Professional Practice

(7DC011/UW1)

A Multidisciplinary Intervention Manual for Peak Performance

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Demands on the classical ballet dancer. Classical ballet demands an enormous amount from the dancer. Not only must your body that fit the aesthetic mould of classical dance but also precision, strength, endurance, artistry, musicality, creativity and flexibility are demanded; an almost impossible ideal to be reached.

Nowadays, alongside of the traditional demands, the dancer is required to contribute to the creation of choreography, to be able to improvise and offer conceptual ideas plus experience in modern, contemporary and jazz etc. can increase job chances. Nowadays many dancers work as freelancers, which means they will often not have an end of season break due to lack of financial income, leaving them more vulnerable to fatigue and injury.

The typical working day for a dancer is a long one, filled with training, rehearsals, costume fittings and sometimes physiotherapy appointments. Getting injured is part of the job- but is it possible to reduce injuries? Getting frustrated is part of the job- but is it possible to reduce frustration, to reach beyond what you thought your maximum physical capabilities to be? Is it possible to dance that hard worked-for role without collapsing from exhaustion? Is it possible to not have to retire at 35, but maybe at 45? Yes it is!

Being on top of the game! (Doing more than just meeting demands). Scientists have found that dancers are generally not strong enough to cope with the demands of their job. Research shows in order for dancers to meet these demands, supplementary conditioning training that stresses the aerobic and anaerobic systems is needed. Running, biking, swimming and strength training, (yes, doing squats, lifting weights and plyometric sessions!) are important and are what will bring stamina, strength, endurance and guard against injury. Dancers however, often believe that any extra strength and conditioning training builds ugly large muscles, spoils aesthetics and causes injury. Research, e.g. from, Twitchett, Angioi, Koutedakis and Wyon, (2011) and Angioi, Twitchett, Metsios, and Koutedakis (2012) has

shown that this is not the case and that performance is actually enhanced by supplemental strength and fitness training. Scientists have found out that it is possible, through strength training, to gain 50% in strength without changing any aesthetics; thunder thighs will not appear overnight if you begin to train on the exercise bike!

Ballet trains skills, but optimal strength, power and endurance cannot be reached through ballet training alone (Krasnow & Chatfield, 1996) and (Wyon, Redding, Abt, Head, & Sharp, 2004). Research has shown that although ballet requires a good aerobic foundation, dancers actually have poor aerobic capacities compared to other athletes taking part in similar activities, (Twitchett, Nevill, Angioi, Koutedakis, & Wyon, 2011b, p. 123). Which is mean, because a ballet class certainly feels hard and exhausting- but the truth is that dancers need to train their fitness outside of the ballet studio in order to excel within their art. In this way ballet will not be so tiring- or painful- or frustrating.

Fitness. In the body, the energy that is used for everything, from movement to repairing cells is the chemical Adenosintriphosphat (ATP). ATP is used in 3 energy systems within the body. These systems synchronise to work simultaneously at different intensities and volumes (Figure 1), depending on physical and situational demands. (McArdle, Katch, & Katch, 1996, pp. 195 & 129-130). Understanding how and when these energy systems kick in, how to train them is vital.

i.   The energy systems

The phosphocreatine (PCr) anaerobic system is used for very powerful movements, for example in the first few seconds at the beginning of a strenuous choreography, perhaps when you have to run onto the stage and do a *grand jete.* Here, ATP needs to be released very quickly so it is stored (as phosphocreatine) directly in the muscle cells (and the brain). These

PC stores only recuperate in the resting phase after training or performance (Koutedakis & Sharp, 1999, pp. 15-16).

The glycolysis- lactic acid anaerobic system, a marginally longer process, is used for slightly more prolonged intensive exercise, e.g. for the black swan´s 32 *fouetté*, Here, glucose (carbohydrate), which has been stored in the body as glycogen, is used to make ATP. In this system glucose is partially broken down to make lactic acid and the energy that is caused by making the lactic acid is used to form ATP within the muscle cells.

The aerobic oxidative system relies on the break-down of fats and carbohydrates and is used for longer periods of lighter activity. (Koutedakis & Sharp, 1999, pp. 18-20) and (Baechle & Earle, 2008, pp. 29-30). Although as a dancer you mainly use the oxidative system, you need to train all three systems (Koutedakis & Jamurtas, 2004).
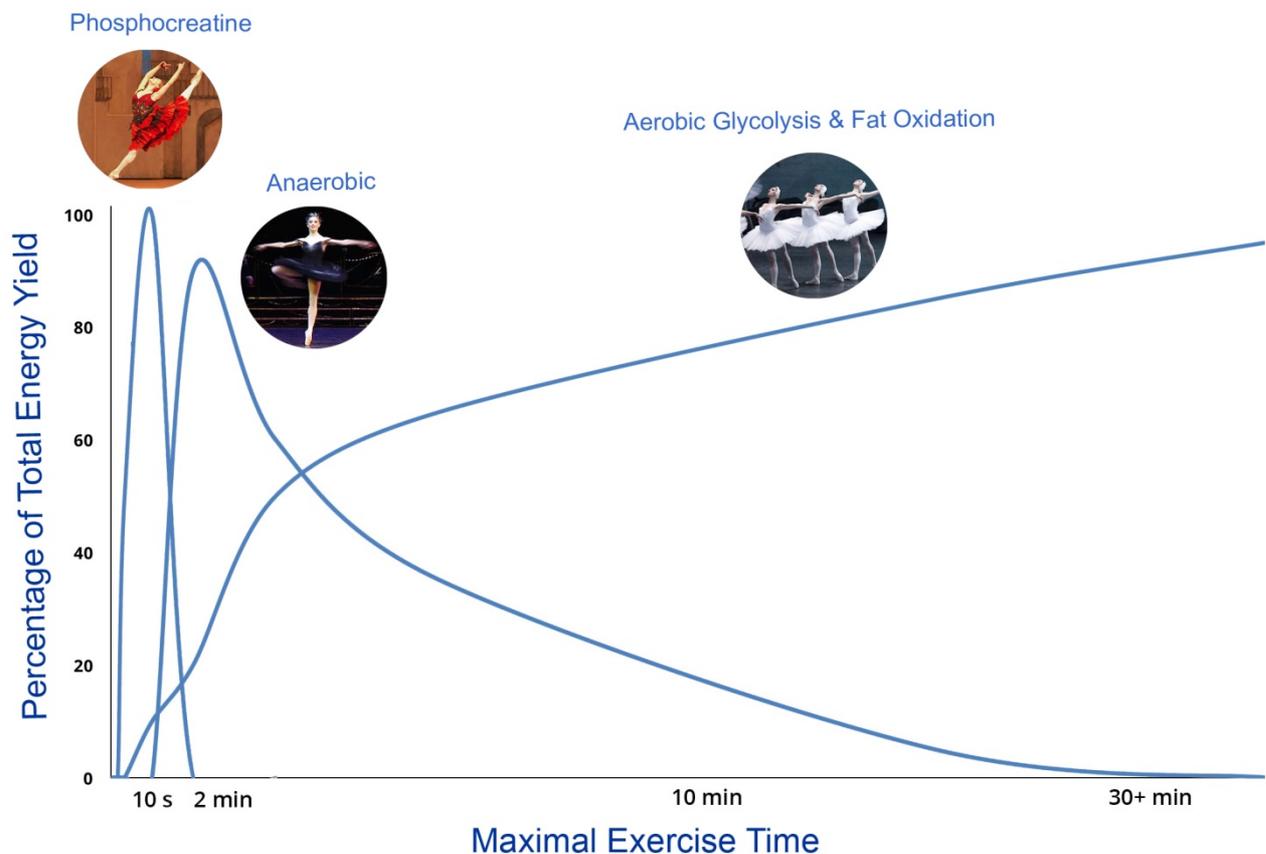
Figure 1 *Timing of the three energy systems*

ii.   Frequency of training: more is not better

A training session is a stimulus in order for the body to adapt. Only after 24-48 hours after your training does adaption (changes in the body; increase in strength) take place. This is when glycogen stores are replenished and protein synthesis (for building muscle) is at its highest. This peak, in the after-effects of your training is called supercompensation (Figure 2) and is the perfect time for your next training session to take place. Training the same things on consecutive days will cause depletion of glycogen stores, which leads to exhaustion. Furthermore, training day in, day out over a longer period of time causes injury and burn-out.
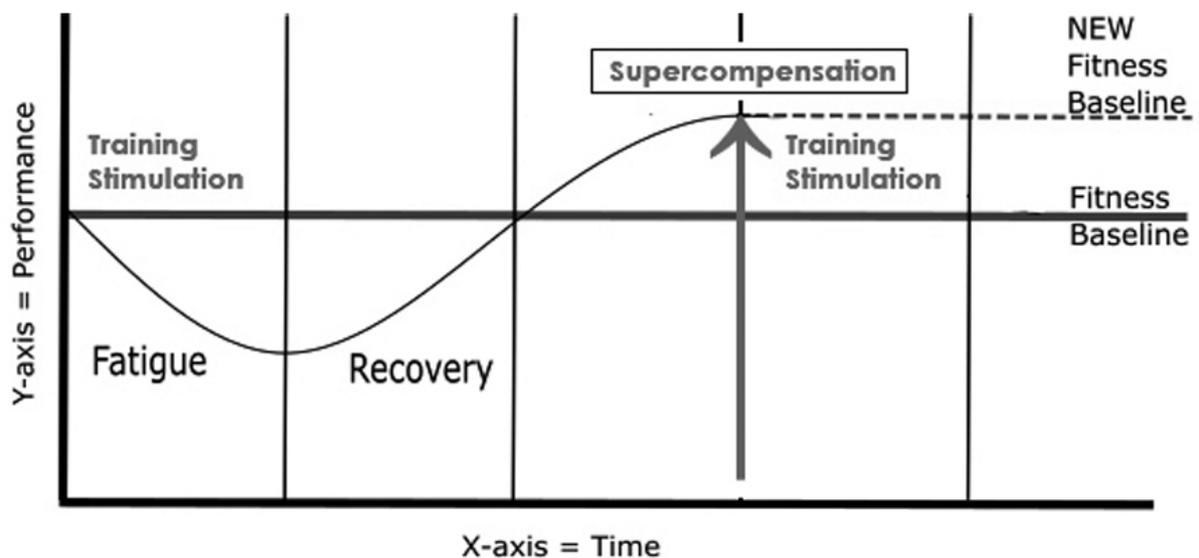
Figure 2: Supercompensation

Adapted from Komisarjevsky (2017)

iii.   Recovery time: the window of opportunity

The first half hour after training should be used to get the most out of your training; the recovery phase is 50% of your training! Here damaged muscles begin to repair and new muscle cells (sarcomeres) are produced making the muscle stronger. In this short period of time it is important to eat a carbohydrate snack-or meal to replenish the glycogen stores (e.g.,

bread, pasta, potatoes, rice and cereals). Bread- especially white bread will deliver glucose into the blood stream faster than sugar. This is because it has a higher glycaemic index, (Koutedakis & Sharp, 1999, p. 175) - a value given to foods based on the speed with which those foods cause increases in blood glucose levels.

Nutrition. Dance is energy made visible. In a healthy dancer glycogen (carbohydrate) and fat are used for making ATP. However, in the case of strict calorie controlled diets, protein instead of fat is used. In this case lean tissue is used ((Koutedakis & Sharp, 1999, pp. 19-20) - the body literally eats itself.

i.   Low calorie diets

Researchers (Koutedakis & Jamurtas, 2004, p. 656) report that professional female ballet dancers consume below 80%, of the recommended daily allowance (RDA) of calories. This can cause injuries and problems such as loss of menstruation and osteoporosis. Not only do calorie restricted diets cause (sometimes fatal) physical health problems, they also weaken powers of concentration (Simmel & Kraft, 2016, S. 137) and in women have been linked to depression (Gillena, 2012) plus they slow metabolism down (McArdle, Katch, & Katch, 1996, p. 619).

ii.   Carbohydrate, fat and protein: how much of what?

For dancers, 1-2 grams of protein per kg body weight per day is advised (Koutedakis & Sharp, 1999, pp. 32-47). Fat should not consist of more than 30% of the overall daily energy intake (Brinson & Dick, 2006). To maintain glycogen stores, carbohydrate, for physically active people (like you!), should account for roughly 60% (Koutedakis & Sharp, 1999) - Diets low in carbohydrate limit your glycogen reserves, making training impossible (McArdle,

Katch, & Katch, 1996, p. 61). An optimal division of nutrients is roughly; fat: 22%, protein: 18% and carbohydrate: 60% (Figure 3).

