

*The use of imagery in dance classes for
Parkinson's disease patients*



Name: Betty Keeman

Student number: 3340589

Supervisor: Chiel Kattenbelt / Liesbeth Wildschut

Master Thesis

Dedicated to my parents

Chapters

1. Introduction	8
1.1. Parkinson's disease	8
1.1.1. Neurological effects	9
1.1.2. Possible treatments	9
1.2. Existing research	10
1.3. Imagery	11
1.4. Research question	12
1.5. Theoretical framework	13
1.6. Research method	14
1.6.1. Classes	14
1.6.2. Participants	15
1.6.3. Questionnaires and interviews	15
1.7. Thesis layout	16

2. Existing studies on dance classes for Parkinson's disease patients	18
2.1. Introduction	18
2.2. Existing research	18
2.2.1. Sara Houston and Ashley McGill (2012)	18
2.2.2. Lisa Heiberger at all (2011)	19
2.2.3. Eris Foster at all (2013)	19
2.2.4. Madeleine Hackney at all (2007)	20
2.3. Testing methods	21
2.4. Research results	23
2.5. Useful for further research	25

3. Imagery	28
3.1. Introduction	28
3.2. Imagery from a psychology perspective	28
3.2.1. Allan Paivio – Imagery and Verbal Processes	28
3.2.2. Ronald A. Finke – Principles of Mental Imagery	30
3.3. Imagery utilised in professional sports	32
3.3.1. Linda Warner and Evelyn McNeill – Mental Imagery	32
3.3.2. Lesley Jones and Gretchen Stuth – The use of Mental Imagery in Athletics	33
3.4. Imagery utilised in dance classes	34

3.4.1. Types of imagery in dance	35
3.4.2. Imagery in dance classes	37
3.5. Imagery in dance classes for Parkinson's disease patients.	40
 4. The experiment	 42
4.1. Introduction	42
4.2. Research specifics	42
4.2.1. Specific details	42
4.2.2. Explanation research specifics	42
4.3. Class curriculum	43
4.4. Questionnaire	44
4.5. Interview	46
 5. Conclusion and Discussion	 48
5.1. Introduction	48
5.2. Imagery and the PD patients	48
5.3. Social life and wellbeing	52
5.3.1. Social activities	52
5.3.2. Impact of the dance class	53
5.4. Reflection	55
5.5. Further research	57
 6. Sources	 60
6.1. Articles and Books	60
6.2. Booklets	62
6.3. Websites	62
 7. Appendix A - Research specifics	 64
7.1. Biography Annemarie Labinjo	64
7.2. Performance Pearl specifics	64
7.3. Music for Pearl	64
7.4. Lesson plan	65

8. Appendix B - Questionnaires and Interviews	68
8.1. Informed consent from	68
8.2. Westheimer questionnaire	69
8.3. Experiment questionnaire I (22-09-2014)	71
8.4. Experiment questionnaire II (10-11-2014)	73
8.5. Interview questions (Dutch and English)	77
9. Appendix C – Research Results	78
9.1 Questionnaire results	78
9.1.1. Questionnaire part 1	78
9.1.2. Questionnaire part 2	79
9.1.3. Questionnaire part 3	82
9.2 Interview results	83
10. Appendix D – Interviews transcribed	90
10.1. Interviews transcribed	90

1. Introduction

"Dance is de hidden language of the soul." Martha Graham

While studying abroad at the University of Florida, I came across something that was very unfamiliar to me. The university hospital had a dancer in residence. The world of clean and white hospitals was collaborating with the artistic and colourful world of dance. Intrigued by this combination I started to search for information on the collaboration between arts and medicine. I discovered that the university provided dance classes for Parkinson's disease patients. Dance was not only utilised as creative therapy, but also to help people with a specific disease. My interest was sparked; I wanted to know how these classes functioned and if they had a positive effect on the patients. This interest became the foundation for my master thesis.

Various studies have shown that dance classes for Parkinson's disease patients have a positive effect on the patients¹, but what exactly is creating the progress does not always seem evident. To add to that, most of the research is based on physical benefits², leaving out the artistic aspect of dance. Therefore I decided to research dance classes for Parkinson's disease patients from a dance science perspective. To do this research, it is important to understand what Parkinson's disease is and how it affects its patients. Parkinson's disease will be referred to as PD throughout this entire thesis.

1.1 Parkinson's disease

About 70,000 people are expected to have PD in the Netherlands in 2015.³ The disease usually strikes between age 55 and 64.⁴ Only a small part of the patients are younger than forty.⁵ PD received its name from James Parkinson, the first person to medically describe Parkinson's disease in 1817.⁶ There are two kinds of PD. The first version is characterised by tremors. For 50% of the patients it starts in the muscles of just one ligament, for instance an arm or a leg. The second version is characterised by rigidity.⁷ Other early symptoms are falling, feeling

¹ Sarah Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's," *Arts and Health: An International Journal for research, Policy and Practice* (2012), 10.

² Lisa Heiberger et al, "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 11.

³ S.H.J, Keus, *KNFG – Richtlijn. Ziekte van Parkinson*, Amersfoort: Drukkerij de Gans. 2006: 1.

⁴ Ibidem.

⁵ "Alles over hersenen," *Hersenstichting*, seen May 4th, 2014.

<https://www.hersenstichting.nl/alles-over-hersenen/hersenaandoeningen/parkinson>

⁶ Christopher G Goetz, "The History of Parkinson's Disease: Early Clinical Descriptions and Neurological Therapies," *Cold Spring Harbor Perspectives in Medicine*, September (2011): 1.

⁷ S.H.J, Keus, *KNFG – Richtlijn. Ziekte van Parkinson*, Amersfoort: Drukkerij de Gans. 2006: 4.

down, and fatigue. These are usually accompanied by symptoms as stiffness of the muscles, slowness, and shaking.⁸

1.1.1 Neurological effects

For healthy individuals, the brain organises the body almost fully automatically. For people with PD this organisation starts to falter. Moving muscles becomes more difficult and requires full attention. The easiness of moving disappears and only the necessary movements remain. The automatic reaction is to use less force when moving, creating smaller and slower movements.⁹

When people have PD, the so-called 'black core of the brain', substantia nigra, attains damage. The substantia nigra is the part of the brain that creates dopamine. Dopamine is a neurotransmitter that helps people move effortlessly. Without enough dopamine, movement control is affected and tremors appear in arms and legs. At the same time it causes muscles to stiffen, making it harder for the patients to initiate movement.¹⁰ Next to the muscles being affected, it also affects speech and facial muscles, creating a 'masked' face. This can problematize swallowing, talking, and lessen the tone of voice.¹¹

1.1.2 Possible treatments

PD is a progressive disease, meaning that the disease worsens with time. When PD patients age, the chances of getting dementia rise. PD patients are also susceptible to depression as the disease limits the quality of life of its patients.¹²

A cure for PD has yet to be found, but it can be treated to make life more bearable. Different therapies supposedly alleviate some of the symptoms. Physical therapy helps with the stiffness of the muscles, speech therapy helps with speech problems, and ergo therapy helps with day-to-day activities. Levodopa is a medicine that aids to fight the dopamine shortage. When Levodopa fails to work, brain surgery can possibly help to limit tremors and stiffness.¹³ PD is a disease that affects a patient's ability to move. It can cause tremors and stiffness in the muscles. The stiffness in the muscles can provoke problems, for example with balance and gait and speech problems.

It is of significant importance to keep moving and exercising, to remain mobile. Dance classes are a way of staying active for PD patients. Various studies

⁸ "Wat is Parkinson?" *Parkinson Vereniging*. Seen May 4th, 2014.
<http://www.parkinson-vereniging.nl/parkinson/wat-is-parkinson/>

⁹ Ibidem.

¹⁰ "Alles over hersenen," *Hersenstichting*, seen May 4th, 2014.
<https://www.hersenstichting.nl/alles-over-hersenen/hersenaandoeningen/parkinson>

¹¹ Ibidem.

¹² Ibidem.

¹³ Ibidem.

have been conducted to investigate the effectiveness of dance classes for PD patients, but what they barely touch upon is the artistic power of dance.

1.2 Existing research

Most existing studies on dance classes for PD patients are conducted from a physiological perspective. The research focuses mostly on the physical and social benefits of these classes. Research by Sarah Houston and Ashley McGill on ballet classes for PD patients, claims that dance has a positive effect on balance, gait, stability, and rotation in the body. In addition, the interviews show that people have a higher level of confidence, motivation, and body awareness.¹⁴ A study by Erin R. Foster et al. on dance classes for PD patients, indicates that the participants feel better about their body right after a dance class, have an improved state of mind, and an increased mobility. The use of music in the dance classes improves the motor skills.¹⁵ Another study on the social aspects of tango classes versus normal physical therapy found that PD patients engaging in tango classes become involved in more social activities, claiming an increase in quality of life.¹⁶ What all these different studies show is that the social and physical aspects of the lives of PD patients improve because people are partnering in dance, music is a possible trigger for movement, dance is functioning as a multitasking way of moving, and dance styles like tango yield cardiovascular benefits.¹⁷ The physiological benefits in these studies are measured by several tests on stability, mobility, and movement. The social benefits are measured through questionnaires and interviews.

