacy.
- To examine the relationship between the movement and these psychological measures, i.e. emotional intelligence and self-efficacy.

4.2. Purpose of the pilot study

The goal of this pilot study is to provide preliminary findings regarding the development of the self-supervision model based on Authentic Movement and Epimotorics', while addressing the model's ability to cause changes in the movement indicators. These indicators may predict a relationship between ways of moving and emotional intelligence and self-efficacy.

5. Research Methods

This research employed quantitative tools. The pilot study used filmed video recordings of the supervision workshop participants. The recordings filmed the participants' movement before and after the training in the self-supervision model. The filmed movement was analysed using the Epimotorics' movement analysis tool.

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5.1. Research population

The group included six participants: Four dance/movement therapists, one clinical psychologist who integrates body/movement perspectives, and one music therapist who relates to the use of body/movement while clients are creating music during therapy.

6. Findings

The current research's motives are to provide preliminary findings regarding the development of the self-supervision model, which is based on Authentic Movement and Epimotorics', as well as its ability to generate changes in movement indicators. The coming chapter will initially present descriptive statistics regarding the movement indicators, as ranked before and after the implementation of the abovementioned model. Afterwards, the statistical examination of the research hypotheses about the broadening of usage and actualization of the movement indicators due to the implementation of the self-supervision model will be presented.

6.1. Descriptive statistics

In order to examine the means and standard deviations of the research variables, a calculative transformation was conducted. Therefore, the movement indicators were ranked as followed: "0" = dormant, "1" = actualization potential, "2" = partial actualization, and "3" = complete actualization. For means and standard deviations, view table number 2.

Table 01. Means, standard deviation and range for movement parameters (N=6)

		Before				After			
		M	SD	Min	Max	M	SD	Min	Max
1.	No Muscle Contraction	2.00	0.00	2.00	2.00	2.17	0.41	2.00	3.00
2.	Muscle Contraction	2.00	0.89	1.00	3.00	2.80	0.45	2.00	3.00
3.	Motor Flow	1.83	0.98	1.00	3.00	2.17	0.75	1.00	3.00
4.	Motor Inhibition	2.75	0.50	2.00	3.00	2.83	0.41	2.00	3.00
5.	Weightiness	2.17	0.75	1.00	3.00	1.50	0.55	1.00	2.00
6.	Forcefulness	1.83	1.17	0.00	3.00	2.60	0.55	2.00	3.00
7.	Low Intensity	2.00	0.71	1.00	3.00	1.83	0.41	1.00	2.00
8.	High Intensity	2.00	0.89	1.00	3.00	2.60	0.55	2.00	3.00
9.	Pro Gravity Alignment	1.80	0.84	1.00	3.00	0.83	0.75	0.00	2.00
10.	Counter Gravity Alignment	2.20	0.84	1.00	3.00	2.75	0.50	2.00	3.00
11.	Inward Movement	2.83	0.41	2.00	3.00	1.00	0.00	1.00	1.00
12.	Outward Movement	1.00	0.00	1.00	1.00	3.00	0.00	3.00	3.00
13.	Trunk Activation	1.67	0.52	1.00	2.00	1.67	0.52	1.00	2.00
14.	Limbs Activation	2.50	0.55	2.00	3.00	3.00	0.00	3.00	3.00

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15.	Flexion	2.33	0.82	1.00	3.00	2.00	0.63	1.00	3.00
16.	Extension	2.17	0.75	1.00	3.00	2.83	0.41	2.00	3.00
17.	Round Curved Shapes	1.00	0.00	1.00	1.00	3.00	0.00	3.00	3.00
18.	Straight Linear Shapes	0.50	0.55	0.00	1.00	3.00	0.00	3.00	3.00
19.	Symmetry	2.75	0.50	2.00	3.00	2.67	0.52	2.00	3.00
20.	Asymmetry	0.67	0.82	0.00	2.00	1.00	0.00	1.00	1.00
21.	Vibration Wavy Movement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.	Ballistic Projective Movement	0.33	0.52	0.00	1.00	0.50	0.55	0.00	1.00
23.	Rotation	1.83	0.75	1.00	3.00	1.83	0.75	1.00	3.00
24.	Regulated Progression	1.83	0.75	1.00	3.00	2.50	0.55	2.00	3.00
25.	Bi-Directional	2.20	0.84	1.00	3.00	2.67	0.52	2.00	3.00
26.	Uni-Directional	1.67	0.82	1.00	3.00	2.33	0.52	2.00	3.00
27.	Small Range	2.17	0.75	1.00	3.00	1.83	1.17	0.00	3.00
28.	Wide Range	1.67	1.21	0.00	3.00	2.67	0.52	2.00	3.00
29.	Horizontal Alignment Shapes	0.80	0.55	0.00	1.00	3.00	0.00	3.00	3.00
30.	Vertical Alignment Shapes	0.75	0.50	0.00	1.00	3.00	0.00	3.00	3.00
31.	Quick Movement	0.83	0.41	0.00	1.00	3.00	0.00	3.00	3.00
32.	Slow Movement	2.25	0.96	1.00	3.00	2.83	0.41	2.00	3.00
33.	Fragmented Movement	1.00	1.41	0.00	3.00	2.50	1.23	0.00	3.00
34.	Continuous Movement	2.00	1.16	1.00	3.00	3.00	0.00	3.00	3.00
35.	Oscillation Shifts	1.00	0.82	0.00	2.00	2.33	0.52	2.00	3.00
36.	Fixation	1.00	0.63	0.00	2.00	1.33	1.82	1.00	3.00
37.	Repetition	2.00	0.00	2.00	2.00	2.33	0.52	2.00	3.00
38.	Modulation Variation	1.83	0.75	1.00	3.00	2.33	0.52	2.00	3.00
39.	No Differentiation	1.33	0.82	0.00	2.00	1.83	0.75	1.00	3.00
40.	Differentiation	2.17	0.41	2.00	3.00	2.50	0.55	2.00	3.00
41.	Indirect Movement	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
42.	Direct Movement	0.17	0.41	0.00	1.00	3.00	0.00	3.00	3.00
43.	Diffused Attention	2.33	0.82	1.00	3.00	2.33	0.52	2.00	3.00
44.	Focused Attention	2.00	0.63	1.00	3.00	2.50	0.55	2.00	3.00