Nutrients in grams per day (optimal)

- Carbohydrate, 479.23 g
- Fat 78.51 g
- protein 106.87 g
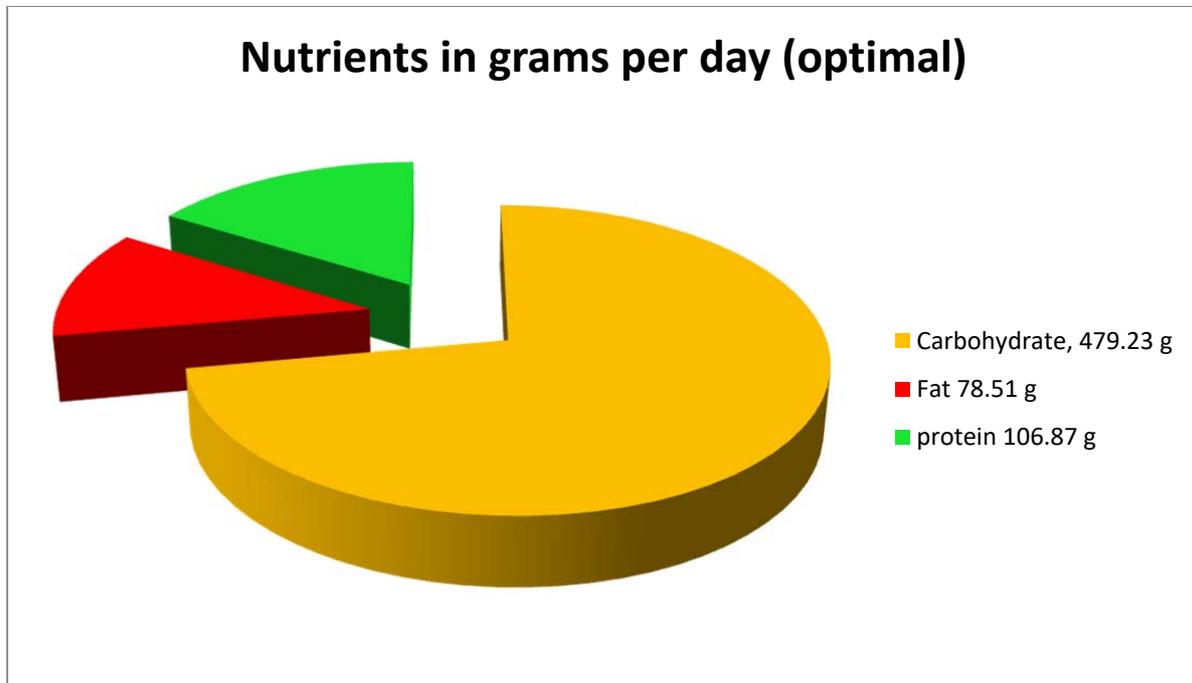
Figure 3 *Optimal average division nutrients in gram for a 3354.6 kcal intake*

iii.   Nutrients, vitamins and minerals: choose your friends (foods) wisely!

The quality of your calorie intake is highly important. Carbohydrates should be complex; whole grains, legumes, vegetables, so that blood sugar levels do not spike and you stay satisfied for longer. Fat should be from oil, nuts, oily fish and butter. Protein should be from eggs, lean red and white meat, fish, nuts, cheese, and tofu and is vital as protection for the organs and for insulation (McArdle, Katch, & Katch, 1996, p. 20) plus it absorbs vitamins and forms an essential part of cell membranes and nerve fibres.

Important vitamins and minerals for dancers are; vitamins, C, D and E, vitamin B complex, folic acid, calcium, magnesium and iron. Vitamin B complex helps fight against tiredness, lack of concentration, cramps, and anemia. Vitamins C and E boosts your immune system, folic acid aids cell growth and repair and Vitamin D fortifies bone density (Simmel &

Kraft, 2016, S. 38-40). Calcium is also needed for bone density while magnesium prevents muscle cramps and iron is needed among other things, to prevent tiredness, to keep your immune system strong and to promote good sleeping patterns. Unfortunately it has been shown that not only do dancers eat too few calories, but that they eat only around 50% of carbohydrates and that these came from highly processed junk foods, plus they consumed higher than the accepted maximum of 30% of fatty foods (Brinson & Dick, 2006, p. 69).

Psychology. Dancers frequently suffer from low self-esteem, perfectionism, burnout and eating disorders (Nordin-Bates & Abrahamsen, 2016), (Eusanio, Thomson, & S. V. Jaque, 2014) and (Nordin-Bates & Madigan, 2017) which along with negative self-talk are certainly detrimental in helping to reach optimal performance.

In *The Dancer´s Way* (2009) written by Linda H Hamilton in collaboration with the New York City Ballet, Hamilton points out common stumbling blocks that can hinder dancers when in pursuit of their goals:

- Labeling yourself as "weak" if you have a problem, which may keep you from seeking help until you hit a major road-block
- Clinging to unhealthy habits to manage your weight, strive for perfection or reduce occupational stress
- Feeling superstitious about updating your training routine, such as adding aerobic workouts, because the old way (e.g. just dance class) worked in the past
- Being afraid to adopt a new behaviour and fail, especially if you are a perfectionist who has tried and failed before

- Worrying that you´ll be given fewer opportunities by those in power if you seem to have problems (2009, pp. 37-38)

Hamilton goes on to explain how that in order to move forwards one needs strategies that fit your present situation and most pressing problem. This is why collecting your personal data plus scientific information on how to proceed towards your goals is important.

Knowing yourself and where you want to be

Basic data. You were informed about the study, the methods and aims and signed an informed consent form (Appendix A). Following this you filled out a pre-test health questionnaire (Appendix B). A list of all your basic details; gender, age, height, weight was then made. Your basic metabolic rate (BMR) was calculated at 1401.2 calories, this is how many calories your body needs just to function in 24 hours[1]. Your age predicted maximal heart rate (APMHR) was calculated[2] at 192 bpm. This will give you an idea of how hard you will need to train in order to reach your fitness goals. Table 1 shows your basic data.

Table 1 *Your basic data*

Sex	Female
Age	28
Weight	59 kg
Height	173cm

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[1] There is a mathematical formula called the Harris-Benedict BMR equation for this: Female: $BMR = 655.1 + (9.563 \times \text{weight in kg}) + (1.85 \times \text{height in cm}) - (4.676 \times \text{age in years})$ Male: $BMR = 66.47 + (13.75 \times \text{weight in kg}) + (5.003 \times \text{height in cm}) - (6.755 \times \text{age in years})$. However, this is also very easy to look up on the internet.

[2] Traditional method: This was done by subtracting your age from 120 (Formula for APMHR: $120 - 28 = 192$ bpm)

Body Mass Index (BMI)	19.7 kg/m².
Basal Metabolic Rate (BMR)	1401.2 kcal
Age Predicted Maximal Heart Rate (APMHR) (Formula for APMHR: 120 – 28 = 192 bpm)	192 bpm

Your goals. You stated that you have a problem maintaining concentration in class and rehearsal and that you would like to improve your attention span. Although you have a BMI (body size in relation to height, weight and age) of 19.7 you mentioned in our informal interview that you would like to lose weight, 11 kilos, (which is not agreeably safe) and to have more self-confidence. The recommended healthy BMI for females is between 18.5 -24.9 which places you at the lower end of normal weight[3]. After carrying out the Ballet DAFT test you stated that improving aerobic condition, power and strength was also necessary.

Screening and Results

Fitness. To estimate your fitness you were carefully observed and assessed in class, and then a performance profile and a Ballet DAFT test were completed. The the performance profile[4] was carried out in order to compare how you and the tester perceived your abilities.

i.   Class observation

Your dancing was precise and controlled but sometimes lacking in dynamics. Preoccupation with the mirror made you seem a little dreamy; not very aware of your surroundings and not actually able to feel your body. Concentration was lost in the early stages of the *allegro* but regained for the *grand allegro*. Dynamics and expression deteriorated after the centre *adage* (which was beautifully done). Perhaps this was due to standing *en face* to the mirror in the

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[3] At 48 kg you would have a BMI of 16 which in most cases is unhealthy.
[4] Developed by Richard Butler in 1992.

centre instead of only having access to the side view as at the barre. For more information please see Appendix C.

ii.   Performance profile

Your scores and those of the tester were similar and were in full agreement on the points of endurance, strength and proprioception. For power, you gave a higher rating than the tester. Interestingly enough, the points that you rated yourself highest on; power, endurance and strength, were the very qualities that showed to be lacking in the DAFT test. For more information please see Appendix D.

iii.   Ballet DAFT: Dance Aerobic Fitness Test

The Ballet DAFT fitness test has been specially developed by the Dance Faculty at Trinity Laban[5] to test ballet dancers´ aerobic fitness levels. The test consists of 5 stages each 4 minutes long and mimics the aerobic demands of a performance.

    This test was carried out 30 minutes after a ballet class using a Cardio Fitness-Tracker. After each stage you recorded your feelings of exertion (see Appendix E) using the Borg RPE Scale[6] and the tester rated your performance (see Appendix F). At the beginning of the test and after each stage your HR was recorded. You were informed that you could stop the test if needed.

    You began the DAFT with a HR of 145.75, 53% of your calculated maximum HR rate. This was slightly high. Your HR increased from stages 1 to 2 from 180 to 190 bpm which means were working at 98.95% of your MHR. By stage 3 you were working at 100% (192 bpm) and at stage 4 your HR reached 208 bpm. You showed controlled movements in the first two stages, covered-up exhaustion well in the first half of the harder stages but after 2 minutes

[5] Trinity Laban Conservatoire of Music and Dance in the UK
[6] Received Perception of Exertion

of each stage concentration was lost. You terminated the test in the last stage. You said you had trouble breathing and could have pushed to carry on, that your muscles just could not do it and your head said "no".

Your RPE scores show that from the beginning of the test, exertion was not particularly comfortable. You experienced the second stage as being easier because the arms were added[7]. However, even the addition of the arms was not enough to support your movements when shifting from stage 3 to stage 4. Here, perceived exhaustion went from "Somewhat hard" to "Extremely hard" and in the final stage, although not yet at "Maximal exertion" you terminated the test.

Nutrition. You provided a list of all your work-related physical activities, class, teaching and rehearsal, plus extra training such as yoga and calisthenics. You also kept a food diary for 5 days, recording not just what you ate but also how much and when.

i. Calorie needs over five days

Using the information about your physical activity your expected calorie expenditure over five days was calculated at 3354.60 calories on average per day (Table 2). This is for all your work actives, sports and your BMI.

Table 2 *Expected calorie expenditure over five days*

	BMR	Ballet Class	Teaching (ballet)	Yoga	Rehearsal	Text Rehearsal	Calis-thenics	**Total**	**Total**
Time	5 days	7.5 hours	15.5 hours	4.5 hours	4 hours	1 hour	25 minutes	**5 days**	**1 day**
Kcal	7 006.00	1635	5487	999	1464	72	110	**16 773.00**	**3 354.60**

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[7] This is to be expected from a highly trained dancer with expertly coordinated limbs that assist one another in the movement.

Calorie intake and nutritional value were calculated using the website www.myfitneesspal.com and literature from McArdle, Katch & Katch (1996) where calorie values for nutrients are stated as; fat per gram = 9.4 kcal, protein per gram = 5.65, carbohydrate per gram = 4.2 (1996, pp. 83-89). No values for teaching ballet could be found so *Dancing: aerobic easy* in the McArdle appendix was used; 5.9 kcal per minute. This should be adequate since you teach young children and are constantly moving (running, jumping etc.) throughout your classes.

ii.   Food diary over five days

Your food diary (Appendix G) showed a marked restriction in calorie intake. In Figure 4 you can compare all five days of your actual calorie intake with the advised intake. Your average daily calorie deficit is 2167.78. This means you are only consuming 35.37% of the energy that you need!
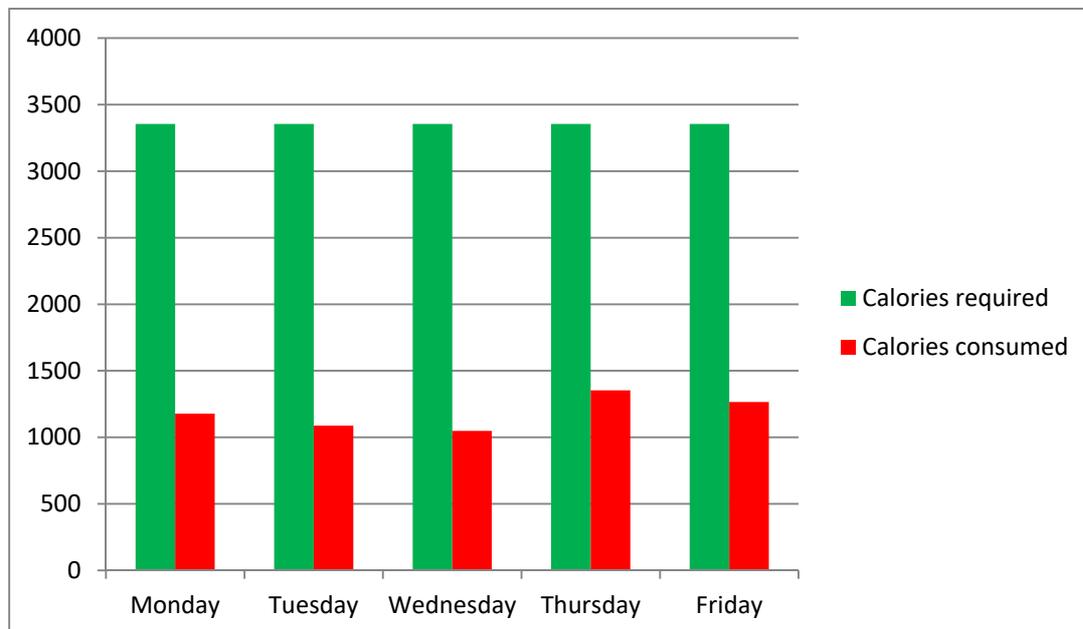
Figure 4 *Average daily deficit 2167.78 kcal*

Your diary also showed a low intake of carbohydrate and in relation a somewhat high protein intake and fat intake (Figure 5). You mentioned in the interview that you thought fat and protein were important and your diet reflects this belief. In the course of a day, nutrients were divided on average, thus; fat 62.65g, protein 69.68g and carbohydrate 116.06g.

