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The Anthroposophic Artistic Movement Assessment for Eurythmy Therapy (AART-ASSESS-EuMove). A validation study

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ABSTRACT

Objective: Eurythmy Therapy (ET) is a mindfulness oriented therapy developed in the context of anthroposophic medicine. Despite commonly used in practice, it remains unclear whether active participation (*Inner Correspondence*) during ET can be observed in eurythmy gestures (EGest). So far, no validated peer-report instrument to evaluate EGest exists.

Method: To validate an 83-item ET peer-report scale, a nested study on a sample of n = 82 breast cancer survivors with cancer-related fatigue was conducted. EGest were evaluated twice, at baseline and at 10-week follow-up, by peer-reports from two separate therapists. Interrater-reliability (IRR) was estimated by Cohen's weighted kappa (κ_w) across all items. Additionally, reliability-(RA) and principal component analyses (PCA) were conducted. Patients completed two self-report scales: Satisfaction with ET (SET) and *Inner Correspondence* with the Movement Therapy (ICPH).

Results: IRR was greater than or equal ($\kappa_w \geq 0.25$) for 41 items (49.3%) with a mean weighted kappa of $\bar{\kappa}_w = 0.40$ (*SD* = 0.17, range = 0.25–0.85). RA resulted in the exclusion of 25 items with insufficient item-total correlations < 0.40. A PCA with 16 items revealed 3 subscales: 1. *Mindfulness in Movement* (8 items), 2. *Motor Skills* (5 items), 3. *Walking Pattern* (3items) explaining 63.86% of total variance. Internal consistency (Cronbach's alpha) was high for the sum score with $\alpha = 0.89$ and for the subscales with $\alpha = 0.88$, 0.86 and 0.84 respectively. Significant small to moderate subscale correlations were found ranging from $r = 0.29$–0.63 (all $p < 0.01$). *Mindfulness in Movement* correlated with *Inner Correspondence* ($r = 0.32$) and with *Satisfaction with ET* ($r = -0.25$, both $p < 0.05$).

Conclusions: The new AART-ASSESS-EuMove is the first consistent and reliable peer-report instrument to evaluate EGest. It shows associations between peer-reported *Mindful Movement* and patients' self-reported ICPH and SET.

1. Introduction

Eurythmy Therapy (ET) is a mindfulness therapy commonly applied in Anthroposophic Medicine (AM) [1]. Firstly introduced by Rudolf Steiner from 1912 to 1921 as therapeutical concept [2,3], ET was further developed by Ita Wegman, Margarete Kirchner-Bockholt and Hilma Walter [4–6]. ET is widely implemented in anthroposophic in- and outpatient settings to treat a large number of chronic conditions such as cancer-related fatigue (CRF) in breast cancer patients [7]. Conducted in single- or group settings, in ET sound qualities are expressed through specific single movements-, movement sequences- and sound expressions (eurythmy gestures). According to Rudolf Steiner, ET combines

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spiritual elements, psychological dimensions, vitality and the activity of the organism [8,5]. Additionally, he suggested that three qualitative elements inherent in every human *movement*, *feeling* and *character* gain visibility during eurythmy practice [9]. The archetypical eurythmic exercise always consists of a triad, the pure physical movement, the muscle tension and the feeling for the movement while moving. None of the elements appear in isolation, instead all three elements determine the execution of the exercise together [9].

The term *movement* refers to the dynamic qualities of the movement. The term *character* describes the intensity of muscle tension during movement. The third element: *feeling* defines the perception of the archetypical eurythmy gesture in which the practitioner immerses him/herself during the mindfulness practice [9,2]. Comparable to other therapeutic processes presumptions of the eurythmy therapist can influence the evaluation of the eurythmy gestures, therapists are motivated to self-reflect and thus avoid projections that potentially could bias the evaluation of the eurythmy gesture [10].