What most of these studies¹⁸ barely touch upon, is the artistic quality of the dance classes. This is probably due to the fact that these studies are conducted from a physical and psychological perspective, putting the focus of this research on other aspects. However, dance is an artistic form of sport¹⁹, the unique aspect of artistic quality on this sport cannot be discarded. Benefits mentioned as dancing together on music and creating a community do not

¹⁴ Sarah Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's," *Arts and Health: An International Journal for research, Policy and Practice* (2012), 10.

¹⁵ Lisa Heiberger et al, "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 11.

¹⁶ Erin R. Foster et al, "A community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease," *Arch Phys Med Rehabil*, February (2013): 245.

¹⁷ G.M. Earhart, "Dance as therapy for individuals with Parkinson disease," *European Journal of Physical and Rehabilitation Medicine*, 45-2 (2009): 235.

¹⁸ This strictly means research on dance classes for PD patients; creative therapy with dance is excluded from this, as the aim of the classes is different.

¹⁹ Whether or not dance is considered a sport is heavily debated in dance studies. Both sides have well supported arguments. However, since dancing on a professional level requires dancers to live as professional athletes I consider dance to be a form sport. A sport that requires strength, physical training, athletic ability, and speed, with the goal to move as beautiful as possible.

necessarily state the importance and benefits of dance itself. Hence, I believe there is a gap in the research. The artistic power of dance lies in the possibility to portray a story, an emotion, or a theme through movement. The imaginative power of dance is part of this artistic quality; it helps the dancer to bring across a message to the audience. I think that this imaginative power could also help PD patients in the dance classes. Therefore I would like to research imagery used in the dance classes for PD patients, to add to the existing research on these classes.

1.3 Imagery

The artistic power of dance is the ability to portray a story, a theme, or an emotion through movement. In normal²⁰ dance classes, clues on movement quality help dancers²¹ to transform the moving of a ligament into a meaningful movement. Walking around a dance academy you will hear sentences such as: "pretend you are a fairy floating across the floor", "push away from the floor instead of into the floor", "pretend there is an elastic band pulling your leg back but you will not allow it." Cues like these help dancers to give a certain quality to a movement. It was unforeseen that little research has been conducted on imagery in dance classes. However, it has been researched to great extent in professional sports, although with slightly different aims.

Various studies have focussed on how imagery utilised in training sessions for professional athletes creates athletic performance enhancement. Lesley Jones and Gretchen Stuth (1997) have written a literature review of studies conducted on imagery employed in sports. Their research shows progression in athletic performance through imagery among slalom canoeists, gymnasts, footballers, and golfers.²² The different studies they discuss show that mental imagery is used to improve skills, working on the various demand of a certain sport and working on specific parts of a routine used in sports.²³ How imagery works in training for different sports will be discussed in Chapter 3. Research conducted on sports such as competition diving, gymnastics, and dancing shows that they share imagery strategies and the aim of creating the most outstanding execution of the movements above speed or endurance. The beauty of the performance is more important than the athletic performance itself. In the study 'An in-depth analysis

²⁰ 'Normal dance classes' refer to dance classes in all types of dance styles for amateur, semi-professional and professional dancers.

²¹ 'Dancers' refers to amateur, semi-professional, and professional dancers.

²² Lesley Jones and Gretchen Stuth, "The use of mental imagery in athletics: an overview," *Applied & Preventive Psychology*, 6 (1997): 102.

²³ Ibidem.

of the use of imagery by high-level slalom canoeists and artistic gymnasts' by White and Hardy in 1998, a definition on what imagery entails is given:

"Imagery is an experience that mimics real experience. We can be aware of 'seeing' an image, or experiencing an image of smell, taste or sounds without experiencing the real thing. Sometimes people find that it helps to close their eyes. It differs from dreams in that we are awake and conscious when we form an image."²⁴

This definition is used by multiple studies on imagery in professional sports. Sanna M. Nordin and Jennifer Cumming, researchers who have conducted explorative studies on imagery used in dance classes, also cite it. I think this quote is useful for the research on imagery utilised in normal dance classes as it not only touches upon visualizing an image but also includes sound in the definition. In dance, music can also serve as a trigger for people to envision the movements seen while listening to specific musical pieces. Therefore this definition will also be used as the definition of imagery in this thesis.

1.4 Research question

To research the influence of imagery in dance classes for PD patients the following research question was formulated:

How is the use of imagery in dance classes for Parkinson's disease patients experienced by its participants and how do the classes affect their wellbeing?

To carry out research with this question, a few concepts have to be specified. Imagery will be defined according to by White and Hardy, imagery is regarded as an experience that mimics the real experience. Wellbeing will be defined as the capabilities to participate in a social life: the ability to join in social and cultural activities. These include engaging in parties, socializing with friends, being actively involved in games and sports, and visiting art institutions. To research this question, a theoretical framework will be formed as the foundation for this research.

1.5 Theoretical framework

²⁴ A. White and L. Hardy, "In in-depth analysis of the uses of imagery by high-level slalom canoeists and artistic gymnasts," *The Sport Psychologists* (1998).

The theoretical framework for this thesis consists of two parts. The first part is the existing research on dance classes for PD patients. This part of the thesis will be based on four major studies on dance classes for PD. These studies have been selected because they display a variety of research methods while working with different dance styles and strategies to select participants. All studies have been conducted within the last eight years. The following studies have been selected:

- Sara Houston and Ashley McGill (2012), 'A Mixed-method study into ballet for people living with Parkinson's disease.'
- Lisa Heiberger et al. (2011), 'Impact of a weekly dance class on the functional mobility and on the quality of life of individuals with Parkinson's disease.'
- Erin Foster et al. (2013), 'Community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease.'
- Madeleine Hackney et al. (2007), 'A study on the effects of Argentine Tango as a form of partnered dance for those with Parkinson' disease and the healthy elderly.'

The second part of the theoretical framework is on imagery and imagery used in dance classes. The first theory utilised will be drawn from *Imagery and verbal processes*, written by Allan Paivio. This work is important as it differentiates between verbal and non-verbal stimuli.²⁵ In the dance classes in the experiment participants receive imagery through both types of stimuli; therefore understanding both will help to comprehend the working of verbal and non-verbal stimuli. The second theory on imagery, is developed by psychology professor Ronald A. Finke. In his book Finke investigates how mental imagery recreates experiences²⁶ and helps to retrieve information about certain concepts.²⁷ This theory explains how people reclaim information about certain concepts, objects, or events with or without seeing them. In the dance classes in the experiment the movements are visual through the movement the teachers makes, but are also invisible as the movements refer to a quality of movement, which is intangible.

The third theory of imagery that will be used is that of Linda Warner and Evelyn McNeill. They distinguish between mental imagery and mental practice. Mental imagery is the reproduction of an object, scene, or sensation as though it

²⁵ Allan Paivio, *Imagery and Verbal Processes*, (Hillsdale: Lawrence Erlbaum Associates, Publishers, 1979): 184.

²⁶ Ronald A. Finke, *Principles of Mental Imagery* (Cambridge, MA: The MIT Press, 1989): 2.

²⁷ Ibidem, 7.

was occurring in physical reality.²⁸ Mental practice is the symbolic rehearsal of a physical activity in the absence of any gross muscular activity.²⁹ This is important because it differentiates between recalling a movement and rehearsing a movement in the mind without actually moving.

The above-mentioned theories will be combined with research conducted on imagery utilised in professional sports. 'The use of mental imagery in athletics: an overview' by Lesley Jones and Gretchen Stuth gives a synopsis of existing studies of imagery used for professional athletes. The studies conducted on imagery in sports are utilised to understand the different ways imagery can be employed in dance.

To research how imagery works in normal dance classes, three studies conducted by Sanna Nordin and Jennifer Cumming will be analysed. Their research is among the few studies focussing specifically on imagery utilised in dance. These different approaches to imagery in sports and dance will provide information of how imagery could work in dance classes for PD patients.

1.6 Research method

For this thesis an experiment was conducted. The experiment operates as a pilot study for possible further research. If the experiment is successful, it can be repeated with new participants and in different cities, to produce a broader view of how imagery is experienced by the participants of the dance classes. The pilot study is considered successful when the study gives clear insight into whether or not imagery is important in making dancing easier for the participants of the class.

The experiment was executed in collaboration with Dance for Health; an organisation that provides dance classes for PD patients in the Netherlands. Together with co-founders Andrew Greenwood and Marc Vlemmix the experiment was designed to research the usage of imagery in these specific dance classes.

1.6.1. Classes

The dance classes in the experiment are based on the performance *Pearl* (2012), choreographed by artistic director Ed Wubbe for Scapino Ballet Rotterdam. Dance for Health has experimented dance classes based on this performance in Italy. Annemarie Labinjo will teach the classes in Utrecht. She danced with Scapino Ballet Rotterdam for many years and understands Wubbe's choreographical style. The experiment consists of 8 classes of 75 minutes, once a week. During the first

²⁸ Linda Warner and Evelyn McNeill, "Mental Imagery and Its potential for Physical Therapy," *Physical Therapy*, 68 (1988): 516.