Nutrients in grams per day (5 day food diary)

- Carbohydrates 116,06g
- Fat 62,65g
- Protien 69,68g
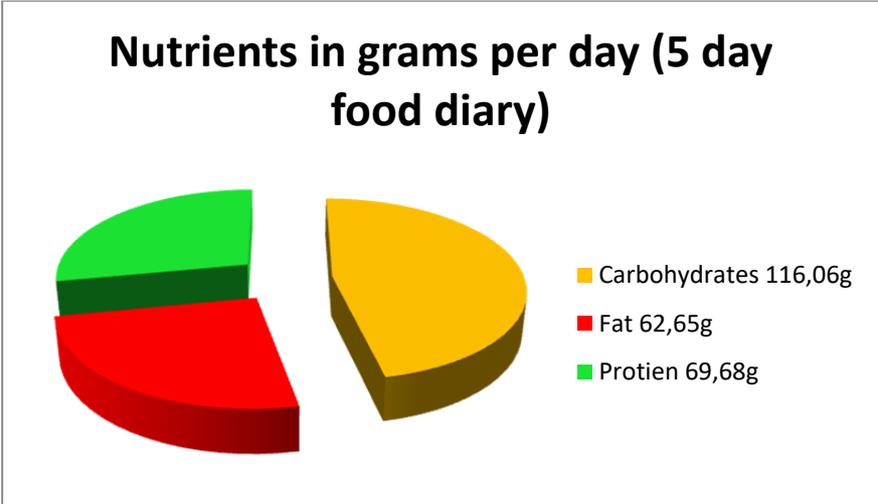
Figure 5 *Sub-optimal division of nutrients over 5 days*

To illustrate the shortcomings of your nutrient division, let´s take a look at the pie-chart where the nutrients are optimally divided and compare:

Nutrients in grams per day (optimal)

- Carbohydrate, 479.23 g
- Fat 78.51 g
- protein 106.87 g
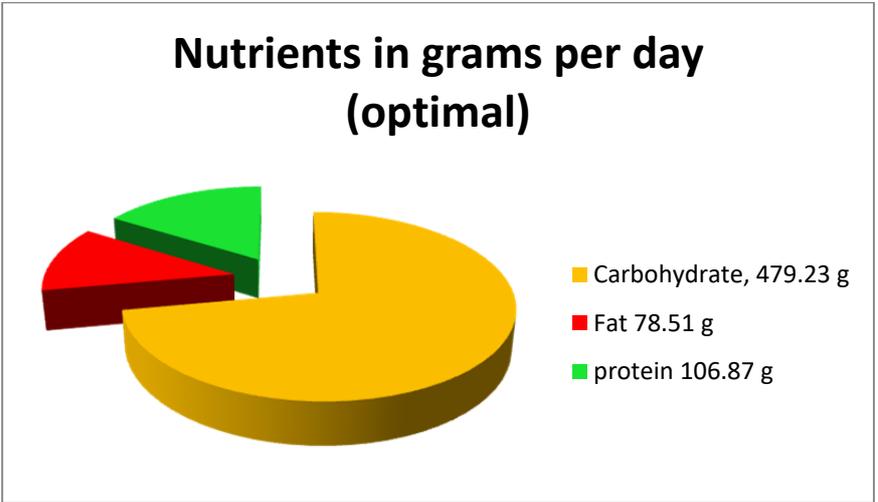
Figure 3 *Optimal average division nutrients in gram for a 3354.60 kcal intake*

Noticeable was also the lack of vitamins and minerals important for dancers. Intake of Vitamins, C, D and E, vitamin B complex, folic acid, calcium, magnesium and iron was inadequate. Fruit and vegetables providing vitamin C, calcium from dairy products and various beans and peas, plus iron from meat and beans, peas and lentils, were lacking. You may be getting Vitamin B complex through the nuts and fish that you eat, however whether the amounts of these are enough to fill your daily requirements is not clear. Folic acid, which can be gained through leafy green vegetables, citrus fruits, beans and pasta, was also too low.

On three days from five, between breakfast and lunch, a time span of 6 hrs. 45 mins without nutrient intake elapsed plus water intake was not mentioned.

Psychology. Alongside of an informal meeting where only rough notes were gathered and a recorded interview, three psychological tests were carried out which you filled out at a time that was convenient for you.

i. Informal meeting and personal interview

You stressed that your present priority is your concentration. You seemed frustrated and did not understand why your concentration always slipped. You said that you felt your lack of concentration lets you down and stops you from showing your full potential. You talked about your painful (job) experiences of rejection, how your confidence had gone down over the years and that this was a cause and a symptom of gaining weight. You stated that you felt physically very fit, fitter than when you were in the ballet academy and are able to run 10 km straight without giving up. But, although you like your body you are not satisfied with your weight and would like to weigh less. You are convinced that losing weight would bring better job chances. You expressed being overly occupied about what other people around you in class think of your dancing. Why you used to take extra ballet classes and Pilates outside of

school was explained and you acknowledged although you feel that your ballet education prepared you for traditional ballet performances, you were not optimally prepared for current demands in your job that reach outside of the classical frame (Appendices H & I)

ii.   Body-Esteem Scale

In this self-evaluation scale of one´s body and it´s appearance to others (Appendix J & K) you rated yourself as happy with your appearance and positive on how you feel others perceive your body and appearance. However, you are dissatisfied with your weight which could be a sign of low self-esteem; research (Bettle, Neumärker, Neumärker, & Bettle, 2001) has shown that dancers´ self-esteem is strongly linked to body image and weight.

iii.   Happiness in the Workplace: PERMA-Profiler

This test (Appendix L, M & N) showed your overall well-being for happiness in the workplace as being only just over 50%. The subscales Positive Emotion, Negative Emotion and Relationships showed low scores. Maybe one reason for these low ratings was your feeling of total lack of appreciation (rated 0) from coworkers. You did not often feel lonely and felt that coworkers supported you when needed. Engagement, Meaning and Health showed high scores, with Health having by far the highest score. Your Accomplishment and Happiness scores were both at 50%. Although you felt that your actual work was very purposeful and meaningful and that you had a strong sense of direction you did not feel that what you did at work was particularly valuable and worthwhile. Your happiness was rated at 50%, as was contentment and satisfaction with your professional relationships. A mean PERMA score of 5.3125 was calculated, giving 53.13% overall well-being.

iv.   Mindfulness Attention Awareness Scale

In an attempt to understand your problems with concentration the Mindfulness Attention Awareness Scale (MAAS), (Brown & Ryan, 2003) calculates receptiveness to your surroundings and attention to present events was used (Appendices O, P & Q).

Appendix O depicts how often your concentration wavers in different situations. This test showed that almost always you are so focused on your future goal that you lose touch with what you are presently doing in order to reach that goal. You somewhat frequently fail to notice feelings of physical tension or discomfort early enough and find it difficult to focus on what is happening in the present; such as listening to people around you, remembering a new name or being aware of the tasks you are actually doing. Very frequently you are preoccupied with the past or the future. Your MAAS score = 3.6 which shows on average a 64 % lapse in concentration and awareness.

Proposed Interventions

   Strength and conditioning intervention.   The results of the DAFT test showed that a supplementary strength and conditioning program would be beneficial for you. Your slightly raised HR before the test began could have been due to fatigue from the ballet class beforehand, nerves (Harris, 2001) and (Nordin-Bates S. M., 2010) or simply a sympathetic reflex of the body (Baechle & Earle, 2008, p. 123). During the test, high exertion was soon indicated through your HR levels, while your dancing showed a loss of exactness (which can easily cause injury) and concentration was lacking.

Alongside of gaining aerobic capacity and strength you would like to lose weight. Because of restricted calorie intake you now have a slow metabolism, but this should be boosted in the initial weeks due to supplementary training and improved nutrition. During the first 5 weeks aerobic endurance will be trained 3 times a week at 70%- 90% of your

maximum HR. By week 3 you will have built up the aerobic training to 20 minutes. This can be done by running, swimming, cycling etc.

In the 5th week interval training for the glycolysis system will replace one of the aerobic sessions. You should be really tired after this training so it must be done after all other physical activity is completed. 1 repetition is made up of 30 seconds intense activity; 85%-90% of your maximum effort and 60 seconds active rest. From week 9 AR is 30 secs. Build up to 10 reps. In week 6 training your phosphocreatine system is introduced using very short work periods with maximal power. Shuttle runs for 5-7 seconds with a rest period of 45-60 seconds are recommended. 6 repetitions form a set and by week 10 you will have progressed to 3 sets, 4 times a week with 5-10 minutes active rest between sets. This should be done when you are fresh.

In order to build muscular strength that will support the aerobic and anaerobic training and help guard against injury, calisthenics training, twice a week for 20 minutes using the *Strength in Motion & Mind app* (Kolokythas, 2018) has been included in the training plan. Choose from the app which exercises you feel are most needed and progress in difficulty as fitness and strength improve. (Appendix R)

The ten week plan in Table 3 is designed to be fitted around your daily schedule. To begin you will need roughly 1 hour and 40 minutes a week to complete the schedule, by week 10 you will have progressed to roughly 3 hours and 16 minutes. After week 10, when a good level of aerobic fitness and strength has been reached your training can consume less time. 20- 40 mins training sessions 3 times a week plus the exercises from the app will be enough to maintain your new fitness level.

Individuals react differently to training. Dancers with predominantly white fibres can move faster, and develop bulkier muscles than those with slow, red fibres who can develop more endurance (Koutedakis & Sharp, 1999, p. 70). In order to get optimal results feedback exchange between you and your trainer is important.

Table 3 *Supplementary strength and conditioning plan*

TEN WEEK TRAINING PLAN							
Week	**Aerobic Continuous Training Session HR 70%-90% of Max**	**Anaerobic Interval Training, shuttle runs (phosphocreatine system) HR 70%-90% of Max**		**Anaerobic Interval Training, (glycolysis system) cycling, swimming 85%-90% of max effort**		**Calisthenics Core/Strength Training using 11 Plus App: Kolokythas (2018)**	**Total time**
		One set = 6 reps of 5-7 secs work: 45- 60 secs AR	**AR between sets**	**1 Rep = 30 secs intense activity & 60 secs AR. From week 9 AR is 30 secs. Build up to 10 reps**	**Exercise: Rest Ratio**		
1	3x 20 min					2x 20 min. core/strength	1 hr & 25 mins
2	3x 20 min					2x 20 min. core/strength	1 hr & 25 mins
3	3x 20 min					2x 20 min. core/strength	1 hr & 40 mins
4	3x 25 min					2x 20 min. core/strength	1 hr & 55 mins
5	3x 30 min					2x 20 min. core/strength	2 hrs & 10 mins
6	3x 30 min			3 reps. (total 5 mins)	1:2 (30:60 secs.)	2x 20 min. core/strength	2 hrs & 25 mins
7	2x 30 min	3 x in the week 1 set 60 secs AR (total 3x 6 mins)	10 mins	6 reps. (total 10 mins)	1:2	2x 20 min. core/strength	2 hrs & 13 mins
8	2x 30 min	3x in the week 2 sets 60 secs AR (total 3 x 12 mins)	10 mins	8 reps. (total 12 mins)	1:2	2x 20 min. core/strength	2 hrs & 46 mins

9	2x 30 min	4x in the week 2 sets 45 secs AR (total 4 x 10 mins)	7 mins	9 reps. (total 14 mins)	1:1 (30:30 secs.)	2x 20 min. core/strength	2 hrs & 56 mins
10	2x 30 min	4x in the week 3 sets 60 secs AR (total 4x 18 mins)	5 mins	10 reps (total 18 mins)	1:1	2 x 20 min. core/strength	3 hrs & 16 mins

Nutritional intervention.

The tables below (4-8) show alterations (in green) to your original five day food diary. Combined with regular supplementary training, this low fat and high carbohydrate diet may aid weight loss. Because your metabolism is sluggish it has been decided not to add too large an amount of calories in the initial stage. The needed 2167.78 kcal will be introduced slowly in 3 stages of roughly 700 kcal while you steadily increase your strength and endurance through more training. This plan includes better quality and higher amounts of vitamins and minerals and yields 1842.94 kcal, 60.86 g of fat, 91.42 g of protein and 256.68 g of carbohydrates for the first 3 weeks. This reduces the average deficit from 2167.78 kcal to 1511.66 kcal and from 116.06g to 193,32 g of carbohydrates (the desired intake is 3354.60 kcal and at least 450 g of carbohydrates). After weeks 3 and 7, the second and third 700 calorie portions containing at least 60% of complex carbohydrates, must be added to the plan; suggestions are shown in Table 9. From week 4 you should begin to slowly lose weight; 0.5-1 kg a week, a 500-1000 calorie deficit on daily energy output being the recommendations for safe and healthy weight reduction (McArdle, Katch, & Katch, 1996, p. 617). More weight lost within a week is not advisable and this plan should only be carried until you have lost 2- 2.5

kg[8]. By week 10 you will have been able to increase your BMR due to the higher percentage of carbohydrates in your diet and the extra supplementary fitness training. However, supplementary training can change the appearance of your body even without losing weight. See figure 6.
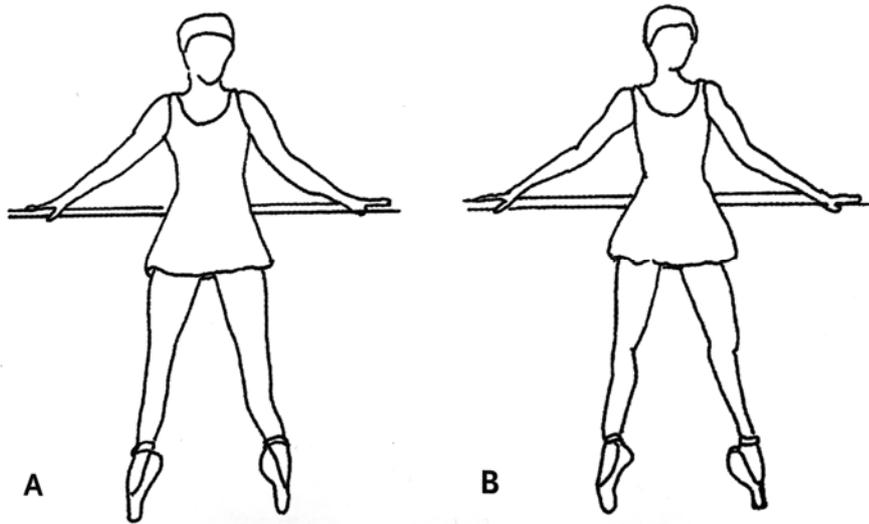
Figure 6 *Two dancers with the same height and the same weight but different body fat* (Simmel & Kraft, 2016)

Long time spans between meals should be avoided. Eating 50-100 g of carbohydrate every two hours to ensure that glycogen stores are preserved (for those big *grand jeté* entrances!) and eating a light meal 1-3 hours before exercise will ensure adequate digestion and energy, plus, large meals in the evening should be avoided (Koutedakis & Sharp, 1999). However, late at night, if you have not had a chance to eat a warm meal all day, it is then advisable to cook something (Simmel & Kraft, 2016).