Recently, ET is gaining attention due to its various effects on health related- and psychological dimensions. Two systematic reviews summarized non-randomized ET-studies and describe positive treatment effects with varying effect sizes for different patient groups [11,1]. Effects have been found to improve health-related quality of life and stress in moderately stressed adults [12]. Other studies found anxiety- and depression reductions in healthy adults [13 14]. Improved self-regulation (SR) and autonomic regulation (aR) in patients with essential arterial hypertension [15] as well as increased fatigue scores in healthy individuals [16]. A recently published German randomized controlled trial (the YES study) compared the effects of ET to Yoga and physiotherapy in individuals with chronic lower back pain. ET was comparably effective to Yoga and physiotherapy in the reduction of pain (assessed with the Roland-Morris "physical disability" scale) after 8-weeks, but exploratively superior to physiotherapy at 16-weeks follow-up regarding patients' mental health-related quality of life dimension of the SF12 [17]. Currently two other RCTs are underway. A Swiss RCT examines the effects of ET on fatigue compared to slow movement fitness in a sample of metastatic women with cancer and CRF [18]. And a German study ENTAiER (Tai Chi and Eurythmy therapy in fall prevention) that investigates the effects of mindful movement exercises on mobility, balance, quality of life and frequency of fall in elderly patients with chronic diseases and an increased risk of falling [19].

Despite increasing popularity and some evidence of ET used as either stand-alone- or multimodal interventions [20] little is known about the mechanism of ET and how repeated slow movement-, gesture- or sound exercises can influence the brain physiology. Several studies in the field of neuroscience suggest that repeated mindfulness practice (e.g. mindfulness meditation, yoga or tai chi) impact the gray matter density in the brain's amygdala, a region in the brain related to stress and anxiety [21]. Though no formal evidence on ET and its effects on the brain neurology exists, first results indicate that ET might have a comparable mindfulness impact regarding the reduction of anxiety [14], stress [12,22] and improved heart rate variability [23]. Comparable to other therapeutic interventions, during mindfulness practice an active inner participation (inner correspondence) while conducting the exercise is suggested to correlate with a positive outcome of the therapy. A study by Büssing et al. (2011) that introduced a self-report scale for "Inner Correspondence with the mindfulness practice" showed that higher levels of life satisfaction and mindfulness are associated with more active participation in the mindfulness practice [24]. The purpose of the study is to introduce a peer-report questionnaire for eurythmy therapists to objectively measures movement-, sound and gesture expression during ET. Additionally, we were interested to understand whether precise observations of mindfulness-oriented eurythmy gestures are correlated with patient's self-reported active inner participation and thus have an impact on clinical outcome.

A peer-report questionnaire for eurythmy therapists was developed and validated to evaluate movement-, sound- and gesture expression during ET and its underlying theoretical principles: *movement*, *feeling* & *character*.

2. Methods and procedure

2.1. Ethics and framework of the study

This first version of the 'The Anthroposophic Artistic Movement Assessment for Eurythmy Therapy (AART-ASSESS-EuMove)'[25] was validated in the framework of a 3-center comprehensive cohort design study for women with breast cancer and CRF in Germany (Berlin, Hannover and Witten/Herdecke). The original study was designed to test the effectiveness of two multimodal therapies compared to aerobic therapy to improve CRF/sleep quality [20]. The Multimodal therapy (MT) contained Sleep Education, Psychoeducation, Anthroposophic Painting Therapy and Eurythmy Therapy. The combination Therapy (CT) consisted of all four elements of MT with additional aerobic training. The study was operated according to the Declaration of Helsinki Guidelines and approved by the local ethics committees, subject to GCP-conform on-site monitoring and registered in the German Clinical trial register (DRKS-ID: DRKS00003736). All patients read the study information and provided written informed consent.