²⁹ Ibidem.

class the participants watched a short video containing parts of the performance *Pearl*. They also saw the performance costumes.³⁰ This gave the participants the chance to experience parts of the performance. Labinjo utilised shown the material - music, costumes, and props - as imagery references during the PD classes. A lesson plan for the classes based on *Pearl* and this research report was designed in collaboration with Labinjo. Ed Wubbe has given consent to use material from *Pearl* for the classes, show the participants video material of the performance during class, and bring props and a costume to show the participants.

1.6.2 Participants

The participants are regular members of the classes in Utrecht. The participants are of both genders and have different stages³¹ of PD. All participants in the class have completed the first questionnaire. After the eight-week trial period the participants who attended at least five of the eight classes also filled-out the follow-up questionnaire and took part in the final interview. If the participants missed more than three dance classes, the progress made in the classes was too difficult to measure and the difference with the participants that attended all classes will be too significant.

1.6.3 Questionnaires and interviews

The impact of the experiment is measured through questionnaires and interviews. Most of the studies on PD classes are physically based, but since this research is not funded there are no resources for physical testing. It would also make the research more time consuming than my thesis allows for. Therefore, I have chosen for interviews and questionnaires. This allows me to combine quantitative and qualitative research on a phenomenological basis. The questionnaires provide insight into how the patients feel during and after the classes and if they acknowledge improvement in their social lives. The interview provides opportunities for further explanation of the questionnaire answers and allows me to explore the effect of imagery in the dance classes more deeply. The questionnaires were held before the first class and after the last class. This way the progress (or lack of it) could be measured over the course of the classes. The interviews were held after the last class.

³⁰ Pearl is currently not in theatres; therefore we have chosen to work with video material, props and costumes.

³¹ PD can affect patients differently, even when they have the same level of PD.

The questionnaires and interviews are designed based on theory of accepted scientific research methods. The books: *Onderzoeksmethoden*³² by Hennie Boeije and Harm 't Hart and *Analayseren in kwalitatief onderzoek*³³ by Hennie Boeije are very valuable for this. These books are used in research method courses at the medical and social sciences at Utrecht University. The books discuss multiple forms of research experiments, questionnaires, and interviews. The questionnaire that will be employed for the experiment is based on the Westheimer questionnaire.³⁴ This questionnaire consists of two sections. The first section measures the wellbeing of the participants by having them rate their feelings about daily activities, ability to move, and independence. Specific questions on cultural experiences will be added to this questionnaire. The second section contains questions about how the participants experience the dance classes and the effect of the classes on their daily life.

After the last dance class, the participants were interviewed regarding their experience of the new class structure. Through this interview the power of imagery is questioned. The interview gives the participants the possibility to elaborate on their experience during class. The interviews will be semi-structured and will be analysed via a coding system. The research method for the interviews is discussed in Chapter 4.

1.7 Thesis layout

This thesis starts with a comparative literature study on completed research on dance classes for PD patients. The information from the existing studies is utilised to form the experiment for this thesis, the design of the classes, the testing methods, and the selecting of the participants. In Chapter 3, imagery is explored: what is imagery and how it is utilised in regular dance classes. Then the information about the experiment will follow. From this, I will draw conclusions with respect to how helpful imagery is to the participants of dance classes or PD patients: whether the patients feel their wellbeing has improved through the new class set-up and how this may or may not show that dance is beneficial for people's wellbeing. I will end with a critical reflection on my research and with recommendations for further research.

³² Translated: Research methods.

³³ Translated: Analysis of qualitative research.

³⁴ Lisa Heiberger et al., "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 11. Olie Westheimer, "Why dance for Parkinson's Disease," *Topics in Geriatric Rehabilitation*, 24/2 (2008): 14, 15.

2. Existing studies on dance classes for Parkinson's disease patients

"I have a form of Parkinson's disease, which I don't like. My legs don't move when my brain tells them to. It's very frustrating."

George H.W. Bush.

2.1 Introduction

Various studies have been carried out on dance classes for PD patients. These studies all have different approaches with regards to testing methods and experiment set-ups. This chapter will explore and compare existing studies to gain valuable information for the experiment set-up for this thesis. Below you will find short summaries of four existing studies, headed by the names of the researchers conducting the studies. The short summaries will be followed by an analysis of the testing methods, from which the most suitable one for this thesis will be selected. This will be followed with an analysis of the testing results and conclusions. This chapter will end with an evaluation of the elements from existing studies useful for the experiment in this thesis.

2.2 Existing research

2.2.1 Sara Houston and Ashley McGill (2012)

The first study is 'A mixed-method study into ballet for people living with Parkinson's disease.' This research was carried out by Sara Houston and Ashley McGill and published in 2012. The study was conducted at the English National Ballet on a ballet class for PD patients based on the performance *Romeo and Juliet*. The 24 participants were between 60 and 82 years old. They visited rehearsals, the performance, and participated in 12 90-minute classes.³⁵ Testing was based on the Fullerton Advanced Balance Scale³⁶, filming of the posture, semi-structured interviews³⁷, and diaries kept by the participants.³⁸ The research showed physical improvement in balance, stability, rotation, and walking. Posture did not improve. Mental improvement was seen in body awareness, confidence,

³⁵ Sara Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's disease," *Arts and Health: An International Journal for Research, Policy and Practice*, (2012): 3, 4.

³⁶ The Fullerton Advanced Balance Scale (FAB) is used to assess balance and stability in both static and dynamic situations. The test consists of 10 tasks the participants execute to measure balance and stability. The test challenges visual, somatosensory and vestibular systems in the body as well as other body limitations.

³⁷ Semi-structured interviews mean that the interviews were based on prepared open questions designed to create an organically flowing interview while sticking to the same questions.

³⁸ Sara Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's disease," *Arts and Health: An International Journal for Research, Policy and Practice*, (2012): 7, 8.

and mental state. Participants said the classes were important in their lives and that they were highly motivated to continue dance classes.³⁹

2.2.2 Lisa Heiberger et al. (2011)

The second study, 'Impact of a weekly dance class on the functional mobility and on the quality of life of individuals with Parkinson's disease', was conducted on a dance style combination of ballet, contemporary dance, jazz, and dance theatre. The 11 participants were between 58 and 84 years old and took class once a week for 8 months.⁴⁰ The testing was based on the Semitandem test⁴¹, a timed up-and-go test⁴², the Westheimer questionnaire⁴³ for participants and caregivers, and the Unified Parkinson Disease Rating Scale III⁴⁴.⁴⁵ The results showed a significant improvement of body feeling, state of mind, and quality of life on a daily basis. Physical improvement in mobility varied per patient. Duration of impact of the class varied from hours to days, but did not last till the next class. It was concluded that dance classes for PD patients are beneficial because of the social environment. Everyday movements were incorporated in the class and the use of music showed a significant influence on the motor skills.⁴⁶

2.2.3 Erin Foster et al. (2013)

The third study, 'Community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease', consisted of a community based tango dance program. The 52 participants were randomly assigned to either the tango class group or the control group which continued normal daily life. The participants followed tango classes twice a week for 12 months.⁴⁷ An Activity Card Sort test⁴⁸ measured the perceived level of

³⁹ Sara Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's disease," *Arts and Health: An International Journal for Research, Policy and Practice*, (2012): 11-14.

⁴⁰ Lisa Heiberger et al., "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 2.

⁴¹ In the Semitandem test participants are asked to take three different positions with their feet and hold for 10 seconds. This test measures balance.

⁴² The Timed up and go Up-And-Go test (TUG) is a short test to measure balance and walking. The test measures how long it takes for a person to stand up from a chair, walk 3 meters, turn around, walk back and sit down.

⁴³ Questionnaire that asks participants to rank 16 daily life activities on a scale from 1-7, rate their well being and feeling after the dance class.

⁴⁴ UPDRS contains five parts. Part III is a clinical-scored monitored motor evaluation.

⁴⁵ Lisa Heiberger et al., "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 4, 5.

⁴⁶ Ibidem: 9-12.

⁴⁷ Erin R. Foster et al., "A community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease," *Arch Phys Med Rehabil*, February (2013): 244.

⁴⁸ ACS test is a measurement technique to make an inventory of activity patterns of the participants. The participants are shown pictures of activities, recreation and social contact. The participant has to sort the pictures based on: 'done before disease limitations' and 'not done before disease limitations'.

participation in daily life activities, which was conducted in months 3, 6, and 12.⁴⁹ The results showed that the participants in the tango class had a higher percentage of new social activities compared to the control group. It was concluded that increased participation in complex daily activities might benefit quality of life for PD patients.⁵⁰

2.2.4 Madeleine Hackney and others (2007)

The fourth study, 'A study on the effects of Argentine Tango as a form of partnered dance for those with Parkinson's disease and the healthy elderly', is a comparative study of tango dance classes versus traditional exercise classes for strength and stability. 19 participants with PD were selected, as well as 19 healthy elderly matching the ages of the PD patients. 9 PD patients and 9 healthy elderly were assigned to the tango class; the others followed the traditional exercise classes.⁵¹ The participants were tested before and after the 13-week trial, in which they completed 20 classes. They completed the Activities-specific Balance Confidence Scale⁵², the Modified Falls Efficacy Scale⁵³, and the 17-item Philadelphia Geriatric Center Morale Scale⁵⁴. Balance was tested with the One Leg Stance Test⁵⁵, the Functional Reach test⁵⁶, and a questionnaire on the usage of music in the classes and on the experience of the classes. Walking velocity was measured with a motion capture system.⁵⁷ The results show that both groups improved on balance and gait and had less falling accidents. The tango group improved on all of these physical aspects, the control group only progressed in some. Afterwards, the tango participants felt more confident about their balance and were surprised by their ability to dance. The participants in the tango group

⁴⁹Erin R. Foster et al., "A community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease," *Arch Phys Med Rehabil*, February (2013): 244.