Remember also that you need to drink around 3 liters of water a day. Among many things other things, dehydration can cause lack of concentration.

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[8] A weight loss of more than 2.5 kg is not advisable!

Table 4 *Day one altered meal plan for safe weight loss*

Time	Monday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
08:00	Filter coffee with soya milk light	0.5	0.8	0.5	9.0
	2 x protein bread	20.0	29.0	114.0	316.0
	Butter 10	8.2	0.1	0.1	71.0
	Jam- Apricot 20	0.0	0.1	11.0	45.4
11:30	100 low fat cottage cheese	1.0	11.0	4.0	74.0
13:00	2 Onigiri with tuna mayo, (about 71g rice, raw 21g tuna)	2.8	7.6	50.2	264.0
	1 x mixed salad:				
	100g tomato	0.0	1.4	6.3	35.0
	100g baby spinach	0.0	3.0	4.0	23.0
	1 large carrot	0.0	1.0	7.0	30.0
	100g cucumber	0.0	4.0	1.0	16.0
	1 tbsp olive oil	13.5	0.0	0.0	119.0
	Mango-vanilla Yoghurt Moevenpick	10.0	2.0	17.0	167.0
16:00	Small coffee with soya milk	0.5	0.8	0.5	9.0
	1 chocolate Easter egg 15g	4.5	1.2	8.9	80.3
	1 banana	0.0	1.0	23.0	89.0
19:30	1x wholemeal bread roll	3.0	10.0	24.0	186.0
	Lentil soup	2.0	8.0	25.0	170.0

		Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
	1 boiled egg	6.0	8.0	0.0	77.0
	1x apple	0.0	0.0	14.0	52.0
Total		**72.1**	**89.0**	**310.4**	**1832.7**

Table 5 *Day two altered meal plan for safe weight loss*

Time	Tuesday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
07:45	Coffee with soya milk	0.5	0.8	0.5	9.0
	Yoghurt (3,2 %fat)	5.0	6.0	6.0	95.0
	Blueberries,	1.0	1.0	9.0	71.0
	Flax seed	4.0	2.1	0.1	50.6
11:30	Orange	0.0	1.0	12.0	47.0
13:00	Greek salad : Iceberg lettuce tomato, cucumber, goat cheese olives	13.0	6.0	21.0	222.0
	Butter 15g	12.2	0.2	0.9	107.6
	1x wholemeal bread roll	3.0	10.0	24.0	186.0
	Dates 50g	0.0	0.0	32.0	142.5
16:00	Low 1% fat quark 100	1.5	18.0	6.0	100.5
	Green tea	0.0	0.0	0.0	0.0
	1 banana	0.0	1.0	23.0	89.0
	50 g almonds	14.0	6.0	6.0	160.0
19:30	110 g Grilled turkey breast	0.0	25.0	0.0	180.0
	150 g (cooked) wholegrain	4.0	5.0	43.0	227.0

	Fat	Protein	Carbohydrate	Calories
rice				
Landliebe Vanilla pudding	4.0	1.5	7.5	72.5
Fruit salad 200 g (mix example- apple, grapes, blueberries, orange, apple)	0.0	1.0	26.0	100.0
Total	**62.2**	**84.5**	**217.0**	**1859.7**

Table 6 *Day three altered meal plan for safe weight loss*

Time	Wednesday	Fat (g)	Protein (g)	Carbohydrate (g)	Calories (kcal)
08:30	Filter coffee with soya milk light	0.5	0.8	0.5	9.0
	2 x protein bread	14.0	29.0	114.0	316.0
	Butter 15 g	12.2	0.2	0.9	107.6
	Jam 2 tbsp	0.0	0.0	8.0	50.0
11:00	Nuts 1 handful	16.0	8.0	4.0	189.0
13.00	150 g wholemeal pasta (uncooked weight)	1.5	7.5	45.0	235.5
	Parmesan	6.8	9.5	0.8	103.8
	Felix sugar free meat sugo	12.0	10.0	14.0	210.0
16.00	Green tea	0.0	0.0	0.0	0.0
	Fruit salad 200 g (mix example- apple, grapes, blueberries, orange, apple)	0.0	26.0	26.0	100.0
19:30	Potato soup 250 g	4.5	4.5	16.2	184.5

		Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
	1 egg	6.0	8.0	0.0	77.0
	1x wholemeal bread roll	3.0	10.0	24.0	186.0
	Cream cheese	3.6	0.8	0.6	54.0
	Gherkin	0.0	0.0	0.0	4.0
Total		**80.0**	**114.2**	**254.0**	**1826.3**

Table 7 *Day four altered meal plan for safe weight loss*

Time	Thursday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
07:45	Coffee with soya milk	0.5	0.8	0.5	9.0
	Chopped mango 100 g	0.0	0.0	17.0	65.0
	Yogurt	5.0	6.0	6.0	95.0
	Tahini	9.0	3.0	6.0	110.0
	Flaxseed	4.0	2.1	0.1	50.6
11:00	Quinoa Granola Bar Quaker	6.0	2.0	25.0	150.0
13:00	200 g Wholegrain rice (cooked)	1.2	3.6	38.1	178.6
	Tuna and herbs	0.0	43.0	0.0	180.0
	Blueberries,	1.0	1.0	9.0	71.0
16.00	Hot chocolate:				
	250 ml low fat milk,	5.0	10.0	12.5	117.5
	1 tsp sugar	0.0	0.0	10.0	40.0
	1 heaped tsp cocoa powder	2.2	2.0	0.8	36.0
	1 banana	0.0	1.0	23.0	89.0

	Hobnobs	8.0	0.0	22.0	184.0
20:00	Pumpernickel	0.0	3.0	18.0	90.0
	cream cheese	3.6	0.8	0.6	54.0
	Tomatoes.	0.0	2.0	4.0	24.0
	Olive	4.0	0.0	1.0	42.0
	Gherkin	0.0	0.0	0.0	4.0
	Quark 1% low fat 200 g	2.0	24.0	8.0	134.0
	mixed with Dates 50 g	0.0	0.0	32.0	142.5
Total		**51.5**	**104.3**	**233.6**	**1866.2**

Table 8 *Day five altered meal plan for safe weight loss*

Time	Friday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
07:45	Filter coffee with soya milk light	0.5	0.8	0.5	9.0
	2 x Ryvita	0.24	1.7	13.33	68
	1 boiled egg	6.0	8.0	0.0	77.0
11:00	50 g "Gittis" Bircher Muesli	0.5	5.0	33.0	185.0
	Yoghurt (3,2 %fat)	5.0	6.0	6.0	95.0
13:00	2 Onigiri with tuna mayo. (about 71 g rice raw, 21 g tuna)	2.8	7.6	50.2	264.0
	Tomato soup 250 ml	2.0	2.0	8.0	174.0
	1 apple	0.0	0.0	14.0	52.0
16.00	Green Tea	0.0	0.0	0.0	0.0

		Fat	Protein	Carbohydrate	calories
	1 banana	0.0	1.0	23.0	89.0
	Easter chocolate about 40 g	14.4	0.0	27.4	226.8
19:30	Vietnamese Restaurant: Pho with beef (Soup with coriander soybean rice noodles)	7.0	33.0	93.0	590.0
Total		**38.5**	**65.1**	**268.4**	**1829.8**

Table 9 *Extra 700 calorie intake suggestions*

Foods	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
Suggestion 1: Porridge :				
40 g oats	3	5	27	140
200 ml 3,5% fat milk	7	6.8	9.4	130
10 g honey (tsp)	0	0.03	8.2	30.4
raisins 30 g (tbsp)	0.1	0.3	8	30
_____				
Potato salad:				
150 g potato	0	3	25.5	120
Almonds 30 g	14	6	6	160
_____				
Buttermilch	2	6	8	76
1 Orange	0	1	12	47
Total	26.1	28.13	104.1	**733.4**
Suggestion 2:				
Muesli bread	4.8	6.72	44	257.6

roll (Anker)				
——————				
Kidney bean and sweet corn salad:				
200 g Kidney beans,	2	14	24	190
50 g Sweet corn	0.5	1.5	10.5	44
Dressing: herbs with	0.72	0.82	0.78	12.8
20 g yoghurt (milfina)				
——————				
1x apple	0	0	14	52
50 g dates	0	1.5	34	145
Total	7.12	24.54	127.28	**701.40**
Suggestion 3:				
Rice salad:				
Sweet corn 150 g	1.3	4.6	28.5	129
Whole grain rice 150 g (cooked)	0.89	2.68	28.57	133.92
Tuna 75 g	0.53	16.73	0	72
10 ml oil	9.1	0	0	82
——————				
Banana	0	1	23	89

Linessa Muesli bar _____	4	2	15	102
Roast sweet potato	1	2	19	93
Total	16.82	29.01	114.07	**700.92**

Confidence and concentration intervention. The interviews and the results of the psychological tests imply that that in addition to the strength and conditioning program and the nutritional plans, you would greatly benefit from positive self-talk and other empowering psychological tools. Research from Nordin-Bates (2010) showed that the main psychological effect of cognitive anxiety is disruption of concentration. After the DAFT you said, "if I had more strength and endurance, if I was fitter, I would have more confidence and then better concentration" and indeed all these factors are connected with one another.

Working with the literature *Dance psychology for artistic and performance excellence*, from Taylor and Estanol (2015) could be of great help to you. This book offers comprehensive advice and cognitive strategies, on various psychological difficulties that dancers encounter. For example, using the information in the chapters on confidence and focus, along with the online worksheets provided (Appendix S), could help you improve your self-esteem, ease anxiety and boost concentration. The authors explain positive self-talk; how what you say to yourself at key points has an effect on how you feel and how you dance. Tips are given, such as identifying key words that encourage you to be positive and writing them where you can regularly see them (inside your flatties?) and remember to stay positive. Rephrasing the inevitable negative thoughts, called "fire-up negative thinking", and learning to control and implement breathing as a relaxation tool and much more, are all covered in this book. *The Four Ps of Focus*; Positivity, Process, Present and Progress (Taylor, 2015), could be especially helpful for your concentration. This helps you to improve concentration by

focusing on things within your control, such as attitude, thoughts, emotions, technique, hydration and nutrition:

- Positivity: avoiding negative factors, focusing on things which support performance and remembering the saying "What we focus on is what grows".

- Process: what needs to be done before and during the exercise, class or performance - not what will need to be done later.

- Present: what can be done in the moment.

- Progress: focusing only on personal progress and not on the progress of other dancers`. (pp. 106-107)

Your preoccupation with the mirror seems to be simultaneously a cause and a symptom of your lack of self-confidence and concentration. You are mesmerised and at the same time repelled. You "need" the mirror to correct yourself, but don´t like what you see, then in turn you "need" the mirror more in order to correct what you don´t like, it´s a damaging cycle. Research has shown that working with a mirror can contribute to low body-image scores (Radell, Adame, & Cole, 2004) and that "higher performing dancers feel better about their body image when they do not use the mirror" (Radell, et al., 2011). Radell et al. (2004, p. 81) also found that *adage* sequences were more negatively affected by use of the mirror than those in the *allegro* part of the class and suggested that this could be because the *adage* is slower and so there is more opportunity to look in the mirror. Indeed, in the class observation. the centre *adage* was when you began to seem very preoccupied with the mirror. With this in mind (alongside positive self-talk tools) during slower movements, try to consciously not look in the mirror in order to avoid getting irrevocably drawn into your own reflection and losing your concentration.

Conclusion

In order to change nutritional habits and reap the benefits of supplementary training, a holistic approach over a longer time span is required. The three areas of nutrition, fitness and psychology are intertwined. Improving nutrition will bring more energy and better concentration. This will greatly aid supplementary training, which in turn, will lead to more strength, a better body image and higher self-esteem/confidence (see Figure 7)

Using the recommended psychological tools from Taylor and Estanol (2015) will help you kick-start your transition and will motivate you along the way to your goals. Continuing healthy physical, psychological and nutritional habits will keep you on top of the game, achieving more than just meeting the demands that classical ballet makes.

Figure 7 *Your steps to peak performance*

References

Angioi, M., Twitchett, E., Metsios, G., & Koutedakis, Y. (2012). Effects of supplemental training on fitness and aesthetic competence parameters in contemporary dance: : A randomised controlled trial. *Medical Problems of Performing Artists, 27*(1), 3-8.

Baechle, T., & Earle, R. (2008). *Essentials of strength training and conditioning* (3 ed.). Champaign, Illinois: Human Kinetics Books.

Bettle, N., Neumärker, U., Neumärker, K., & Bettle, O. (2001). Body image and self-esteem in adolescent ballet dancers. *Perceptual and Motor Skills, 93*(1), 297-309. doi:10.2466/pms.2001.93.1.297

Brinson, P., & Dick, F. (2006). *Fit to dance?* London: Calouste Gulbenkian Foundation.