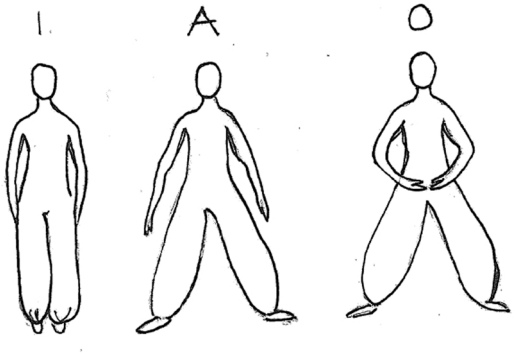
3. Procedure

3.1. Development of the 'The Anthroposophic Artistic Movment Assessment for Eurythmy Therapy Move (AART-ASSESS-EuMove)'

A preliminary peer-report version of the EuMove with 83 items was developed by von Laue and colleagues [25]. The peer-report instrument was developed for Eurhythmy therapists to evaluate patients' movement-, sound- and gesture qualities shortly after an eurythmy session. Items were structured into 4 categories: 1.) A number of items that covered a general description of the patient and items that intended to contain the three qualitative aspects of eurythmic movements: 2.) *movement*, 3.) *feeling* and 4.) *character* by assessing e.g. walking patterns, posture, breathing, skillfulness, balance and flow. All items could be rated on a 10-Point Likert Scale from 1 = 'not at all' to 10 = 'very much expressed', and 0 = 'not observed'.

3.1.1. Application during ET

The eurythmy therapy sessions included 10 group sessions [26]. For standardization purposes, every eurythmy therapy group session was set up to match the study intervention handbook/manual. Before the first and last group session single eurythmy evaluations were conducted, performing one of the following standard eurythmy sequences: I-A-O



Graph 1. I-A-O- Sequence I: straightening the spine, by shifting weight to the feet; arms by the side A: right and left food outwards and arms by the side, move in the direction of legs O: Arms loosely form a circle before body at height of solarplexus, legs hip wide apart.

(Graph 1). The movement and gestures of the sequence represent "I take hold of myself in the light" (I), "I take hold of the power of the earth" (A). From power and light, "I take hold of my own space" (O) and O-E-M-L-I-B-D, the sequence of warmth. Each patient took part in all 10 group sessions and was evaluated twice individually, at baseline before the first session of the program and after its completion. Five anthroposophic eurythmy therapists made assessments with the peer-report scale to describe movement-, sound- and gesture expressions during ET. All eurythmy therapists were women, trained and experienced in ET with different patient groups.

4. External validity

4.1. Self-report measures

Patients of the study completed two self-report questionnaires which were used as convergence criteria to assess external validity. The following self-report questionnaires were completed:

The Internal Correspondence/Peaceful Harmony with Practice (ICPH) is a short and valid self-report scale measuring inner correspondence with mindfulness practice (such as yoga or eurythmy) via 12 (+2 optional) items. Cronbach's Alpha for the overall score is high with $r = 0.95$ and ranges between $r = 0.68$–0.87 for the subscales. A cut-off at 50% indicates either lower or higher congruence with the mindfulness practice. In terms of external validity, moderate correlations with the Freiburger Mindfulness Index and the Brief Multidimensional Life Satisfaction Scale have been found [24].

The ***Patient Satisfaction Questionnaire*** is a non-validated tool which comprises 8 items to measure overall treatment satisfaction (1 item), satisfaction with each therapy components (5 items) and two additional open format items for patients' feedback. One item of the scale is used to measure satisfaction with eurythmy therapy (SET) on a 5-point Likert scale [26].