⁵⁰ Ibidem, 248-249.

⁵¹ Madeleine E. Hackney et al., "A Study on the Effects of Argentine Tango as a Form of Partnered Dance for those with Parkinson Disease and the Healthy Elderly," *American Journal of Dance Therapy*, 29-2 (2007): 113.

⁵² This test contains 16 items that participants rate on a scale from 1-100, based on their confidence for performing the task: 'How confident are you that you will not lose your balance or become unsteady when you...'

⁵³ The MEFS test contains a one-page form consisting of 14 questions, relating to particular activities (getting dressed, crossing a road etc.). Participants have to rate the activities on a scale from 1-10 to rate confidence over the activity.

⁵⁴ This scale measures participant's morale. The test contains questions about agitations, attitude towards aging and loneliness. All questions are answered with yes or no.

⁵⁵ The test measure the time a participant is able to stand on one leg without putting the putting the other foot on the floor or taking arms away from the hips. Participants unable to perform the test for a minimum of 5 seconds have increased risk for injurious falls.

⁵⁶ This test measures the distance a person can reach forward while maintaining a stable position. The participant stands alongside a wall and is asked to raise their arm to a 90-degree angle. The distance is measured with measuring tape.

⁵⁷ Madeleine E. Hackney et al., "A Study on the Effects of Argentine Tango as a Form of Partnered Dance for those with Parkinson Disease and the Healthy Elderly," *American Journal of Dance Therapy*, 29-2 (2007): 114.

also enjoyed the class for many reasons besides the dancing itself. Meeting other PD patients and their caregivers was a therapeutic experience for everyone; having an activity to engage in with their partners. The research concluded that the tango classes included touching and connecting to other people, which made the participants feel more confident and more like a community than the control group. The partnering⁵⁸ of the dance helped people with their balance and the music helped participants to keep moving and initiate movement.⁵⁹

2.3 Testing methods

As can be seen from the studies above, there are numerous testing methods to measure the physical and social improvement of participants in dance classes for PD patients. For this thesis the social improvement testing is of most importance as that is what will be tested in the experiment for this thesis.

The first study mentioned above utilised diaries kept by some of the participants, combined with semi-structured interviews.⁶⁰ The diaries gave insight into the daily experiences the participants had with their disease and how the ballet class affected their daily life. Even though this appears to be a decent method to disclose participants' opinions on the classes, processing the data of the diaries is too time consuming for this thesis. A semi-structured interview will uncover participants' opinions when asking the adequate questions. Maintaining the same questions allows for the same type of answers from the participants, bettering the process of comparing the arguments and opinions of the participants. The theory of research methods written by Hennie Boeije and Harm 't Hart, notes four elements to qualitative interviews are noted. These are the content of the questions, the manner of asking questions, the question order, and the possible answers given.⁶¹ When an interview has all four elements, the interview is completely structured or standardised. When the four elements are only partly established, the interview is semi-structured.⁶² The more standardised the interview is, the more validity the answers will have, as errors are less likely to occur.⁶³ Therefore a semi-structured interview suggests some validity and less

⁵⁸ Partnering refers to two dancers dancing together.

⁵⁹ Madeleine E. Hackney et al., "A Study on the Effects of Argentine Tango as a Form of Partnered Dance for those with Parkinson Disease and the Healthy Elderly," *American Journal of Dance Therapy*, 29-2 (2007): 117-119.

⁶⁰ Sara Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's disease," *Arts and Health: An International Journal for Research, Policy and Practice*, (2012): 7, 8.

⁶¹ Hennie Boeije and Harm 't Hart, *Onderzoeksmethoden* (Den Haag: Boom Lemma uitgevers, 2009): 267.

⁶² Ibidem.

⁶³ Ibidem, 274.

chance for errors, while leaving room for unexpected answers from the participants.

In the second study the Westheimer questionnaire was utilised.⁶⁴ This questionnaire consists of three parts: a rating of the ability to partake in daily activities, a rating of body feeling before and after class, and questions for caregivers and or loved ones.⁶⁵ The Westheimer questionnaire can be found in Appendix B, 8.2. The Westheimer questionnaire seems appropriate for the experiment in this thesis. It provides quantitative information about the improvement of participating in daily life activities. From this, wellbeing can be measured, as well as information about the experience of the classes and body feeling after the classes. This way the participants' wellbeing and the new class design can be measured at the same time.

The third study measured daily activities based on a standardised test: the Activity Score Card.⁶⁶ For this test the participants had to arrange 89 activity cards based on their ability to do those activities before having PD and after. This test is very thorough because it rates numerous activities. However, conducting this test would require a great deal of time per participant. When adding questions about the experience of the new class design, this would require a great deal of effort and concentration from the participants. This might be difficult to do after a dance class, which also asks a great deal of concentration. When working with a combination of a questionnaire and an interview, the ASC test seems too time-consuming and demanding for the participants.

In the fourth study, a questionnaire was created to measure several features of the program and a specific questionnaire on the effect of music on it.⁶⁷ Unfortunately an example of the questionnaire was not provided in the research. However, investigating the effect of music could be of interest to the experiment in this thesis. The experiment will be structured around *Pearl*, which contains Baroque music, mostly composed by Antonio Vivaldi. This music will also function as part of the imagery. It will be useful to pose questions about the use of music in the classes during the interview.

All in all, the semi-structured interview and the Westheimer questionnaire seem to be the most appropriate testing methods for the experiment in this

⁶⁴ Lisa Neuberger et al., "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 4, 5.

⁶⁵ Ibidem.

⁶⁶ Erin R. Foster et al., "A community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease," *Arch Phys Med Rehabil*, February (2013): 244.

⁶⁷ Madeleine E. Hackney et al., "A Study on the Effects of Argentine Tango as a Form of Partnered Dance for those with Parkinson Disease and the Healthy Elderly," *American Journal of Dance Therapy*, 29-2 (2007): 113.

thesis. The two testing methods are combined in the experiment. In the first study, Houston and McGill mention that executing a mixed-method study is necessary to: '[...] capture the important aspects of a multifaceted activity, such as dance.'⁶⁸ While in that research they refer to the combination of physical and social research, I also see this as a combination of attaining quantitative and qualitative information from a phenomenological perspective. According to Boeije and 't Hart a questionnaire can be used to research social phenomena, human characteristics, human behaviour, facts, or opinions.⁶⁹ The Westheimer questionnaire asks for facts on gender and age, human behaviour in social activities, and opinions on the experience of the classes. Therefore a questionnaire seems fitting as a testing method. The limited group of respondents in the experiment, only six participants, is taken into account, as the group is too small to be representative for all PD patients participating in dance classes at Dance for Health. Therefore, the experiment for this thesis functions as a pilot study for further research.

The questionnaire provides the possibility of measuring the impact of the classes. The questionnaire requires participants to rank daily activities based on their ability to participate in them, as well as ask how people experienced the classes. For the experiment the Westheimer questionnaire was translated into Dutch and some elements of daily activities were changed to be able to ask more specifically about cultural activities and experiences. The questionnaire part for the caregivers was left out, as the aim of the experiment is to specifically evaluate the experience of the PD patients in the classes. Subsequently, the follow-up interviews provided qualitative insight into the effect of structuring a dance classes around a professional dance performance on the participants and how they experienced the classes. Questions touch upon utilizing movements, props, and music from the performance. The interviews were conducted in semi-structured form, to leave room for additional and possibly unexpected information from the participants, as a closed-ended questionnaire does not allow this.

2.4 Research Results

The research results of the studies discussed above show different conclusions. These conclusions can be divided into physical and social improvements. Looking into the physical aspect, most studies show that the participants felt a physical

⁶⁸ Sara Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's disease," *Arts and Health: An International Journal for Research, Policy and Practice*, (2012): 2.

⁶⁹ Hennie Boeije and Harm 't Hart, *Onderzoeksmethoden* (Den Haag: Boom Lemma uitgevers, 2009): 215.

improvement after the dance classes. This is mostly seen in balance, gait, and stability. Improvement in movement also enhances people's sense of wellbeing in itself. Participants keep or regain the ability to move and partake more in physical activities. This improvement in movement is accompanied by improvement in social terms. This happens on two levels. Firstly, there is an increase in confidence and/or reduction of fear to move and be active. Secondly, there is the social aspect of sharing a dancing class with people who have the same disease. When looking at the advancements on a social level, the studies discussed above show a variety of social benefits of the dance classes for PD patients.