From the presented data, it is noticeable that regardless of the baseline score, eight movement indicators were completely actualized after the implementation the of self-supervision model. Those indicators are: Outward movement, Round curved shapes, Straight linear shapes, Horizontal alignment

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shapes, Vertical alignment shapes, Quick movement, Continuous movement, and the Direct movement parameter.

6.2. Research hypothesis examination

The research hypothesis was that compared to the baseline measurement, after implementing the self-supervision model which is based on Authentic Movement and Epimotorics', the movement indicators will change significantly. Because the data were derived from a small sample, a Wilcoxon Signed-Ranks Test was performed. The results indicated that post-implementation scores were statistically significantly higher than pre-implementation scores for Outward movement (Z = -2.45, p < .05 ; Mdn_{pre}= 1.00 , Mdn_{post} = 3.00), Extension (Z = -2.45, p < .05 ; Mdn_{pre} = 2.00 , Mdn_{post} = 3.00), Round curved shapes (Z = -2.24, p < .05 ; Mdn_{pre} = 1.00 , Mdn_{post} = 3.00), Straight linear shapes (Z = -2.25, p < .05 ; Mdn_{pre} = 0.50 , Mdn_{post} = 3.00), Regulated progression (Z = -2.00, p < .05 ; Mdn_{pre} = 2.00 , Mdn_{post} = 2.50), Horizontal alignment shapes (Z = -2.12, p < .05 ; Mdn_{pre} = 1.00 , Mdn_{post} = 3.00), Quick movement (Z = -2.33, p < .05 ; Mdn_{pre} = 1.00 , Mdn_{post} = 3.00), and Direct movement (Z = -2.33, p < .05 ; Mdn_{pre} = 0.00 , Mdn_{post} = 3.00). Furthermore, the Wilcoxon Signed-Ranks Test indicated that pre-implementation scores were statistically significantly higher than post-implementation scores for Pro-gravity alignment (Z = -2.00, p < .05 ; Mdn_{pre} = 2.00 , Mdn_{post} = 1.00), and Inward movement (Z = -2.33, p < .05 ; Mdn_{pre} = 3.00 , Mdn_{post} = 1.00) (graph 1). In addition, four Wilcoxon Signed-Ranks Tests indicated that post-implementation scores were statistically marginally significantly higher than pre-implementation scores for muscle contraction (Z = -1.89, p = .059 ; Mdn_{pre} = 2.00 , Mdn_{post} = 3.00), Wide range (Z = -1.89, p = .059 ; Mdn_{pre} = 1.50 , Mdn_{post} = 3.00), Vertical alignment (Z = -1.89, p = .059 ; Mdn_{pre} = 1.00 , Mdn_{post} = 3.00), and Oscillation shifts (Z = -1.89, p = .059 ; Mdn_{pre} = 1.00 , Mdn_{post} = 2.00).