5. Statistical analysis

Statistical analyses were performed using SAS and SPSS, version 23 for Windows [27,28]. Patient demographics is displayed in absolute and relative frequencies (Table 1). We used a six-step procedure for our nested validation study similar to *Mehl* et al. (2021) [29]. Firstly, we used a *weighted kappa analysis* to assess the inter-rater reliability (agreement between raters) for each item response of the questionnaire. A weighted kappa score can range from $\kappa_w = 0$ indicating no agreement to $\kappa_w = 1$ indicating full agreement. We defined a statistical threshold of the *weighted kappa* score equal or below $\kappa_w \geq 0.25$ to include suitable items. Secondly, a *reliability analysis* (RA) was conducted to assess item-total correlation for each of the items. The *alpha-if-item-deleted* function was used to remove all items that weakened overall reliability of our peer-report questionnaire. In a third step, we calculated various *principal component analyses* (PCA) with the remaining items (orthogonal Varimax rotation with pairwise exclusion or mean sub) using the therapists' ratings. Ideally, four therapist ratings of one patient existed, two ratings of the baseline evaluation (from two eurythmy therapists) and two ratings regarding the final session (from the same eurythmy therapists). PCAs were conducted to derive factors (subscales) that each included the most strongly inter-correlated items (displayed in item loadings scores). Fourthly, mean *factor scores* for each subscale (mean subscale scores) were calculated and a mean total score was formed by adding all subscale scores. Fifthly, *psychometric property* of the peer-report questionnaire was examined by assessing the reliability via the Cronbach's alpha coefficient, a measure of internal consistency [30]. Sixthly, inter-subscale correlations were assessed using Spearman's non-parametric *correlation analysis*. An additional correlation analysis was conducted to examine associations with external convergence criteria (self-report questionnaire of patients).

Table 1
Demographic description in absolute and relative frequencies of all patients who started ET (n = 82).

Demographic Variable	Total
	Over all sample (n = 82)
Age (years) Mean (SD)	58.1 (8.8)
Not specified	n = 1
Years since first diagnosis	2.0 (0.8)
Not specified	n = 2
Marital Status (%)	13 (15.9)
Single	42 (51.2)
Married	20 (24.4)
Divorced	4 (4.9)
Widowed	3 (3.7)
Not specified	
Children:	60 (73.2)
Yes (%)	21 (25.6)/1 (1.2)
No (%)/Not specified	
Employment (%)	33 (40.2)
Employed	4 (4.9)
Housewife	14 (17.1)
Unemployed/sick leave	24 (29.3)
Pensioner	2 (2.4)
Other	5 (6.1)
Not specified	
Education (%)	31 (37.8)
Apprenticeship	5 (6.1)
Technical College	6 (7.3)
University of Applied Science	21 (25.6)
University Degree	2 (2.4)
No Profession	17 (20.7)
Not specified	
Cancer related Therapies	81 (98.8)
Surgery: yes (%)	42 (51.2)
Chemotherapy: yes (%)	67 (81.7)
Radiotherapy: yes (%)	53 (64.6)
Antihormonal Therapy: yes (%)	21 (25.6)
Mistletoe Therapy: yes (%)	

6. Validation Phase

6.1. Results

6.1.1. Participants & Therapist's Peer-ratings

A total of 82 patients started ET and were evaluated by the eurythmy therapists (Table 1). For each patient, four ratings were potentially possible: 1. pre-treatment rating/ rater A; 2. pre-treatment rating/rater B; 3. post-treatment rating/rater A; 4. post-treatment rating/rater B. This resulted in frequencies of 7.3% (6 patients) with 1 rating, 48.8% (40 patients) with 2 ratings, 12.2% (10 patients) with 3 ratings and 31.7% (26 patients) with 4 ratings, respectively.

6.1.2. Weighted Kappa-analysis

The weighted kappa analysis was performed to assess the inter-rater reliability of 83 items across raters. Inter-rater reliability was heterogeneous ($\kappa_w = 0.09 - 0.89$) with a mean weighted kappa of $\kappa_w = 0.40$ (*SD* = 0.17) across all 83 items. A total of 42 items were excluded due to weak weighted Kappa scores ($\kappa_w < 0.25$), and 41 items with a sufficient Kappa ($\kappa_w \geq 0.25$) were included for further analyses.

6.1.3. Reliability analysis

A reliability analysis (RA) with the n = 41 remaining items was conducted using the *alpha-if-item deleted* procedure to exclude items with low reliability. The RA suggested to exclude a total of n = 25 items due to a poor corrected item-total correlation of $r < 0.25$. Statistical criterion for item fitness was set at an item-total score of $r = 0.30$ [31] resulting in 16 items.