The first study shows that patients feel less lonely and part of a community. Participants disclosed that they communicated more after the dance classes than at a support group for PD patients.⁷⁰ They also felt more confident in moving and had an improved mental state overall.⁷¹ The study recommends dance classes to PD patients who dislike repetitive exercises, who are isolated or lonely, who lack confidence, who have limited movement capability, or those who enjoy culture.⁷² The cultural aspect touches upon what makes dance classes different from any other exercise regime for PD patients. The study also discusses the group functioning as a motivation to try new movements and gaining confidence from that.⁷³ Clearly, working on new movements has a positive effect on the participants of the dance class. This aspect is therefore incorporated in the dance classes that are part of the experiment in this thesis.

The second study shows a positive effect on everyday life, socializing, recreation, and relationships.⁷⁴ It is explained that dance combines different factors needed in everyday life. PD patients engaging in dance classes score higher on everyday competence scales, are more independent in daily life activities and have better social relations and life contentment.⁷⁵ The study shows that these benefits can come from regular exercise, which becomes easier with dance classes. Many regular exercise programs have little success in having PD patients exercise regularly, while dance classes are very effective at this.⁷⁶ Which probably has to do with the enjoyment of the dance class. This would suggest that the PD patients feel they gain so much from the dance classes, physically and socially, that they keep attending the classes. Staying active in itself, in

⁷⁰ Sara Houston and Ashley McGill, "A mixed-methods study into ballet for people living with Parkinson's disease," *Arts and Health: An International Journal for Research, Policy and Practice*, (2012): 13.

⁷¹ Ibidem, 13, 14.

⁷² Ibidem, 14.

⁷³ Ibidem.

⁷⁴ Lisa Heiberger et al., "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011):10, 11.

⁷⁵ Ibidem, 11.

⁷⁶ Ibidem, 12.

dance or physical therapy, improves physical abilities, which further improve social abilities and wellbeing.

The third study shows increased participation in low-demand leisure and social activities that possibly improve the quality of life.⁷⁷ By ranking the activities of the Activity Score Card test the study showed a positive development in participating in social activities. The improvement in participating in activities is also what the Westheimer questionnaire measures. Hopefully the questionnaire also show an improvement in participation in the experiment in this thesis.

The fourth study shows improvement of quality of life through enhanced social support in the classes and working with their caregivers or loved ones and leaving room for artistic expression.⁷⁸ Dancing together helps the participants undertake movements while being supported by their dance partners. The social aspect of dancing together is part of the classes in the experiment in this thesis.

What the results show, is that the quality of life of the PD patients improves through participating in dance. They form a community in which they pay attention to and look out for each other. The other major improvement claimed by all the studies is the rise in engaging in daily life and or social activities. The gained mobility range and confidence in moving allows the PD patients to participate in more activities, which in some cases even lessens or prevents loneliness. This is taken into account in the dance classes for the experiment. During the classes the participants work together to create movement material together and work towards an open class where friends and family can join. Collaborating towards a small goal hopefully enhances the community feeling even more and will give the participants a sense of accomplishment in the end.

2.5 Useful for further research

The conducted studies discussed above provide insight into how to conduct an experiment on dance classes for PD patients. Besides working with the Westheimer questionnaire, there are also some other aspects from the existing research that will be used in the experiment for this research.

Firstly, in the first study the ballet classes were based on the performance *Romeo and Juliet*. The research results show the physical and social benefits specific to a ballet class for PD patients. However, what has not been researched

⁷⁷ Erin R. Foster et al., "A community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease," *Arch Phys Med Rehabil*, February (2013): 247.

⁷⁸ Madeleine E. Hackney et al., "A Study on the Effects of Argentine Tango as a Form of Partnered Dance for those with Parkinson Disease and the Healthy Elderly," *American Journal of Dance Therapy*, 29-2 (2007): 121-124.

is the specific impact of using a professional dance performance for the dance classes. While working with a specific dance performance and having the participants watch rehearsals and performances, I presume the teachers in the study made use of what the participants had seen and referenced to it in the dance classes, influencing the imagination of the participants. I think developing a dance class structure based on a performance is a useful way to research imagery used in dance classes. It will clarify the imagery elements utilised in the classes. All participants will have the same introduction to the performance, having them on a similar level of understanding of the art that is utilised for the imagery. Therefore the dance classes in the experiment are based on a professional dance performance.

Secondly, most of the research shows a number of participants dropping out during the research; i.e., PD patients being unable to proceed with the research due to their disease or other factors. PD is an unpredictable condition; patients can have good and bad days, which influences the answering of questions and participation in the classes. The dropout rate of participants was taken into consideration when conducting the experiment. At the beginning of the experiment, all participants of the dance class in Utrecht were asked to participate in the research. Based on the number of classes attended, which could not be lower than five out of eight classes, six participants were selected to do the follow-up questionnaire and the interview.

Thirdly, what has not been named specifically in the previous studies is the use of music in the dance classes. Steven Brown, director of the NeuroArt lab, writes in his text 'The Neural Basis of Human Dance' that a key facet of dance is entrainment.⁷⁹ Entrainment happens when the automatic mechanism in the body synchronises with strong external rhythms. These rhythms can be music, but also noise from surroundings. This could be the stomping of the feet, clapping of the hands, or the wind. Entrainment means that the human body almost automatically synchronises its movements or rhythm with what it hears. In the study 'Dance as therapy for individuals with Parkinson disease' by G.M. Earhart, the influence of music on dance is also discussed. Music works as a cue to facilitate and initiate movement.⁸⁰ Following a rhythm or starting to move on a rhythm appears to facilitate movement. In the dance classes for PD patients, music is also utilised to guide all the movements; therefore I think music is an important factor to take into account in the experiment. In the experiment, most of the music is from the performance *Pearl*. This is occasionally varied with

⁷⁹ Steven Brown, "The Neural Basis of Human Dance," *Cerebral Cortex*, August (2006): 1157.

⁸⁰ G.M. Earhart, "Dance as therapy for individuals with Parkinson disease," *European Journal of Physical and Rehabilitation Medicine*, 45-2 (2009): 232.

contemporary music with other beats and rhythms to show the participants how music can influence movement quality.

To conclude, the testing for the experiment is based on the Westheimer questionnaire and a semi-structured interview. The interview contains questions about the movements, props, and music used from the performance *Pearl* in the dance classes. In the next chapter the process of imagery and imagery in dance classes will be further investigated.

3. Imagery

"Art is the only way to run away without leaving home."

Twyla Tharp

3.1 Introduction

The specific use of imagery in dance classes for PD patients has yet to be researched. When examining studies on imagery in 'normal' dance classes, it appears little research has been conducted there as well. Imagery utilised for professional athletes has, however, been analysed extensively and among various types of sports. As dance is an artistic version of sports, the studies on professional sports might have some insightful arguments on how imagery can benefit an athlete's athletic performance⁸¹ and perhaps also the athletic and artistic performance of a dancer. The research on sports will be combined with the research on imagery utilised in dance classes, from which a prediction can be made on how imagery works in dance classes for PD patients. To clarify, here again the definition of imagery by White and Hardy as explained in the introduction:

"Imagery is an experience that mimics real experience. We can be aware of 'seeing' an image, or experiencing an image of smell, taste or sounds without experiencing the real thing. Sometimes people find that it helps to close their eyes. It differs from dreams in that we are awake and conscious when we form an image."⁸²

Imagery is imagining an experience while being awake. In this chapter three different approaches to imagery will be analysed. The first is imagery from a psychological point of view, to create some theoretical basis for how imagery works. This will be followed by how imagery is utilised in professional sports and, finally, how imagery is employed in dance classes. The chapter will end with a set-up for imagery in the dance classes for PD patients in the experiment.

3.2 Imagery from a psychology perspective

3.2.1 Allan Paivio – *Imagery and Verbal Processes*

Psychology professor Allan Paivio has conducted research on imagery. Many other psychologists reference his work. In his book *Imagery and Verbal Processes* he

⁸¹ The performance of athletes will be described as athletic performance to differentiate between performance as an achievement and performance as a dance or theatre show.

⁸² A. White and L. Hardy, "An in-depth analysis of the uses of imagery by high-level slalom canoeists and artistic gymnasts," *The Sport Psychologists* (1998).

presents the role of mental processes in human learning and memory.⁸³ Paivio explains the place of memory in the brain by quoting English historian Frances Yates:

"A locus is a place easily grasped by the memory, such as a house, an intercolumnar space, a corner, an arch, or the like. Images are forms, marks or simulacra... of what we wish to remember. For instance if we wish to recall the genus of a horse, of a lion, of an eagle, we must place their images on definite loci. [...] The art of memory is like an inner writing. "... the places are very much like wax tablets or papyrus, the images like the letters, the arrangements and disposition of the images like the script, and the delivery is like the reading."⁸⁴

What is being discussed in this quote is the part of the brain where images are stored. Images in the locus are things we want to remember. Paivio declares there are two kinds of images, 'things' and 'words'. 'Things' refers to the content of speech, which are arguments, notions, and facts.⁸⁵ 'Words' remind a person of the 'things'.⁸⁶ Paivio explains: "the "words" are the language in which the "things" are expressed and memory for words involved finding images to remind one of every word."⁸⁷ The 'things' can be a memory or an emotion, the 'words' will then be the wordily expression of that, such as angry, sad, or happy.