Brown, K., & Ryan, R. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822-848. Retrieved April 10, 2019, from ppc.sas.upenn.edu: https://ppc.sas.upenn.edu/resources/questionnaires-researchers/mindful-attention-awareness-scale

Eusanio, J., Thomson, P., & S. V. Jaque. (2014). Perfectionism, shame, and self-concept in dancers A mediation analysis. *Journal of Dance Medicine & Science, 18*(3), 106-114.

Gillena, M. M. (2012). An examination of dieting behaviors among adults: links with depression. *Eating Behaviors, 13*, 88–93.

Hamilton, L., & New York City Ballet. (2009). *The Dancer´s Way.* New York: St. Martin´s Press.

Harris, D. A. (2001). Using [beta]-blockers to control stage fright: a dancer's dilemma. *Medical Problems of Performing Artists, 16*(2), 72-76.

Kolokythas, N. (2018). Strength in Motion & Mind app. Retrieved 6 10, 2019, from https://www.onedanceuk.org/resource/strengthinmotionandmind/

Komisarjevsky, N. (2017). *tuflab.com*. Retrieved 2 4, 2019, from https://tuflab.com/what-is-programming-part-3/

Koutedakis, Y., & Jamurtas, A. (2004). The dancer as a performing athlete. *Journal of Sports Medicine, 34*(10), 651-661.

Koutedakis, Y., & Jamurtas, A. (2004). The dancer as a performing athlete. *Sports Medicine, 34*(10), 651-661.

Koutedakis, Y., & Sharp, N. (1999). *The Fit and Healthy Dancer* (1st ed.). Chichester: Wiley.

Koutedakis, Y., & Sharp, N. (1999). *The Fit and Healthy Dancer* (1st ed.). Chichester: Wiley.

Krasnow, D., & Chatfield, S. (1996). Dance science and the dance technique class. *Impulse, 4*, 162-172.

McArdle, W. D., Katch, F. I., & Katch, V. L. (1996). *Exercise physiology: enrgy, nutrition and human performance* (4th ed.). Maryland: Williams & Wilkins.

Nordin-Bates, S. M. (2010). Performance anxiety experiences of professional ballet dancers: the importance of control. *Journal of Dance Medicine & Science, 14*(4), 133-145.

Nordin-Bates, S. M., & Abrahamsen, F. (2016). Perfectionism in dance: applied considerations and a case example. In A. P. Hill (Ed.), *Perfectionism in Sport, Exercise and Dance* (pp. 222-244). New York: Routledge.

Nordin-Bates, S. R., & Madigan, D. (2017). Perfectionism, burnout, and motivation in dance A replication and test of the 2×2 model of perfectionism. *Journal of Dance Medicine & Science , 12*(3), 115-122.

Radell, S., Adame, D., & Cole, S. (2004). The Impact of mirrors on body image and classroom performance in female college ballet dancers. *Journal of Dance Medicine & Science Volume, 8*(2), 47-52.

Radell, S., Adame, D., Cole, S., & Blumenkehl, N. (2011). The impact of mirrors on body image and performance in high and low performing female ballet students. *Journal of Dance Medicine & Science, 15*(3), 108-115.

Simmel, L., & Kraft, E. (2016). *Ernaehrung fuer Taenzer.* Leipzig: Henschel Verlag.

Taylor, J. E. (2015). *Dance psychology for artistic and performance excellence.* Champaign, Ilinois, USA: Human Kinetics.

Twitchett, E., Angioi, M., Koutedakis, Y., & Wyon, M. (2011). Do Increases in Selected Fitness Parameters Affect the Aesthetic Aspects of Classical Ballet Performance? *Medical Problems of Performing Artists, 26*(1), 35–38.

Twitchett, E., Nevill, A., Angioi, M., Koutedakis, Y., & Wyon, M. (2011b). Development, validity, and reliability of a ballet-specific aerobic fitness test. *Journal of Dance Medicine & Science, 15*(3), 123-127.

Wyon, M., Redding, E., Abt, G., Head, A., & Sharp, N. (2004). Oxygen uptake during modern dance class, rehearsal, and performance. *The Journal of Strength and Conditioning Research*, 646-649. doi:10.1519/13082.1

Appendices

i. Appendix A, Informed consent form

WOLVERHAMPTON
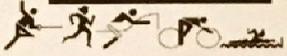
HUMAN PERFORMANCE EVALUATION
Informed Consent Form

Please complete all the details below. This information is required entirely for laboratory records. Students who require informed consent for research projects are encouraged to design a separate informed consent form with their project supervisor. All forms **must** be available prior to data collection commencing.

Name ... *Astrid Renner* ...   D.O.B. *04.03.1991*

Address ... *Hirschengasse 17 / 6a   1060 Wien* ...

Telephone No. ... *0650 6227976* ...

Please read the following statements carefully. Please sign only when you have agreed with the statement and when you have had any relevant questions answered.

- The full details of the tests have been explained to me. I am clear about what will be involved and I am aware of the purpose of the tests and the potential benefits.

- I am aware that there exists the possibility of certain changes occurring during exercise. They include abnormal blood pressure, fainting, irregular, fast or slow heart rhythm, and in rare instances, heart attack, stroke, or death. Every effort will be made to minimise these risks by evaluation of preliminary information relating to your health and fitness and by observations during testing.

- I am responsible to provide information regarding my health status or previous experiences of unusual feelings with physical effort. I am responsible to report promptly any unusual feelings or discomfort during the exercise test.

- I know that I am not obliged to complete the tests. However, I am obliged to stop the test at any point and for any reason.

- The test results are confidential and will only be communicated to others such as my coach if agreed in advance.

- I have no injury or illness that will affect my ability to successfully complete the tests.

Signature of Participant (over16years) ... *Astrid* ...

Date ... *12.04.2019* ...

I hereby declare that I have explained in full the above statements and answered any concerns relevant to this project.

Signature of Tester ... *Jessica Tinder* ...

WOLVERHAMPTON

HUMAN PERFORMANCE EVALUATION

Pre-test Questionnaire

Name _Astrid Renner_

Date of Birth _04.03.1991_   Age _28_

As you are to be a participant in this laboratory, would you please answer the following questions truthfully and completely. The purpose of this questionnaire is to ensure that you are in a fit and healthy state to complete the exercise test(s). Your co-operation in this is greatly appreciated. *Please delete where appropriate

ANY INFORMATION CONTAINED HEREIN WILL BE TREATED AS CONFIDENTIAL.

1. How would you describe your present level of activity?
    Sedentary   moderately active   active   highly active*

2. How would you describe your present level of fitness?
    Very unfit   moderately fit   trained   highly trained*

3. How would you consider your present body weight?
    Underweight   ideal weight   slightly over weight   very overweight*

4. Smoking habits:
    Currently a smoker   yes/no*   A previous smoker   yes/no* of 3 per day
                                                if previous smoker, how long since stopping? 3 years
    An occasional smoker   yes/no* of .... per day

    A regular smoker   yes/no* of .... per day

5. Consumption of alcohol:
    Do you drink alcoholic drinks? yes/no* If yes then do you: have the occasional drink?   yes/no*

    Have a drink every day?   yes/no*   Have more than one drink a day?   yes/no*

6. Have you had to consult your doctor within the last 6 months?   yes/no*
    If yes, please give details to the test supervisor

7. Are you presently taking any form of medication?   yes/no*
    If yes, please give details to the test supervisor

8. Do you suffer, or have you ever suffered, from:
    Asthma? yes/no*   Diabetes? yes/no*   Bronchitis? yes/no*   Epilepsy? yes/no*
    High blood pressure? yes/no*

9. Do you suffer, or have you ever suffered from, any form of heart complaint?   yes/no*

10. Is there history of heart disease in your family?   yes/no*

11. Do you currently have any form of muscle or joint injury?   yes/no*

12. Have you had any cause to suspend your normal training in the last two weeks?   yes/no*

13. Is there anything to your knowledge that may prevent you from successfully completing the tests that have been outlined to you?   yes/no*

I have read, understood and completed this questionnaire. Any questions I had were answered to my full satisfaction.

Signature of Participant ....   Date _12.04.2019_

I hereby declare that I have read this form in its entirety and I understand that the questions asked have been answered to my satisfaction

Signature of Tester ....

Class Section	Positive	Negative
Barre	Good coordination, good use of available turn-out. Well controlled port de bras. Precise, strong foot- work. Good musicality.	Twists the hips towards the working leg. Maybe this comes from trying too hard to turn-out the working leg.
Centre *Adage*	Good flexibility. Good coordination, good use of available turn-out. Very good feeling for line and shape.	Seems preoccupied with the mirror.
Pirouettes	Good coordination and control. Good balance. Seemed very determined to master triple *pirouettes*.	Occasionally lacked dynamics – seemingly still preoccupied with the mirror. Slightly frustrated.
Petit Allegro	Very good coordination and use of turn-out. Good agility. Well controlled port de bras. Precise and strong foot-work. Good *ballon*. Was very exact.	Lacks expression-dynamics. Focus seems on the mirror. Concentration gets lost occasionally.
Batterie	Very good coordination and use of turn-out. Well controlled port de bras. Precise, speedy and strong foot-work. Good *ballon*. Was very exact.	Lacks expression-dynamics. Focus seems on the mirror. Concentration gets lost occasionally.
Medium Allegro	Good coordination and use of turn-out/ *en dehors*. Well controlled *port de bras*. Good musicality	Lacked dynamics and expression. Lacked use of *plié*. Seems preoccupied with the mirror.
Grand Allegro	Very exact Endurance was present.	Lacked a little height and "bounce". Lacked dynamics, force & use of *plié*. *Port de bras* a little too controlled Is preoccupied with the mirror.

Qualities	Self-estimate	Tester-estimate
Power	9	8
Flexibility	6	10
Endurance	10	10
Coordination	8	10
Strength	9	9
Agility	8	10
Speed	6	10
Balance	8	9
Proprioception	9	9
Exactness	7	10
Musicality	9	10
Turnout	7	10

i. Appendix E, Borg Scale RPE of how the dancer rated exertion for each DAFT stage

	Stages				
BORG Scale. Exertion	1	2	3	4	5
6. No exertion at all					
7.Extremely light					
8.					
9. Very Light- (easy walking slowly at comfortable pace)					
10.					
11.Light		X[9]			
12.					
13. Somewhat hard (it´s quite an effort, you feel tired but can continue)	X		X		
14.					
15. Hard (heavy)					
16.					
17. Very hard (very strenuous and you are fatigued)					
18.					
19. Extremely Hard (you cannot continue for long at this pace)				X	X
20. Maximal Exertion					

---

[9] The dancer remarked that „this stage was easier because the arms were added".

BORG SCALE 1-10   1 High, 10 Non-existent.   Begin HF after warming up: 145

Stages

Qualities	1 HF 180	2 HF 190	3 HF 192	4 HF 208	5 HF 208
Sequencing	2	2	1	3	2
Co-ordination	1	1	1	1	2
Exactness	1	2	3	5	8
Travelling distance	1	1	1	2-6	6
Port de bras		1	1	1	2
Jump height			3	6	3
Movement quality	1	1	1	1	1
Arabesque height	1	1	1	5	5
Effort level	10	10	8	6	4
General comments, red in face, etc?	Easy, nice dancing. Concentration slipped after 2 mins. The dancer said it was "easier with the arms"	Concentration slipped after about 2 mins. The dancer seemed a bit behind the music. Dancing looks easy and is nice to watch. The dancer is slightly out of breath. Dancer begins to sweat obviously	The dancer said it was quite hard but "a then end I could have carried on"- also, "my concentration gets lost after 2 minutes". The dancer is out of breath. Foot-work beginning to loose exactness.	Tension in the fingers. But somehow the dancer seems more relaxed. Concentration gets lost, "I lost the music"-"Oh I cannot go on anymore" The dancer is puffing and blowing and clearly out of breath. Feet not pointed, legs not stretched. Dancer seems a bit desperate. Afterwards: "My feet and calves were burning.- Breathing was the hardest I was dying in this, I have no power."	Seemed easier at the beginning because the music was faster. Very soon the breathing gets very heavy and the arms slow down. The dancer gives up after 1.45 mins Afterwards: "Breathing was hard but I could have pushed to carry on – my muscles just could not do it. I was not able to give maximum, my head said "no"."