6.1.4. Principal Component Analyses (PCA)

We calculated PCAs (with Varimax rotation and pairwise exclusion)

with the 16 remaining items, with the total frequencies of therapists' ratings varying among the 16 item columns. Therapists' ratings of the 82 patients for each of the 16 items (before and after ET- program) ranged from minimum 191 ratings to maximum 220 ratings. A number of six items were reversely coded due to negative factor loadings within their corresponding factors. The PCA produced a three factor/subscale solution explaining 63.86% of total variance with the following subscales: Subscale 1. *Mindfulness in Movement* with 8 items (42.8%), Subscale 2. *Motor Skills* with 5 items (13.2%) and Subscale 3: *Walking pattern* (7.8%). For detailed description of individual items and item loadings on their corresponding subscale/factor see Table 2. To validate our results, we conducted another PCA, as sensitivity analysis, using the "mean sub function" that replaced "missings" (missing therapists' item ratings) with the mean value of each corresponding item column, resulting in n = 285 ratings of n = 82 patients. This PCA with meansub produced an identical three factor/subscale solution with a slightly lower explained total variance of 61.1% showing the subscale variance percentage distribution of 40.3%, 12.9%, and 8.3%, respectively.

6.1.5. Subscale scores and psychometric properties

Scores were formed for each subscale by aggregating the 16 items scores (across raters) for each subscale. Due to reasonable face validity as shown by significant small to moderate subscale correlations, a sum score was formed with a mean score value of $M = 6.3$ (standard deviation $SD = 1.4$). For each of the subscales we found the following means and standard deviations: for subscale 1: *Mindfulness in Movement*: $M = 6.4$ ($SD = 1.6$); for subscale 2: *Motor Skills*: $M = 6.6$ ($SD = 1.9$); and for subscale 3: *Walking pattern*: $M = 5.7$ ($SD = 1.8$). The overall reliability of the peer-report questionnaire (sum score) was high with Internal Consistency (Cronbach's alpha) of $\alpha = 0.898$. Additionally, subscale internal consistency was high between $\alpha = 0.841 - 0.879$. Strongest significant Spearman correlations between subscales were found between the subscales 1. *Mindfulness in Movement* and 2. *Motor Skills,* with $r = 0.63$ ($p < 0.01$) (Table 3). Significant yet only weak correlations with convergence criteria were found for *Mindfulness in Movement* with the self-reported overall post-treatment scores of the *ICPH,* with $r = 0.32$, and with the *SET,* with $r = -0.25$ (both $p < 0.05$) (Table 3).

7. Discussion

This is the first validation study to introduce a peer-report questionnaire for eurythmy therapists to objectively evaluate movement-, gesture- and sound expression during ET. Additionally, it is the first attempt to correlate peer-assessments of eurythmy therapists during ET with patients' self-evaluations.

The new questionnaire consists of 16 items that form three subscales: *Mindfulness in Movement* (subscale 1), *Motor Skills* (subscale 2), and *Walking Pattern* (subscale 3). Overall internal consistency and subscale consistency was high. Due to significant small and moderate subscale inter-correlations and sufficient face validity, a sum score was formed for the new scale. Small significant correlations were also found for the subscale 1: *Mindfulness Movement* (peer-report) with the ICPH and SET (measured via self-report by patients).