Paivio also touches upon learning and memory situations. It is assumed that concrete stimuli such as objects, events, and their verbal surrogates are more easily remembered than abstract stimuli.⁸⁸ Imagery mnemonic systems are based on this principle.⁸⁹ These are systems that attach images to words. For instance, linking letters or words to numbers as when we recall the number of days in a month by counting out the months on the knuckles of a hand. In the dance classes for PD patients this could mean that certain movements will be linked to certain songs. When certain movements are repeatedly executed on the same music, a link could possibly be established.

The principle of images being more easily remembered than words is heavily supported by research showing that objects or pictures of objects are evidently easier remembered than their verbal versions.⁹⁰ Paivio goes further into this "[...] is consistent with the ancient assumption that concrete objects make a

⁸³ Allan Paivio, *Imagery and Verbal Processes* (Hillsdale: Lawrence Erlbaum Associated Publishers, 1979): iii.

⁸⁴ Ibidem, 154.

⁸⁵ Ibidem, 155.

⁸⁶ Ibidem.

⁸⁷ Ibidem, 155, 156.

⁸⁸ Ibidem, 177.

⁸⁹ Ibidem.

⁹⁰ Ibidem, 200.

particular deep impression on the organ of memory – they are more vivid, memorable than words.”⁹¹

When using imagery to recall information, images are easier to retrieve than words. This ancient assumption is now supported by a great deal of research. It will be of importance in the dance classes for PD patients in the experiment to work with images and objects, rather than solely textual explanations. During the classes in the experiment, pictures of the performance are hanging in the room, for visual imagery. The teacher provides verbal explanations of the performance *Pearl* as well as physically demonstrate its movements.

3.2.2 Ronald A. Finke – *Principles of Mental Imagery*

Psychology scholar Ronald Finke has written about the theory of mental imagery in his book *Principles of Mental Imagery*. This book provides a broad introduction on significant findings in research on mental imagery. In his book, Finke defines mental imagery as: “[...] the mental invention or recreation of an experience that in the least in some respects resembles the experience of actually perceiving of an object or event, either in conjunction with, or in the absence of, direct sensory stimulation”⁹²

Finke acknowledges that this is not the only definition of mental imagery, but suitable for the purposes of his book. The role of imagery in retrieving information from memory is called the implicit encoding principle.⁹³ This can be defined as followed: “Mental imagery is instrumental in retrieving information about the physical properties of objects, or about physical relationships among objects, that was not explicitly encoded at any previous time.”⁹⁴

Not explicitly encoded means that the information was not intentionally stored in memory before being recalled.⁹⁵ For information that was not intentionally stored, retrieving an image can help complete information. Finke offers an example question to explain this principle: “How many windows are there in your house?”⁹⁶ Not many people know this information explicitly. In order to find the answer people will have to go through their house in their head and visualise the number of windows per room.⁹⁷ Finke explains this further by stating there are two different versions of stored information in the brain: “[...]”

⁹¹ Allan Paivio, *Imagery and Verbal Processes* (Hillsdale: Lawrence Erlbaum Associated Publishers, 1979): 200.

⁹² Ronald A. Finke, *Principles of Mental Imagery*, (Cambridge, MA: The MIT Press, 1989): 2.

⁹³ Ibidem, 7.

⁹⁴ Ibidem.

⁹⁵ Ibidem.

⁹⁶ Ibidem.

⁹⁷ Ibidem, 8.

information stored in memory and having it readily available for retrieval.”⁹⁸ Finke means there is a difference between knowledge an individual possesses and knowledge that is ready for use, the explicitly stored information is easily reclaimed. Retrieving information is part of mental imagery itself. When forming a mental image, you do so based on knowledge you have on that subject. The more experience with a subject, the more accurate or detailed the mental image will be. The retrieving of information is utilised in the dance classes for the experiment in this thesis, when referring to the same movement material for an eight-week period. Each class builds on the previous. The imagery for certain movements is based on retrieving information from previous classes as well as the costumes, props, and images showed during the first class.

Finke mentions that the power of using imagery for retrieving information from memory is also theorised by Allan Paivio. Paivio claims, as stated above, there are two distinct codes for retrieving information, verbal and visual.⁹⁹ Research by Paivio shows that both codes can be utilised independently when memorizing names of words. People tend to use imagery for words of concrete objects like ‘table’ and ‘flower’, and verbal codes for abstract concepts as ‘truth’ or ‘beauty’.¹⁰⁰ Separating the memory codes would make it possible to retrieve information about physical objects without every using explicit verbal memorisation.¹⁰¹ This research shows that pictures are more easily remembered and recalled over time than words, this notion is referred to as hypermnesia.¹⁰² Hypermnesia is the ability to recall a picture with both imagery and verbal codes.¹⁰³

What can be taken from this theory is that mental imagery, according to Finke, means recreating or retrieving an object or event from memory. Information that is not explicitly stored in memory can be retrieved with help of mental imagery. Images of objects and events can be retrieved with both imagery and verbal codes; imagery codes appear to be easier to recall. Images also tend to be remembered for a longer time period than words. Two things have to be noted here. The first of these is that whether images are more easily remembered than words will not be tested in the dance classes for PD patients. The participants will never execute the movement without instructions from the teacher. But since images are proven to be help with imagery, the participants of the dance class in the experiment see props, costumes, video material, and

⁹⁸ Ronald A. Finke, *Principles of Mental Imagery*, (Cambridge, MA: The MIT Press, 1989): 8.

⁹⁹ Ibidem, 9.

¹⁰⁰ Ibidem.

¹⁰¹ Ibidem.

¹⁰² Ibidem.

¹⁰³ Ibidem.

pictures to have images to possibly work with. The second of these is that it is important to mention that Paivio and Finke address memory from a psychological point of view, they address memory stored in the brain. What is not mentioned in these theories is muscle memory. Professional dancers rehearse movements until they are captured within their body and can be performed almost automatically. For dancers movement memory can be stored in the brain as well as the body.

3.3 Imagery utilised in professional sports

Imagery in sports has been researched extensively. The information from a few of those studies can be found below; the studies chosen appeared to be most useful for this thesis. It is important to note here that imagery in sports and dance are used slightly different. Imagery in sports aims to improve and perfect the athletic performance. Imagery in dance is not only meant to perfect technique, but also to improve movement quality and empathy for the role that the professional dancer performs on stage.

3.3.1 Linda Warner and Evelyn McNeill – Mental Imagery

In this study, former technician for autonomy and cell biology Linda Warner and physical therapist Evelyn McNeill consider the effects of mental imagery and mental practice on physical skills and explore the feasibility of using these in physical therapy.¹⁰⁴ Warner and McNeill make a distinction between mental imagery and mental practice:

*"Mental imagery is cognitively reproducing or visualizing an object, scene or sensation as though it were occurring in overt, physical reality. Imagining yourself in a very quiet, beautiful, peaceful place is an example of using MI as relaxation and stress-reduction technique. Mental practice is the symbolic rehearsal of a physical activity in the absence of any gross muscular movements. Using MI to practice a golf swing or tennis stroke is an example of MP. Mental practice, therefore, is the repetitious use of MI to achieve a desired result."*¹⁰⁵

They question whether MI¹⁰⁶ and MP¹⁰⁷ can benefit physical therapy patients. Warner and McNeill refer to the work of Ronald Finke on the relationship between actual perception and mental visualisation.¹⁰⁸ Mental images show a variety of

¹⁰⁴ Linda Warner and Evelyn McNeill, "Mental Imagery and Its Potential for Physical Therapy," *Physical Therapy*, 68 (1988): 516.

¹⁰⁵ Ibidem.

¹⁰⁶ MI = mental imagery.

¹⁰⁷ MP = mental practice.

¹⁰⁸ Linda Warner and Evelyn McNeill, "Mental Imagery and Its Potential for Physical Therapy," *Physical Therapy*, 68 (1988): 516.

visual properties similar to perception of actual objects. Using MI for practical purposes, as athletes practicing skills, could benefit the outcome, especially with clarity and accuracy of the MP.¹⁰⁹ This would mean that by mentally working on specific skills, the athletic performance of a professional athlete would improve. The same benefits will probably work for dancers, either in technique or in preparation for a performance. MI could be used by dancers to visualise a performance and what would happen on stage in certain scenes or choreographies. MP would be helpful to improve technique. Imagining executing a difficult and demanding combination of movements would help improve technique by repetition of the movements without tiring the body and risk of injury. For PD patients, rehearsing movements through imagery while being at home could possibly improve mobility in class. However, this would require a control group, a thoroughly tested imagery plan, and the expertise of a physician to measure the physical improvements, which this thesis does not allow for.

3.3.2 Lesley Jones and Gretchen Stuth – The use of Mental Imagery in Athletics

Professor Lesley Jones and psychologist Gretchen Stuth wrote an overview of imagery utilised in training for professional athletes. They define mental imagery as “the process of imagining of performance of a skill with no related overt actions.”¹¹⁰ Research on mental imagery in professional sports shows that mental imagery utilised solely alone or utilised together with other cognitive techniques can improve athletic performance. It has proven to be effective complementary to physical practice. Athletes and trainers both see imagery as an effective strategy in training.¹¹¹ This can be seen in the following examples of different uses of mental imagery in professional sports.