Day one of food diary

Time	Monday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
9.30	Filter coffee with soya milk light 30g protein shake Layenberger	0.54 0.9	0.78 25	0.51 0.9	9 111
13.00	2 Onigiri with tuna mayo. (about 71g rice raw, 21g tuna) 1 instant miso soup	2.8 1	7.6 3	50.2 3	264 35
16.00	Small coffee with soya milk 2 chocolate Easter eggs about 30g	0.54 9	0.78 2.4	0.51 17.7	9 160.5
19:30	2 x protein bread ham, cheese, 1 boiled egg	14 2 10 6	29 4 10 8	114 0 0 0	316 48 148 77
Total		**46.78**	**57.96**	**183.31**	**1177.5**

Day two of food diary

Time	Tuesday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
7:45	Coffee with soya milk	0.54	0.78	0.51	9
	Yoghurt (3,2fat)	5	6	6	95
	blueberries,	1	1	9	71
	flax seed	4	2.1	0.1	50.6
14:30	Greek salad : Iceberg lettuce tomato, cucumber, goat cheese olives	13	6	21	222
16:00	Protein bar,	4	11	15	142
	Coffee	0	0	0	0
	Magnesium effervescent tablet	0	0	0	11
20:30	1 pumpernickel	0	3	18	90
	ham,	2	4	0	48
	cheese	10	10	0	148
	tomato	0	1	2	12
	1 handful peanuts	16	8	4	189
Total		**55.54**	**52.88**	**75.61**	**1087.6 kcal**

Day three of food diary

Time	Wednesday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
9.30	Filter coffee with soya milk light	0.54	0.78	0.51	9
	30g protein shake Layenberger	0.9	25	0	111
13.00	200g shirataki noodles	2	2	6	12
	Felix sugar free meat sago	12	10	14	210
16.00	Coffee	0	0	0	0
	Nuts 2 handfulls	32	16	8	378
19:30	Miso soup,	1	3	3	35
	1 egg	6	8 g	0	77
	protein bread	7	14.5	57	158
	cream cheese,	3.6	0.8	0.6	54
	gherkin	0	0	0	4
Total		**65.04**	**80.08**	**90.01**	**1048**

Day four of food diary

Time	Thursday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
7:45	Coffee with soya milk	0.54	0.78	0.51	9
	Yogurt	5	6	6	95
	tahini	9	3	6	110
	flaxseed	4	2.1	0.1	50.6
14:30	200g Shirataki rice	0	0	2	16
	tuna and herbs	0	43	0	180
	50g almonds spicy	27.5	12	3.5	317
16.00	Coffee with cream	3	0.3	0.3	23.9
	Magnesium effervescent tablet	0	0	0	11
	Sugar free chocolate Approximately 50g	59.6	11.6	14.4	326.2
20:00	Pumpernickel	0	3	18	90
	cream cheese	3.6	0.8	0.6	54
	Tomatoes.	0	2	4	24
	Olives	4	0	1	42
	gherkin	0	0	0	4
Total		**116.24**	**84.58**	**56.41**	**1352.7**

Day five of food diary

Time	Friday	Fat (g)	Protein (g)	Carbohydrate (g)	calories (kcal)
7:45	Filter coffee with soya milk light	0.54	0.78	0.51	9
	30g protein shake Layenberger	0.9	25	0.9	111
14:30	2 Onigiri with tuna mayo. (about 71g rice raw, 21g tuna)	2,8	7.6	50.2	264
	1 instant miso soup	1	3	3	35
16.00	Coffee with cream	3	0.3	0.3	29
	Easter chocolate about 40g	14.4	3.2	27.04	226.8
19:30	Vietnamese Restaurant: Pho with beef (Soup with coriander soybean rice noodles)	7	33	93 g	590
Total		**29.64**	**72.88**	**174.95**	**1264.8**

Dancer Interview 18.04.19

1. What was your training like?

2. In what way did it prepare you for professional life?

3. In what way did it not prepare you for professional life?

4. What relationship do you have with your body?

5. What do you like about your body?

6. What don't you like about your body?

7. Do you think that ballet is enough to keep you fit for your job?

8. Do you take part in any supplementary training?

9. What are your eating habits?

10. Do you indulge in substance abuse?

Interview with Dancer

Interviewer in bold typeface

Dancer in regular typeface

Ok- what was your training like?

This four minutes now?

No, your school training?

My education?

Your education.

Good education. Yeh- erm very hard education. With a lot of push. But … good.

I´ll say in German-

Yes, do that.

Translated from [German]Yes it was good, but as a pupil I think we had the feeling that we were never good enough. That´s why in the upper school we did extra Pilates, private ballet classes as well, and this and that so that we could pass the diploma exam. Aber … ja … we all learnt what we needed. I think that the artistry suffered a bit due to all the technique.

And the ermm …. Modern … and such things? Did you do that or not?

Er …. Character, was a very good education, we had really great teachers, we also had Wiesenthal with a very strict teacher … and .. we had modern in the 4th class with a good modern teacher, he did for the 3rd and 4h classes- what was his name? er ..

Alan? No No

No No it wasn't him- what was he … American or English? An American- surely. Oh what was his name? A small man with glasses- I`don't know- never mind- he was really good and

he pushed us to do our own choreography, that we improvised a bit, ja, well as much as one can do with 13 years olds … but … he had us … so … when we choreographed something he had us so encouraged- that it was super what we did and that naturaly helped us of course to choreograph something. And in the upper school the modern was really bad. We had just technique- did just Horten technique, technique, technique, beginners technique of Horten technique.

Hmmhm

And it was all and what we showed in the exam and was for the committee a big disappointment.

Hmmhm

And ah.. we had improvisation in a workshop in the 8th class.

Hmmhm

For one semester- which was about perhaps 10 classes- or around that.

Hmmhm

And from that we did our own choreography but that was optional, we didn't have to do it for the exam but we wanted to do it. A choreography with concept in … what were we .. 2 groups of 5

Hmmhm

Or no, more, we were in a sixe or a seven and another group was a five.

Hmmhm OK and erm … in what way did it prepare you for professional life?

In what way?

Hmm – Do you feel that what you learnt at school was the perfect preparation for working in a company?

Ah!

Or .. could you have had- would you have liked something extra? Or do you think you could have left something out? Or …?

Well … erm in the upper school we went into the corps de ballet, and at that time there was Mr Angosa , which meant there were a lot of large classical pieces, and we had been prepared for these … ja … to stand in the corps de ballet, to do our Swan Lake, to do our Bayadere … lalala .. and to learn all this- and for that the education was good because we managed to do this well and we were all put in immediately – ja- but … as the direction [of the company] changed came naturally suddenly choreographers from around the world, came really in the company and said ,"dear company- everybody will improvise with the set choreography .. and … apart from 2 people in the whole company … everybody was so "Uhhhhggg? What?"

Yes

And I just didn't know where to start with that … I was a looser.

Yes- so there it- in that way it did not prepare you for your professional life.

Yes, exactly.

Ok Umm… What relationship do you have with your body?

Er… right now? Or .. over the years?

So .. do you have a constant relationship with your body? Or is it always changing? How do you …?

Always changing .. yes, always changing. [switches to English] Erm a good one in school

Yeah?

That I was like the …,

That you liked?

Oh in School I was like, my body is what I can show around, (laughs)

OK

That´s why I get jobs, because of my super body!

Ok, ok so- what do you like about your body now?

Mmmm- I think that I got more strength

Hmmhm

Because in school time I was just thin- I had not really muscles

Yeah?

- as you can see on the photos also

Oh I haven´t seen them

And I think now that I have, you can see I have muscles, I have the muscles …

You can see the muscles … Hmmhm

Soooooooo   and hur? what else? Muscle   ? Hmm … Yeah the rest I´m figuring out

OK -(laughs) so Ok So what don´t you like about your body?

Errr …. The too much weight I think there´s too much body fat here around, lalala

Hmm, hmm?

From having a break, having also a break, I´m having a break and I want to be back in the shape I had in school and

OK

This is my struggle that I don´t be there, but a lot of positive things change from

The break?

School, yeah, no from school,

Oh from school to now?

Hmmm- if I compare myself, so it´s not like I want to go back, caus for there I was for sure weaker than now

OK

I think

Ok ok, Yes? Good. Umm, hahaumm, Do you think that ballet is enough to keep you fit? Just ballet training is it …

No.

.. is it enough to keep you fit for your job?

No.

Great, OK. Um … Do you take part in any supplementary training?

What´s supplementary? (Participant did not understand the English word)

Supplementary is like extra , like you did at school when you went to the Pilates.

Ahh.

And stuff like that …

Yeah, I do.

Yeah, What do you do?

I go Yoga, I go high intensity training, I …

What do you do in the high intensity training?

Erm- Plank?

Hmmm?

Push –ups? (laughs) Stomach, (now in German)

Yeah?

Thighs- so- lunges

Yeah? Yeah?

10 seconds lunges and then 10 seconds up, or Burdees?

Burpees? Yeah!

Do you do endurance training? Like how long- like running or erm …

Sometimes running but …

How often would you do that?

Yeah ..

Roughly?

Ahh not, I did last summer and last August, September, October I did a lot like 4 times a

week ..

OK- and how long?

I did back there, I did … 5 kilometres and switching sometimes to 6 or switching sometimes to 4

Ok so there is in..

Ok so is endurance training a regular part of your workout training nowadays?

Right now?

Right now.

Not.

Ok

No.

Ok-ok

Im…..

Ok- what are your eating habits?

What are my eating habits? Oooh – Protein shake ..

Hmhm?

Now again a lot of salad actually

Hmhm?

Hmmmmmm , fish, meat, curry, shirtaki noodles (giggles)

OK

Hmm (laughs) only roughage … laughs

Ahh, ok, ok

Those are the no calorie noodles- I really like eating them

Oh …

Ahhhhhahah

I don´t know those at all …

Yeah, yeah ..

Ok

Ja mmm, chocolate here and there, nuts,

Nuts? What would you say is good for you?

What´s good, I think I need proteins and fat yeah

Ok , ok ummm… Do you indulge in substance abuse?

(laughs)

Do you smoke, do you, do drugs, do you ..

Ahh!

.. drink alcohol?

(Laughs) Right now, no,

Ok

Hopefully no,

Yeah?

No , no not at all. [German]

Ok, alright, super, thank you.

Body-Esteem Scale - Mendelson, Mendelsohn, & White, 2001
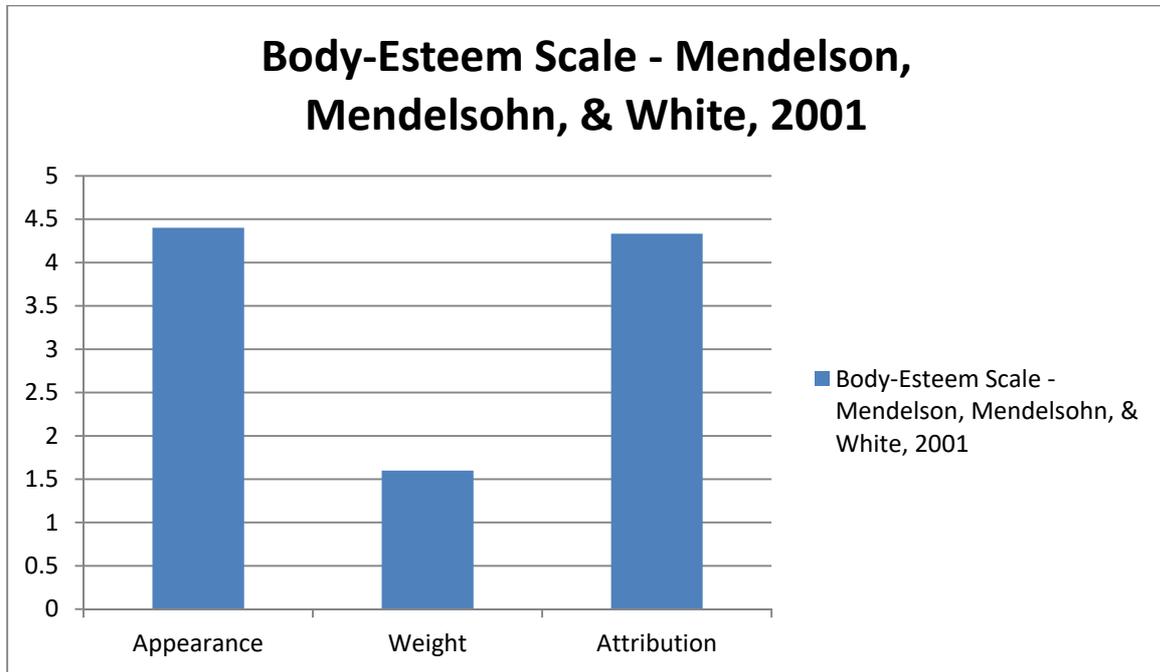
vii.   Appendix K, Body-Esteem Scale Information and filled out form

Body Esteem Scale for Adolescents and Adults (Mendelson, Mendelson, & White, 2001)

BES for adolescents and adults has 3 subscales: BE–Appearance (general feelings about appearance), BE–Weight (weight satisfaction), and BE–Attribution (evaluations attributed to others about one's body and appearance). After reverse scoring the appropriate items, participants' responses are averaged across items so that higher numbers indicated more positive body satisfaction.

Directions: For questions indicated how often you agree with the following statements.

Circle the appropriate number beside each statement.