We can draw several implications from the study results. Firstly, our questionnaire is, to our knowledge, the first validated peer-report scale that measures movement-, sound- and gesture expression during ET with sufficient reliability. There is another peer-report questionnaire, the Single-Case Embodiment Therapy (in German: EDET) for eurythmy therapists by Gerlach et al. (2019) [32] which was developed as single case documentation and process outcome tool for ET practice. The EDET measures movement quality elements such as tempo, flow, rhythm, precision and balance during ET but has not been validated yet. Similar to our questionnaire it intended to measure the dimensions: *movement*, *character* and *feeling* via several items. Secondly, we found three solid subscales with sufficient internal consistency, which seem to measure certain aspects of eurythmy gestures reflecting the theoretical dimensions: *movement*, *character* and *feeling*. However, differently from initially hypothesized in the theoretical construction of the questionnaire, these items did not load coherently on their corresponding hypothetical dimensions (*movement*, *character* and *feeling*) but instead

Table 2
16 items with corresponding factor loading and factor assignment and explained variance, alpha if item deleted value, and item-total correlation. Cronbach's alpha mean and standard deviation are presented for the sum score and subscales.

EuMove Items (16)	EuMove Subscales						Item total	**Mean (SD)**	**Alpha if item deleted**
Items	**1**		**2**		**3**				
Subscale 1: Mindfulness in Movement	**Pair-wise[1]**	**Meansub[2]**							
Breathing not flat*	**.516**	**.485**					.412	5.7 (2.0)	.897
Movement mechanical*	**.733**	**.732**					.662	7.1 (2.4)	.889
Movement in space*	**.678**	**.692**					.623	6.8 (2.2)	.890
Movement on time*	**.692**	**.720**					.617	6.1 (2.5)	.891
Sound performance with inner participation	**.829**	**.822**					.533	7.2 (2.1)	.894
Experiencing Movement	**.759**	**.735**					.607	5.6 (2.2)	.891
Harmonic relationship of the 3 elements	**.686**	**.689**					.672	5.1 (2.0)	.889
Patient active from start	**.600**	**.611**					.567	7.5 (2.1)	.892
Subscale 2: Motor Skills			**Pair Wise[1]**	**Mean sub[2]**					
Skillfulness in right foot			**.746**	**.695**			.539	5.8 (2.5)	.880
Skillfulness in left foot			**.799**	**.776**			.650	5.6 (2.5)	.889
Movement while walking secure*			**.715**	**.681**			.645	6.5 (2.6)	.880
Movement while grasping secure*			**.562**	**.531**			.567	7.7 (2.0)	.884
Movement of legs symmetrical			**.715**	**.707**			.652	6.5 (2.1)	.885
Subscale 3: Walking Pattern					**Pair wise[1]**	**Mean sub[2]**			
Walking not light*					**.906**	**.904**	.353	6.8 (2.2)	.900
Walking is powerful					**.689**	**.682**	.513	5.2 (2.2)	.897
Walking with large steps					**.913**	**.910**	.416	5.5 (2.0)	.897
Explained Variance in %	42.8	40.3	13.2	12.9	7.8	8.3			
Mean Sum Score (SD)								**6.3 (1.4)**	
Cronbach's Alpha =.898	.879		.855		.841				

Principal component analysis: Varimax rotation with Kaiser Normalization (rotation converged in 8 iterations); *reverse-coded items; factor loadings < .40 not displayed;1 PCA with pairwise exclusion ranging from 191 to 220 ratings and n = 82 patients; 2 PCA with MeanSub, based on 285 ratings and n = 82 patients

Table 3
Spearman rho correlations of the EuMove Sum score, subscale scores, Inner Correspondence- and Satisfaction with ET after Eurythmy Therapy.

	1	2	3	4	5	6
1 EuMove SumScore[1]	1	**.889****	**.844****	**.541****	.186	.010
2 Mindfulness in Movement[1]	**.889****	1	**.630****	**.290****	**.317***	**-.253***
3 Motor Skills[1]	**.844****	**.630****	1	**.350****	.088	.019
4 Walking Pattern[1]	**.541****	**.290****	**.350****	1	.020	.030
5 Inner Correspondence[2]	.186	**.317***	.088	.020	1	**.— 567****
6 Satisfaction with Eurythmy Therapy[2]	.010	**-.253***	.019	.030	**-.567****	1