In research on mental imagery in Olympic sharpshooting, a marksman explains he visualises himself inside himself; feeling the pressure of the trigger, looking at the target, and the shot going off. This mental rehearsal aims to imagine behaviours associated with the targeted activity. It improves quality of the athletic performance and dealing with competitive situations.¹¹² Gymnasts use imagery to mentally rehearse moves of a pommel-horse routine, creating an athletic performance enhancement.¹¹³ Specific task training with imagery is seen in golfing, where the golfers break their athletic performance into individual tasks

¹⁰⁹ Linda Warner and Evelyn McNeill, “Mental Imagery and Its Potential for Physical Therapy,” *Physical Therapy*, 68 (1988): 516.

¹¹⁰ Lesley Jones and Gretchen Stuth, “The use of mental imagery in athletics: An overview,” *Applied & Preventive Psychology* 6 (1997): 101.

¹¹¹ Ibidem.

¹¹² Ibidem, 102.

¹¹³ Ibidem.

and worked on each task separately.¹¹⁴ This could also work for professional dancers as the imagery can be divided up into working on movement quality and specific dance techniques.

Studies comparing imagery utilised in training versus a control group found significant athletic performance improvement in the first group in sports as platform diving, trampoline routines, and strength-and-endurance tasks.¹¹⁵ Mental imagery in sports is also effective when utilised in combination with other cognitive strategies like visuomotor behavioural rehearsal, which combines imagery with relaxations and physical practice.¹¹⁶

What can be taken from the research on imagery in professional sports is that mental imagery is effective in athletic performance enhancement. There are different uses of imagery. For instance, breaking a performance into smaller tasks to focus on shows an improvement in the different tasks. This could be helpful in dance when focussing on one specific movement from a phrase, or when breaking movements into arm and leg movements to help the dancers improve isolated movements. In dance this would be referred to as the isolation of ligaments. This happens in dance classes for PD in the warm-up, where the movements go from hands to wrists to arms to shoulders. However, the goal is to get the separate ligaments moving, not necessarily solely task improvement. It is important to note here that in the dance classes for PD patients the focus on (athletic) performance enhancement lies differently than in professional sports. In the dance classes the performance enhancement lies more in the ability to execute the movements and become more mobile through that, while in sports the athletic performance enhancement lies in the enhancement of the specific movements itself. However, the visualisation utilised in mental imagery in professional sports can possibly also help PD patients move. Visualisation is already utilised in 'normal' dance classes. Below you can find an analysis of how imagery works in dance classes for amateur and professional dancers.

3.4 Imagery utilised in dance classes

Research on imagery utilised in dance classes is rare, even though imagery is employed in almost every dance class. Little children in ballet classes are asked to pretend to 'fly' or 'hold a big balloon'. Dancers in modern dance classes are 'moving into the floor' and professional dancers are portraying characters and/or emotions. Christine Hanrahan and Ineke Vergeer have conducted research on the

¹¹⁴ Lesley Jones and Gretchen Stuth, "The use of mental imagery in athletics: An overview," *Applied & Preventive Psychology* 6 (1997): 102.

¹¹⁵ Ibidem, 103.

¹¹⁶ Ibidem.

types of imagery utilised by dancers. Sanna Nordin and Jennifer Cumming have conducted several explorative studies on how imagery is employed by dance teachers and experienced by dance students. Analysing these studies will benefit the experiment designed for this thesis as they contain useful elements for the experiment in this thesis.

3.4.1 Types of imagery in dance

Nordin and Cumming explain in their study 'Where, When and How: A Quantitative Account of Dance Imagery' how imagery is utilised by dancers. They note that imagery in dance shares commonalities with imagery in sports. However, they also detect several unique aspects of imagery in dance.¹¹⁷ In dance a metaphorical imagery is often utilised. A metaphorical image can be Juliet falling in love with Romeo in *Romeo and Juliet* or Aurora unable to resist the spinning wheel in *Sleeping Beauty*. Metaphorical imagery can be divided into what (imagery type), why (purpose), when (time frame), and where (location).¹¹⁸ To utilise this type of imagery dancers can obtain or create images. This could happen through "external stimuli (e.g., books, pictures), by retrieving memories (e.g., recalling how something felt), or creating triggers (e.g., watching other dancers, listening to music)."¹¹⁹ The study shows that images created through triggers are more metaphorical; images created through recalling, consciously retrieving a memory, are more concrete. Another thing to note here is that the images utilised are often layered as they become more complex. An image starts with a basic image or movement, to which qualitative elements like emotions are added.¹²⁰ The level of complexity in the imagery was linked to the level of dance rather than years of dancing.¹²¹

In the dance classes for PD patients the obtaining or creating images happens through all three elements. The external stimulus is the performance *Pearl*. Retrieving of memories happens later on in the classes, as the PD patients constantly go back to the movements of the performance. The triggers come from watching the teacher dance as well as from listening to the music of *Pearl*, which is employed throughout all the classes.

Hanrahan and Vergeer studied different types of imagery utilised by professional modern dancers through interviews. They discovered eight types of imagery. It has to be noted that these eight types are not necessarily recognised

¹¹⁷ Sanna M. Nordin and Jennifer Cumming, "Where, When and How: A Quantitative Account of Dance Imagery," *Physical education, Recreation and Dance*, 78-4 (2007): 390.

¹¹⁸ Ibidem.

¹¹⁹ Ibidem.

¹²⁰ Ibidem.

¹²¹ Ibidem, 391.

this way by dancers or utilised exclusively for specific goals. Dancers appeared to use combinations of imagery to reach several goals.

The eight types of imagery are:

1. Inspiration imagery
2. Atmospheric imagery
3. Specific movement imagery
4. Metaphysical imagery
5. Emptying out imagery
6. Filling up imagery
7. Projection imagery
8. Imagery rehearsal¹²²

Inspiration imagery works for choreographers and dancers to make a connection with the movements. Inspiration can come from character images, context images, and mood images. Helping the dancer to approach the movements.¹²³ Atmospheric images come from imagining an outside energy, which affects or moves the body. This could be 'moving with circles of energy' or moving through textures as sand.¹²⁴ Specific movement imagery consists of images that give meaning to specific movements. Motivation for these movements comes from the intention of the whole choreography.¹²⁵ Metaphysical imagery involves imagery on a larger level. These images go beyond the space around the dancer: "[...] [as] if you could fly towards the centre of the earth and fall towards the sky."¹²⁶ Emptying out and filling up imagery is utilised to clear body and mind from unwanted thoughts, emotions, and energies. Making room for new energy and create the wanted dynamics for the movements.¹²⁷ Projection imagery comes from projecting a feeling, power, or energy outside of the body. These could be things as 'radiating energy' or 'shining like a light'.¹²⁸ Dancers could imagine that their grand-jeté throws anger out of their body. Finally, imagery rehearsal involves imagining a movement, sequence, or an entire choreography for memory purposes. This kind of imagery helps with motor memory, linking

¹²² Christine Hanrahan and Ineke Vergeer, "Multiple Uses of Mental Imagery by Professional Modern Dancers," *Imagination, Cognition and Personality*, 20-3 (2001): 237-238.

¹²³ Ibidem.

¹²⁴ Ibidem, 239.

¹²⁵ Ibidem, 240.

¹²⁶ Ibidem, 241.

¹²⁷ Ibidem, 242.

¹²⁸ Ibidem, 245.

sequences together, or going over a difficult section without exhausting the body.¹²⁹

These different types of imagery in dance show imagery is utilised in different ways, for different goals, and in different stages of the process. The choreographical style as well as the kind of performance, whether abstract or storytelling, influences what sort of imagery is needed. Portraying a character asks a different input from a dancer than when dancing an abstract choreography. These various types of imagery are utilised in the dance classes for PD patients, also in combined forms. Hanharan and Vergeer made an important observation in this regard; the combination of all sorts of imagery utilised depends on the needs and goals of the dancer. Not all types of imagery will work for every dancer. From this it can be concluded that it is important that different types of imagery are provided for the PD patients in the dance classes for them to choose from which will work best for them.

3.4.2 Imagery in dance classes

Sanna Nordin and Jennifer Cumming conducted two important studies on imagery utilised by dancers and dance teachers. The first study was with 14 professional dancers on the development of imagery in dance classes. The second study was with 250 dancers, amateur and (semi-) professional, from 13 different dance styles. The first study among professional dancers shows three categories of experience with imagery.

The first category of experience is 'early experiences' with imagery. The professional dancers stated that imagery has been part of their dancing since they were children. Most professional dancers had not been taught how to use imagery, but it felt natural as it had always been part of their classes.¹³⁰ This is also a conclusion from the research among 250 dancers in the second study. There it is noted that the ability to use imagery in dance is more natural than taught specifically.¹³¹

The second category 'teachers' goes into how teachers utilised imagery in dance classes. When teachers use imagery they barely use the word imagery.

¹²⁹ Christine Hanrahan and Ineke Vergeer, "Multiple Uses of Mental Imagery by Professional Modern Dancers," *Imagination, Cognition and Personality*, 20-3 (2001): 246.

¹³⁰ Sanna M. Nordin and Jennifer Cumming, "The Development of Imagery in Dance. Part I: Quantitative Findings from a Mixed Sample of Dancers," *Journal of Dance Medicine and Science*, 10 (2006): 24.