Never = 1   Seldom = 2   Sometimes = 3   Often = 4   Always = 5

Statement	Never = 1	Seldom = 2	Sometimes = 3	Often = 4	Always = 5
1. I like what I look like in pictures.	1	2	⊗	4	5
2. Other people consider me good looking.	1	2	3	⊗	5
3. I am proud of my body.	1	2	⊗	4	5
4. I am preoccupied with trying to change my body weight.	1	2	3	4	⊗
5. I think my appearance would help me get a job.	1	2	3	4	⊗
6. I like what I see when I look in the mirror.	1	2	⊗	4	5
7. There are lots of things I'd change about my looks if I could.	⊗	2	3	4	5
8. I am satisfied with my weight.	1	⊗	3	4	5
9. I wish I looked better.	⊗	2	3	4	5
10. I really like my weight.		⊗			
11. I wish I looked like someone else.	⊗	2	3	4	5
12. People my own age like my looks.	1	2	3	4	⊗
13. My looks upset me.	⊗	2	3	4	5
14. I'm as nice looking as most people.	1	⊗	3	4	5
15. I'm satisfied with how I look.	1	2	3	⊗	5
16. I feel I weight the right amount for my height.	⊗	2	3	4	5
17. I feel ashamed of how I look.	⊗	2	3	4	5
18. My weight makes me unhappy.	1	2	3	4	⊗
19. Weighing myself depressed me.				⊗	
20. My looks help me to get dates.	1	2	3	4	⊗
21. I worry about the way I look.	⊗	2	3	4	5
22. I think I have a good body.	1	2	3	4	⊗
23. I look as nice as I'd like to.	1	2	3	⊗	5

Negative items (4, 7, 9, 10, 12, 16, 17, 19) must be reverse-coded (i.e., 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1)
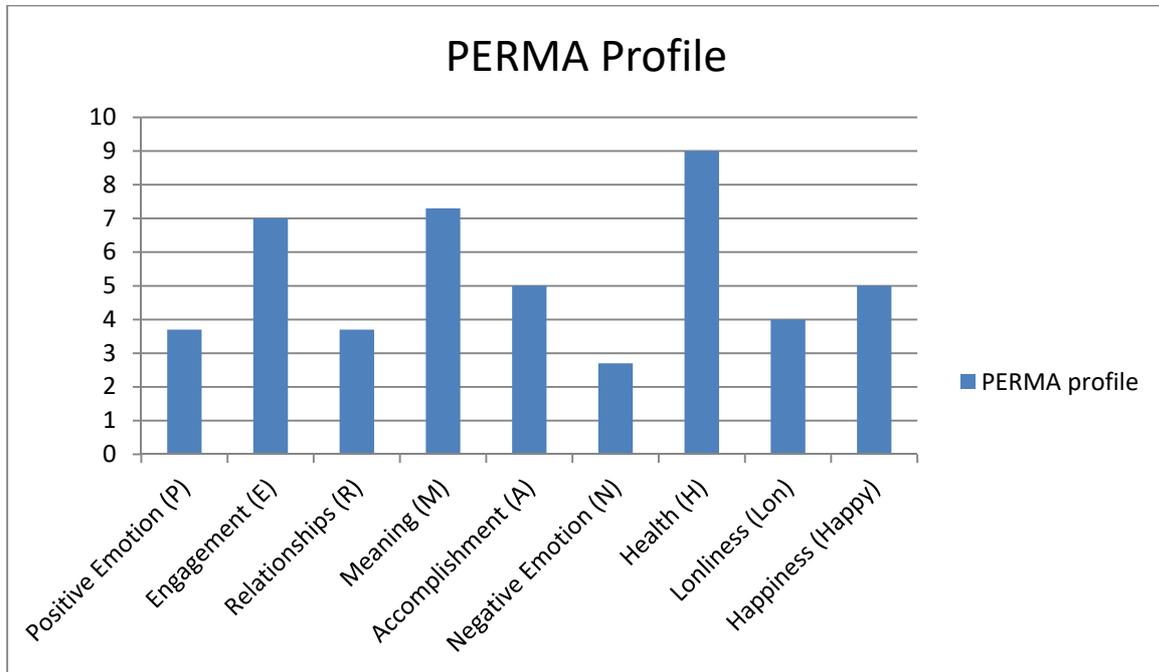
14.04.2019

BE–Appearance subscale: Items 1, 3, 6, 7, 9, 10, 12, 13, 14, 16, 19, 20, 21

BE–Weight: Items 4, 8, 10, 15, 17, 19.

BE–Attribution: Items 2, 5, 11, 18

PERMA Profile

PERMA= mean (P1,P2,P3,E1,E2,E3,R1,R2,R3,M1,M2,M3,A1,A2,A3,hap)

PERMA = 5,3125

ix. Appendix M, PERMA filled out form

The workplace PERMA

Updated 13 October 2014 - MLK

Version 1: presented as a single question per page

#	Question	Response Anchors	Label
1	To what extent is your work purposeful and meaningful?	0 = not at all, 8 \n 10 = completely	M1
2	How often do you feel you are making progress towards accomplishing your work-related goals?	0 = never, 7 \n 10 = always	A1
3	At work, how often do you become absorbed in what you are doing?	0 = never, 5 8 \n 10 = always	E1
4	In general, how would you say your health is?	0 = terrible, 9 \n 10 = excellent	H1
5	At work, how often do you feel joyful?	0 = never, 2 \n 10 = always	P1
6	To what extent do you receive help and support from coworkers when you need it?	0 = not at all, 6 \n 10 = completely	R1
7	At work, how often do you feel anxious	0 = never, 3 \n 10 = always	N1
8	How often do you achieve the important work goals you have set for yourself?	0 = never, 3 \n 10 = always	A2
9	In general, to what extent do you feel that what you do at work is valuable and worthwhile?	0 = not at all, 5 \n 10 = completely	M2
10	At work, how often do you feel positive?	0 = never, 4 \n 10 = always	P2
11	To what extent do you feel excited and interested in your work?	0 = not at all, 10 \n 10 = completely	E2
12	How lonely do you feel at work?	0 = not at all, 4 \n 10 = completely	Lon
13	How satisfied are you with your current physical health?	0 = not at all, 9 \n 10 = completely	H2
14	At work, how often do you feel angry?	0 = never, 3 \n 10 = always	N2
15	To what extent do you feel appreciated by your coworkers?	0 = not at all, 0 \n 10 = completely	R2
16	How often are you able to handle your work-related responsibilities??	0 = never, 5 \n 10 = always	A3
17	To what extent do you generally feel that you have a sense of direction in your work?	0 = not at all, 9 \n 10 = completely	M3
18	Compared to others of your same age and sex, how is your health?	0 = terrible, 9 \n 10 = excellent	H3
19	How satisfied are you with your professional relationships?	0 = not at all, 5 \n 10 = completely	R3
20	At work, how often do you feel sad?	0 = never, 2 \n 10 = always	N3
21	At work, how often do you lose track of time while doing something you enjoy?	0 = never, 3 \n 10 = always	E3
22	At work, to what extent do you feel contented?	0 = not at all, 5 \n 10 = completely	P3
23	Taking all things together, how happy would you say you are with your work?	0 = not at all, 5 \n 10 = completely	hap

The Workplace PERMA Profiler
Margaret L. Kern, University of Pennsylvania

Measure Overview

In his 2011 book *Flourish*, Dr. Martin Seligman, Distinguished Professor of Psychology at the University of Pennsylvania and founder of the field of positive psychology, defined 5 pillars of wellbeing, PERMA (positive emotion, engagement, relationships, meaning, accomplishment). We originally developed the PERMA-Profiler to measure these five pillars, along with negative emotion and health. This version was later created, which adjusts the questions to the workplace context.

P and N = Positive and Negative emotions

Emotions are an important part of our well-being. Emotions can range from very negative to very positive, and range from high arousal (e.g., excitement, explosive) to low arousal (e.g., calm, relaxed, sad). For **Positive emotion**, the PERMA-Profiler measures general tendencies toward feeling contentment and joy. For **Negative emotion**, the Profiler measures tendencies toward feeling, sad, anxious, and angry.

E = Engagement

Engagement refers to being absorbed, interested, and involved in one's work, and is a key measure for workplaces today. Very high levels of engagement are known as a state called "flow", in which you are so completely absorbed in an activity that you lose all sense of time.

R = Relationships

Relationships refer to feeling connected, supported, and valued by others in the organization. Having positive relationships with others is an important part of life feeling good and going well. Other people matter!

M = Meaning

Meaning refers to having a sense of purpose in one's work. Meaning provides a sense that your work matters.

A = Accomplishment

Accomplishment can be objective, marked by honors and awards received, but feelings of mastery and achievement is also important. The Profiler measures subjective feelings of accomplishment and staying on top of daily responsibilities. It involves working toward and reaching goals, and feeling able to complete tasks and daily responsibilities.

H = Health

Although not part of the PERMA model itself, physical health and vitality is another important part of well-being. The Profiler measures a subjective sense of health – feeling good and healthy each day.

Use of the Measure

Two versions of the measure are provided below: the first is for presenting the items one screen at a time, or as a full measure as part of a paper questionnaire; the second groups questions together with the same response scales, to reduce the number of pages needed. The questions should be presented in the order noted. The health and negative emotion questions act as filler questions and provide more information; for

briefness, the 16 PERMA questions (3 per PERMA domain plus a single overall question) could be used, but we recommend using the full measure.

The measure is **freely available for noncommercial research and assessment purposes, after registering** (please complete the form at https://docs.google.com/forms/d/1eamBshwjtJyQDsWG72qum8Czi_J2IlZ3Q7r5FE5ojEA/viewform?usp=send_form). In the future, we will have an online portal for taking the measure and receiving results and insights, but at this point, we cannot provide assistance with administering or scoring the measure.

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Question Administration

The questions should be presented either with radial buttons or on a slider scale, with only the end points labeled. Note that this is an 11-point scale, ranging from 0 to 10.

|	Not at all 0	1	2	3	4	5	6	7	8	9	Completely 10
In general, to what extent do you feel contented?	○	○	○	○	○	○	○	○	○	○	○

Scoring:

Scores are calculated as the average of the items comprising each factor:

Positive Emotion:	P = mean(P1,P2,P3)
Engagement:	E = mean(E1,E2,E3)
Relationships:	R = mean(R1,R2,R3)
Meaning	M = mean(M1,M2,M3)
Accomplishment	A = mean(A1,A2,A3)
Overall Well-being	PERMA= mean(P1,P2,P3,E1,E2,E3, R1,R2,R3, M1,M2,M3, A1,A2,A3,happy)
Negative Emotion:	N = mean(N1,N2,N3)
Health =	H = mean(h1,h2,h3)
Loneliness	Lon (single item)

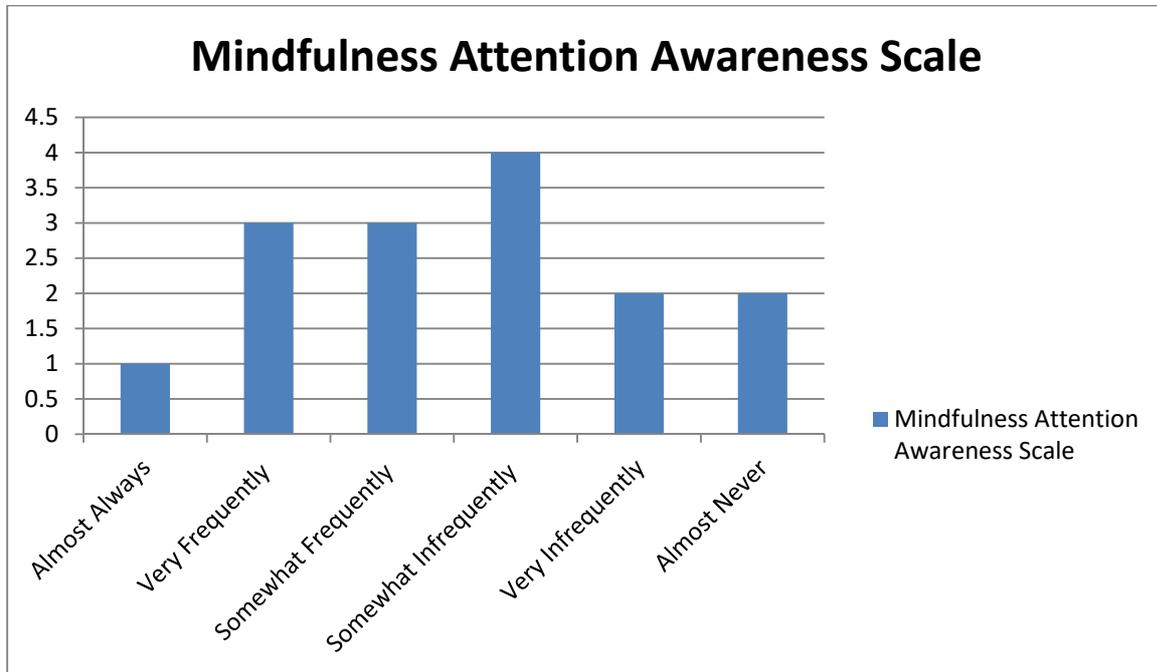## Sample Scoring Presentation

We are working on the best way to display scores. To date, we have used bar graphs:
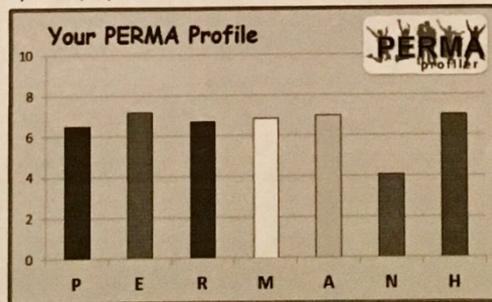
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Mindfulness Attention Awareness Scale

MAAS Score = 5+5+3+ 2+3+1+4 +4+1+3+3 +6+2+4+5 = 54,

54÷ 15 = 3,6

This shows 64% of concentration lapse.

Mindfullness - concentration

Mindful Attention Awareness Scale - Brown + Ryan (!)

Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what *really reflects* your experience rather than what you think your experience should be. Please treat each item separately from every other item.