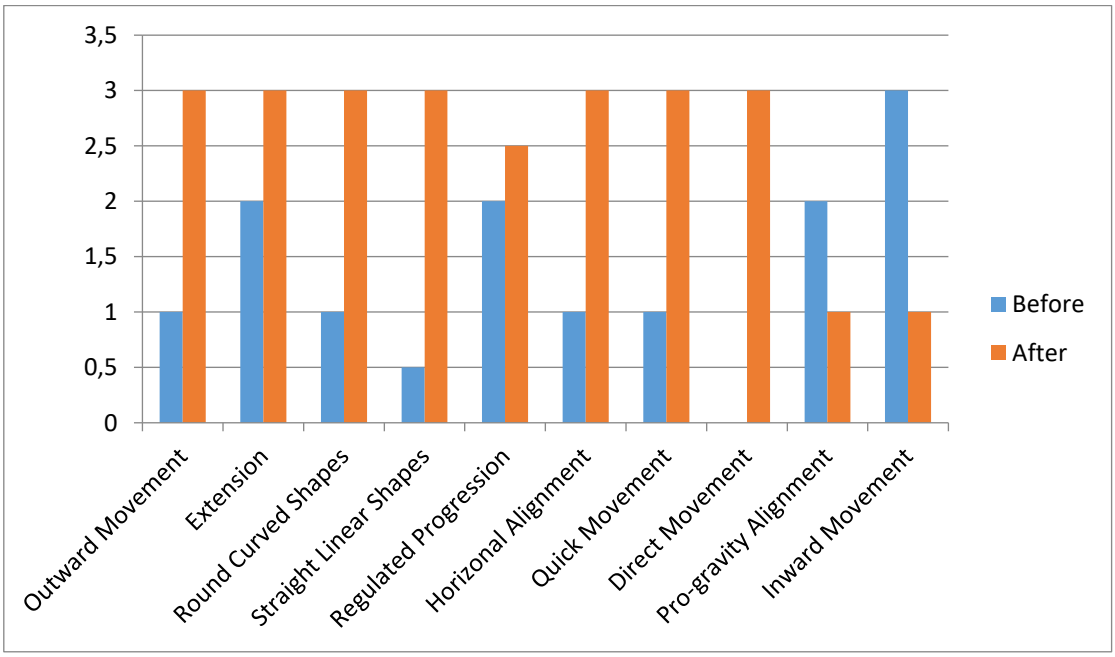

Figure 01. Median differences in movement parameters, before and after the implementation of the self-supervision model.

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6.2.1 Examining the prevalence of 'extreme actualization'

It should be noted that during the examination of the data before the abovementioned statistical transformation, it was found that more than 30% of the participants were possessing extreme actualization *prior* to the implementation of the model, in 9 movement indicators: Motor Inhibition, Symmetry, Vertical Alignment, Slow Movement, Fragmentary Movement, Continuous Movement, Oscillation Shifts, Repetition, Indirect Movement. In addition, it was found that regarding the Counter Gravity Alignment indicator, more than 30% possessed extreme actualization *after* the implementation of the model.

In addition, of the indicators that were just mentioned, 83% of the participants were found to extremely actualize the Indirect Movement indicator *prior* to the implementation of the model, while one participant was ranked as lacking actualization ("0"). With that being said, after the implementation of the model, every participant had an actualization potential ("1").

6.3 Findings summary

The results show that some movement parameters were affected more than others. Of the 44 measures examined, 14 were statistically different after the implementation of the model. 2 of them were lower after the implementation, and the rest were higher. Of those that were higher after the implementation, 8 were significantly different, and 4 were marginally significant. One indicator, the Vibration Wavy Movement, was found to be difficult to detect though video. Two indicators remained after the implementation as they were before it (Rotation and Trunk Activation**).**

7. Conclusion

7.1. Discussion

Much of these findings can be explained by examining the movement indicators in the context of the psychological content they reflect; this perspective views movement as a nonverbal language expressing meaningful information, which cannot and should not be overlooked. In this study, the motoric parameters that demonstrated significant changes are, according to psychological movement analysis tools (Shahar-Levy, 2015; Feniger-Schaal & Lotan, 2017), parameters related to attachment and connection. Thus changes in this movement area would reflect changes in the areas of attachment and connection. In order to more thoroughly establish this connection between the nonverbal information expressed by the body and its movement with verbal information, further research is necessary. (The doctoral research that this pilot study is a part of examines these connections by cross-examining movement information with emotional intelligence and self-efficacy questionnaires).

It appears quite clear that the self-supervision model affected the participants' movement. We can relate to the movement indicators in which a significant change was present after using the self-supervision model as movement indicators that react significantly to the use of the self-supervision model (including 4 that had marginal significance). These indicators should be examined further in the context of psychological indicators, in order to understand the effects of this new self-supervision model on therapists. In light of the fact that, among the 44 indicators, 12 had a higher score after implementing the model (indicators 2, 12, 16, 17, 18, 24, 28, 29, 30, 31, 35,42), and 2 had a lower score after implementing the model (indicators 9

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and 11), it appears important to examine both increase and decrease in movement potential actualization in the context of the psychological parameters. Additionally, there are indicators that did not lend themselves to examination through this method, e.g. Vibration Wavy Movement.

7.2. Conclusion

This pilot study aimed to produce preliminary 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 workshop participants; the findings also provide direction for greater specification of the study's parameters. Further research aims to examine the correlations between the movement indicators and psychological measures, to assess the effects of the self-supervision model. The correlations tested in this research could lead to a breakthrough wherein movement indicators may reveal information about emotional intelligence and self-efficacy, and vice versa: Questionnaires on emotional intelligence and self-efficacy could provide information about one's movement.

One of the most important things required of a therapist is the ability to create connection. The fact that the motor parameters that changed significantly in this study are reflective of attachment and connection quality may point to the supervision model's ability to enhance therapist's skills in this area.

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