[1] evaluated by peer-report; [2] evaluated by self-report
* $p < .05$, * * $p < .001$ Spearman rho, 2-tailed in bold

formed new factors/subscales. In addition, items that were supposed to be grouped to the hypothetical dimension *character* never showed sufficient interrater-reliability and were excluded before conducting the PCAs. We speculate that the ratings of this dimension were too complex to be captured in the eurythmy gesture, because no item performed well enough (in terms of interrater-reliability and reliability) to get included into the final version of the questionnaire. Since theoretically *character* is considered as essential element of ET, future studies may have to broaden the understanding why aspects of this dimension can either not be observed by eurythmy therapists or whether these items have not been specifically enough formulated to be captured by eurythmy therapists. Thirdly, we found peer-report correlations between the *Mindfulness subscale* and the ICPH and Satisfaction with ET self-report. Being immersed into the eurythmy practice (measured by self-report) is associated with a greater mindful movement expression (measured by peer-report).

8. Limitations and strengths

Several limitations for this study should be noted. All ratings were done retrospectively, immediately after the ET session. This could bias the study results through memory effects or projections of the therapists made during the sessions. In future studies, video recordings of the eurythmy sessions would help to objectify movement-, sound- and gesture expressions through e.g. independent observers (eurythmy therapists). Another limitation is that there was not one "standard exercise" which therapists evaluated, instead it is unclear which eurythmy gesture (IAO or the warmth sequence) was performed or rated in the sessions. It is unclear whether better individual performance or exercise effects could have biased the rating results.

Our questionnaire was validated in the framework of a multicentered study of metastasis-free breast cancer participants with CRF. Thus, the scope of generalization is limited to this specific patient group and future studies need to explore whether our peer-report questionnaire 1) is valid for examining movement-, sound- and gesture expression in other patient groups, and 2) whether it discriminates between clinical samples and healthy controls. Another limitation is that due to the explorative nature of this report we accepted a relatively low interrater reliability for the items, meaning that agreement between rater to observe similar aspects during exercising a given eurythmy gesture could be improved by observer training. Feedback from therapists also pointed to the fact that comprehension and interpretation of the items varied strongly between therapists which could explain the low Kappa for some of the items. ET therapists should be further trained in their capacity to detect and describe the specific complex characteristics in *movement*, *feeling* and *character* and should find a common language. A specific strength of our study is that we used a structured and sound quantitative approach using a kappa- and reliability analysis and factor analyses. Another strength is that several eurythmy therapists from three different centers took part in the study which improves the viability and reproducibility of the study results. The new peer-report scale for ET is the first questionnaire with three reliable dimensions and reveals sufficient to high reliability. In addition it gives first insights in how distinct eurythmy gestures expression during ET can be measured with sound reliability. In addition, this is the first study that associated *mindful movement,* evaluated by eurythmy therapists, with self-reported inner- correspondence scores. Future research needs to replicate our findings and test our peer-report instrument on other clinical- and non-clinical samples. In addition, according to the recently published WHO benchmarks for training in anthroposophic medicine [33], more research is needed to understand how ET affects the human organism (in terms of revitalization and regulation) with the use of external criteria (e.g. self-report questionnaires and physiological measures).

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CRediT authorship contribution statement

A. Mehl: Conceptualization, Data curation, Formal analysis, Methodology, Validation, Writing – original draft, Writing – review & editing. **B. von Laue:** Conceptualization, Project administration, Writing – review & editing. **B. Trapp:** Conceptualization, Investigation. **K. Gerlach:** Conceptualization, Writing – review & editing. **M. Reif:** Methodology, Project administration, Validation, Writing – review & editing. **K. Pretzer:** Conceptualization, Visualization. **R. Zerm:** Funding acquisition, Investigation, Project administration. **B. Berger:** Investigation, Project administration, Writing – review & editing. **C. Gutenbrunner:** Project administration, Writing – review & editing. **Kroz M.:** Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Validation, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no competing interests.

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Coi_Ctim

My colleagues and I have no conflicts of interest for this publication to disclose.

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