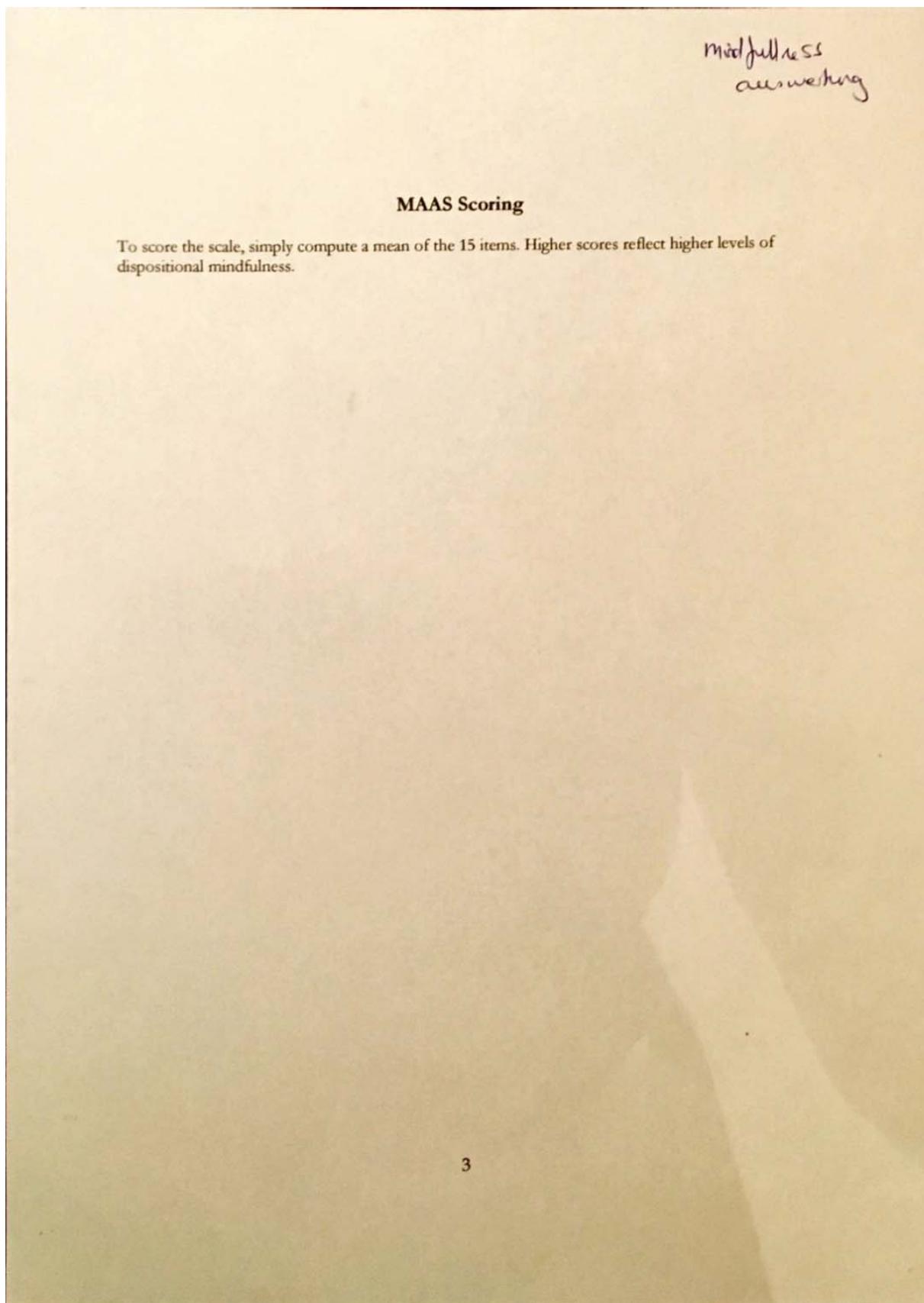| 1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

I could be experiencing some emotion and not be conscious of it until some time later.	1	2	3	4	⊠ 5	6
I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	⊠ 5	6
I find it difficult to stay focused on what's happening in the present.	1	2	⊠ 3	4	5	6
I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	⊠ 2	3	4	5	6
I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	1	2	⊠ 3	4	5	6
I forget a person's name almost as soon as I've been told it for the first time.	⊠ 1	2	3	4	5	6
It seems I am "running on automatic," without much awareness of what I'm doing.	1	2	3	⊠ 4	5	6
I rush through activities without being really attentive to them.	1	2	3	⊠ 4	5	6
I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	⊠ 1	2	3	4	5	6
I do jobs or tasks automatically, without being aware of what I'm doing.	1	2	⊠ 3	4	5	6
I find myself listening to someone with one ear, doing something else at the same time.	1	2	⊠ 3	4	5	6

1

Mindfullness concervation

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

I drive places on 'automatic pilot' and then wonder why I went there.	1	2	3	4	5	~~6~~
I find myself preoccupied with the future or the past.	1	~~2~~	3	4	5	6
I find myself doing things without paying attention.	1	2	3	~~4~~	5	6
I snack without being aware that I'm eating.	1	2	3	4	~~5~~	6

mindfullness answering

MAAS Scoring

To score the scale, simply compute a mean of the 15 items. Higher scores reflect higher levels of dispositional mindfulness.

3

Strength and Conditioning Program using the Strength in Motion & Mind app (Kolokythas, 2018)

Week	Plank on elbows with lifted leg (1 set = 2 reps each side 10-15 secs.)	Plank on hands (1 set = 2 reps each side 10-15 secs.)	Side Plank on knee (1 set = 2 reps each side 10-15 secs.)	Single leg Bridge & Hold (every week holding the positions a few secs. longer) (1 set = 10 reps each side)	Hamstring Raises (1 set = 8-10 reps)	Squats to relevé (1 set = 10 reps)	Sit-up crunches	Side slides (1 set = 8-12 reps each side)	Monster walks with elastic band (1 set = 10 reps of 4 walks in each direction (left, right, backwards, forwards) Increase the resistance over the weeks)	Hip Airplane (1 set = 5-10 reps each side)
1.	1 set 10-15 secs	1 set 10-15 secs	With bent underneath leg 1 set 10-15 secs	1 set	1 set	1 set	2x 20	1 set (8)	1 set straight legs	1 set (5)
2.	1 set 10-15 secs	1 set 10-15 secs	With bent underneath leg 1 set 20 secs	1 set	1 set	1 set	2x 20	1 set	1 set straight legs	1 set
3.	1 set 30 secs	1 set 30 secs	With bent underneath leg 1 set 20 secs	1 set	2 sets	1 set Slowly coming down in eccentric phase	3x20	1 set Pause at bottom	1 set straight legs	1 set Take leg higher

#										
4.	1 set 45 secs	1 set 45 secs	With stretched underneath leg 1 set 45 secs	1 set	1 set each side with single leg	1 set Slowly coming down in eccentric phase	3x 20	1 set Pause at bottom	1 set straight legs 1 set bent legs	1 set (10) Take leg higher
5.	1 set Lifting opposites 20 secs	1 set Lifting opposites 20 secs	With stretched underneath leg 1 set 45 secs	2 sets	1 set (15) each side with single leg	1 set Slowly coming down in eccentric phase	3x 30	1 set (12) Pause at bottom	1 set straight legs 1 set bent legs	1 set (10) Take leg higher increase speed
6.	1,5 set Lift opposites 30 secs	1,5 set Lift opposites 30 secs	With stretched underneath leg 1 set 1 min	2 sets	1 set & 1 set (15) each side with single leg	1 set Slowly coming down in eccentric phase and pause in squat	3x 30	1 set (12) Pause at bottom	1 set straight legs 1 set bent legs	1 set (10) with leg same height as before increase speed
7.	2 set 30 secs Lift opposites	2 set 30 secs Lift opposites	With stretched underneath leg and elbow to knee 2 sets	2 sets	2 sets & 1 set (15) each side with single leg	1 set Coming up to *relevé*, Slowly coming down in eccentric phase and pause in squat	3x 40	1 set (12) Pause at bottom	1 set bent legs 1 set straight Legs on demi pointe	1 set (10) Close eyes Low leg
8.	2 sets with side twist 10 secs	2 sets with side twist	With stretched underneath	2 sets	2 sets & 1 set (15)	1 set Coming up to *relevé*,	3x 40	1 set (12) Pause at bottom and	1 set bent legs 1 set straight Legs on demi	1 set (10) Close eyes Increase

	leg height	pointe	lift trailing leg			each side with single leg		leg and elbow to knee 3 sets	10 secs	
					Slowly coming down in eccentric phase and pause in squat					2 sets with side twist 15 secs
9.	1 set (10) Close eyes Keep leg height	1 set straight legs 1 set bent Legs on demi pointe	1 set (12) Pause at bottom and lift trailing leg	3x 50	1.5 sets Coming up to *relevé*, Slowly coming down in eccentric phase and pause in squat	1 set & 2 sets (15) each side with single leg	2 sets	With stretched underneath leg and elbow to knee 4 sets	2 sets with side twist 15 secs	2 sets with side twist 15 secs
10.	1 set (10) Close eyes Keep leg height and increase speed	1 set straight legs 1 set bent Legs on demi pointe	1 set (12) Pause at bottom and lift trailing leg	4x 50	1.5 sets (maybe 2) Coming up to *relevé*, Slowly coming down in eccentric phase and pause in squat	1 set & 2 sets (15) each side with single leg	2 sets	With stretched underneath leg and elbow to knee 6 sets	2 sets with side twist 20 secs	2 sets with side twist 20 secs

Worksheet 4.1: Confidence Inventory

Instructions
Use the following scale to indicate how often you have each of the following experiences.

_____

1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always
_____

_____1. I expect to dance poorly.

_____2. I feel happy and excited about performing.

_____3. I tell people I'm going to dance poorly.

_____4. I focus on my next performance.

_____5. My body language is down and negative.

_____6. I am totally committed to dancing my best.

_____7. I feel like I just want to quit.

_____8. I am confident in my ability to dance well.

_____9. I doubt my ability to perform well.

_____10. I look forward to my next performance.

_____11. I am tentative during the performance.

_____12. My body language is up and positive.

_____13. I worry about my last performance.

_____14. I tell people that I'm going to dance well.

_____15. I feel depressed, angry, or frustrated about performing.

_____16. I expect to dance well.

Scoring: Total your responses to the even-numbered and odd-numbered items separately. Then, subtract your score for the odd-numbered items from your score for the even-numbered items. The

result, which will fall between −32 and 32, is your self-confidence score. To understand the implications of your score, review the following descriptors.

32 to 16: High confidence. If you scored in this range, you are a very confident dancer. You almost always think positively and rarely get very nervous. You perform your best under difficult conditions and dance assertively when it really counts. You are also willing to take chances and try new things. You are usually pleased with your dancing, and you love to dance even in poor conditions.

15 to 0: Moderate confidence. If you scored in this range, you are a fairly confident dancer. You usually think positively but can experience doubts when you perform with someone better than you or dance in difficult conditions. You usually perform well, but your dancing can be erratic if you have doubts or get nervous because of the conditions. You generally enjoy dancing but get frustrated at times, particularly if you think you are performing poorly or if conditions are not ideal.

−1 to −16: Low confidence. If you scored in this range, you lack confidence in your dancing. You tend to think negatively when performing and generally expect to do poorly except when dancing with someone who has less ability. Your dancing deteriorates in difficult conditions. Dancing is rarely fun for you, and you sometimes wonder why you do it.

−17 to −32: Minimal confidence. If you scored in this range, you have little or no confidence in your dancing ability. You always think negatively and get nervous when you perform with dancers you think are better than you are. You avoid dancing in difficult conditions and perform poorly when faced with them. You often become angry or depressed when you dance. Every time you dance, you tell yourself that you are going to quit dancing.

Worksheet 4.2: Know Your Self-Talk

Instructions

List the situations in which you tend to use negative self-talk, the causes of your negativity, your common negative thoughts, and positive replacements.

	Hot-button situation	Hot-button cause	Negative self-talk	Positive replacement
1.				
2.				
3.				
4.				

Worksheet 6.1: Focus Inventory

Instructions

Use the following scale to indicate how often you have each of the following experiences before or during a performance.

---

1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always

_____1. Being unable to block out offstage distractions while performing

_____2. Being unable to block out internal activity before or during a performance

_____3. Being unable to focus on pre-performance preparation because of external distractions

_____4. Focusing on over-intensity rather than on pre-performance preparation

_____5. Being anxious, distracted, or confused because of pre-performance activity

_____6. Forgetting choreography because of thinking about other things

_____7. Forgetting choreography during rehearsal because of spectators

_____8. Worrying before or during a performance about how you will dance

_____9. Focusing on other dancers in class rather than on technical instruction

_____10. Thinking about the performance outcome rather than the process

_____11. Getting distracted by external cues (e.g., audience, offstage activity) while you are onstage

_____12. Getting distracted by irrelevant thoughts while onstage

Scoring: Total your responses to the even-numbered and odd-numbered items separately. Then, subtract your score for the odd-numbered items from your score for the even-numbered items. The result, which will fall between −24 and 24, is your concentration score. To understand the implications of your score, review the following descriptors.

24 to 8: Internal focus. You are sensitive to internal distractions. You tend to think too much about negative or irrelevant things. You are very aware of your emotions and often let them decide how you perform. You are acutely conscious of your body's responses and notice changes in your intensity. For you to perform effectively, you must take steps to block out internal distractions and focus outward.

7 to −8: Moderate focus. You are not overly sensitive to either internal or external cues. You are usually able to maintain good focus, and if you become distracted you can regain your concentration.

−9 to −24: External focus. You are sensitive to environmental distractions. You are usually very aware of your surroundings, seeing and hearing most of what occurs around you. These external distractions often keep you from focusing on the task at hand in class, rehearsal, or a performance. They also tend to cause over-intensity. For you to perform effectively, you must take steps to block out external distractions and focus inward.

Worksheet 6.2: Performance-Relevant Versus Performance-Irrelevant Cues

Instructions

For each category of external or internal cues, write down specific cues that are performance relevant and performance irrelevant.

_____

External and internal cues

_____

Performance-relevant	**Performance-irrelevant**

_____

Class

    Physical space

    People

    Thoughts

    Emotions

    Intensity

Rehearsal

    Physical space

    People

    Thoughts

    Emotions

    Intensity

Performance

    Physical space

    People

    Thoughts

Emotions

Intensity

Worksheet 6.3: Performance-Relevant Key Words

Instructions
In the left column, write common technical or artistic instructions. In the right column, write key words for focusing on each instruction.

_____

Instruction	Key Words

_____

1.

2.

3.

4.

5.

6.

7.

8.

From J. Taylor and E. Estanol, 2015, *Dance psychology for artistic and performance excellence,* (Champaign, IL: Human Kinetics).