¹³¹ Sanna M. Nordin and Jennifer Cumming, "The Development of Imagery in Dance. Part II: Quantitative Findings from a Mixed Sample of Dancers," *Journal of Dance Medicine and Science*, 10 (2006): 29.

Terms as 'visualise' or 'go over it in your head' are much more common.¹³² Imagery was mostly encouraged for rehearsals and movement sequences.¹³³ The images provided by teachers were mainly metaphorical images. The dancers responded that metaphorical images were more frequently utilised in children's classes than in adult classes.¹³⁴ Professional dancers agreed that teachers should provide many images for students to evaluate what works best for them.¹³⁵ To add to this, the second study also concludes that the imagery employed in dance classes felt neither unstructured nor structured.¹³⁶ Teachers worked with imagery, but not in an organised form. Professional dancers were also encouraged more to apply imagery than lower-level or amateur dancers.¹³⁷

The third category discusses improvement in imagery. Professional dancers stated that imagery improved over time. It became more structured and deliberate and went from simple pictorial to visualisation of roles and characters.¹³⁸ The second study among 250 dancers underlines the change in imagery as well. Dancers experienced more multi-sensory or kinesthetic images as well as greater image quality, complexity, and control as they became more experienced.¹³⁹ The ability to control, clarify, and form an image improved most. It is also concluded that imagery changed with level of experience instead of with years of dancing.¹⁴⁰ Level of experience here includes dance technique, remembering dance phrases, experience in working with different choreographers, rehearsal experience, and stage experience. Professional dancers view imagery as an internal experience, which cannot be taught. This might be due to lack of awareness of imagery being a skill and the possibility to specifically train that skill.¹⁴¹

The above studies lack two important aspects with regard to imagery and dance. The first relates to the function of mirrors in the imagery process. Dance rehearsals often happen in dance studios with mirror walls. The ability for dancers to see themselves dance helps in correcting the body position, dancing in unison,

¹³² Sanna M. Nordin and Jennifer Cumming, "The Development of Imagery in Dance. Part I: Quantitative Findings from a Mixed Sample of Dancers," *Journal of Dance Medicine and Science*, 10 (2006): 24.

¹³³ Ibidem.

¹³⁴ Ibidem, 25.

¹³⁵ Ibidem.

¹³⁶ Sanna M. Nordin and Jennifer Cumming, "The Development of Imagery in Dance. Part II: Quantitative Findings from a Mixed Sample of Dancers," *Journal of Dance Medicine and Science*, 10 (2006): 29.

¹³⁷ Ibidem.

¹³⁸ Sanna M. Nordin and Jennifer Cumming, "The Development of Imagery in Dance. Part I: Quantitative Findings from a Mixed Sample of Dancers," *Journal of Dance Medicine and Science*, 10 (2006): 25.

¹³⁹ Sanna M. Nordin and Jennifer Cumming, "The Development of Imagery in Dance. Part II: Quantitative Findings from a Mixed Sample of Dancers," *Journal of Dance Medicine and Science*, 10 (2006): 32.

¹⁴⁰ Ibidem, 32.

¹⁴¹ Ibidem, 26.

and viewing what the teacher or other dancers are doing. Dancing in front of a mirror can help a dancer see the difference in movement quality, but can also sabotage a dancer as how the body looks can become more important than using the muscles in the correct way. In the dance classes for PD patients not all rooms have mirrors, plus the warming up in the class is directed towards the centre of the room instead of towards the mirror. Mirrors could work two ways for PD patients. It could be helpful to see the progress in their bodies, but it could also be confronting when their movements do not replicate the teachers movement.

The second thing that is not mentioned is that dancers, especially professional dancers, are trained to watch a teacher demonstrate movements. Dancers are trained to watch the muscles, position of the ligaments, tempo, and movement quality that they have to replicate. Watching another person dance activates mirror neurons in the brain. Research by psychologist Beatriz Calvo-Merino claims the brain responds to perceived movements based on visual skills and motor experience of performing the movement.¹⁴² This means that it differentiates between movements seen by the dancers and movements executed by the dancers themselves.¹⁴³ With regard to the PD patients in the dance classes, they might not be visually familiar with dance movements, nor trained in watching a teacher demonstrate movements to replicate the movement. Calvo-Merino writes that when people learn a new skill, they acquire new perceptual and motor representations.¹⁴⁴ This process is possibly happening with the PD patients new to the dance classes. However, lacking access to fMRI scans and a sufficient medical knowledge, this topic will not be pursued further in this thesis.

What can be concluded is that dancers use various forms of imagery for different goals. A teacher that provides a great deal of imagery to choose from is very appreciated among dancers as they can choose what works best for them. This suggests it might be useful to offer various forms of imagery in the dance classes for PD patients as well. Another aspect is imagery types change along with increasing professionalism of the dancer. This would suggest that the level of imagery utilised in dance classes should be adapted to the level of dance skills of the students. In other words, the level of imagery in dance classes for PD patients needs to be adjusted to their capabilities. In the dance classes in the experiment the utilised imagery is mostly repetitive as too much information can take away from improving mobility.

¹⁴² Beatriz Calvo-Merino et al, "Seeing or Doing? Influence of Visual and Motor Familiarity in Action Observation," *Current Biology*, 16 (2006): 1907.

¹⁴³ Ibidem.

¹⁴⁴ Ibidem.

3.5 Imagery utilised in dance classes for Parkinson's disease patients.

Olie Westheimer, executive director of the Brooklyn Parkinson Group argues that imagery in dance is of great importance:

Imagery is perhaps the most effective cognitive strategy dancers use to learn movement sequences and to create particular effects while dancing, although cognitive strategy is probably not how dancers would label the process of conjuring up in the "mind's eye" a representation of a movement effect they are trying to achieve. [...] No matter what kind of movement is involved, or even when standing still, in dance, the effect of the whole body is important, not just one part. Imagery evoked, therefore, tends to create a picture (representation) of how all parts of the whole body should move together.¹⁴⁵

From the previously discussed theories and studies a few pointers can be drawn that could benefit the PD patients in the dance classes. First, the theory on imagery states that images and objects are more easily remembered than words. In the dance classes in the experiment it will be important to work with more than just explanations. Therefore the participants watch a short clip of the performance *Pearl* to have some visuals on what the performance entails. There are also pictures, costumes, and props to provide an even more vivid image of the performance theme. This is guided by a short explanation from the teacher. However, due to the limited scope of this experiment, whether the images work better than the verbal explanation will not be tested.

From the studies on imagery in professional sports it can be concluded that sports have a slightly different aim with imagery than the dance classes for PD patients. None the less, isolating different movements and ligaments, when using imagery, is already used in dance and will be utilised in the dance classes in this experiment.

The studies on imagery in dance classes showed a variety of imagery utilised by dancers. Dance students appreciate it when teachers provide a great deal of imagery for the dance students to choose from. Imagery is a very personal experience; the same types of imagery will not necessarily work for everyone. The studies also suggest that the level of imagery needs to be adjusted to the level of dance training of the participants. In the dance classes in this experiment the teacher provides different kinds of imagery to give all the participants material to work with. The external stimuli are the choreography, costumes, and props from the performance *Pearl*. Retrieving memories happens

¹⁴⁵ Olie Westheimer, "Why dance for Parkinson's Disease," *Topics in Geriatric Rehabilitation*, 24/2 (2008): 14.

later on in the classes, as the PD patients will constantly go back to the movements of the performance. The triggers will come from watching the teacher dance and listening to the music of *Pearl*, something that will occur throughout all the classes. The exact outline of the experiment and the class set-up will be discussed in the following chapter.

4. The experiment

"Dance is for everybody. I believe that the dance came from the people and that it should always be delivered back to the people."

Alvin Ailey

4.1 Introduction

For this thesis an experiment was conducted in collaboration with Dance for Health. This organisation provides dance classes for PD patients in the Netherlands. Together with co-founders Andrew Greenwood and Marc Vlemmix the experiment was designed to research the use of imagery in these specific dance classes.

In this chapter the design of the experiment will be explained based on the research in Chapter 2 and 3 of this thesis. This will be followed by the description of, and argumentation for, the design of the dance classes. The chapter will end with an explanation of the questionnaire and interview design.

4.2 Research specifics

4.2.1 Specific details

Duration:	8 weeks: September 22 nd – November 10 th , 2014.
Classes:	Once a week, 75 minutes per class. Based on <i>Pearl</i> by Scapino Ballet Rotterdam
Location:	Het Huis, Utrecht
Teacher:	Annemarie Labinjo
Research subjects:	6 adult PD patients of different ages, genders and stages of PD.
Testing method:	Questionnaires in week 1 and 8. Interviews in week 8.

4.2.2 Explanation research specifics

The experiment is an eight-week course of dance classes based on the performance *Pearl* choreographed by artistic director Ed Wubbe from Scapino Ballet Rotterdam. The classes are 75 minutes long and take place at Het Huis in Utrecht. The normal dance classes for PD patients at Dance for Health are also 75 minutes and Het Huis is a location with multiple theatre and dance rooms to work in.

The dance classes are based on the performance *Pearl* for several reasons. As stated in Chapter 3, imagery is a personal experience. The art utilised for imagery by the dance teacher will have a different meaning to various people

based on their exposure to that specific art or movement. Establishing dance classes based on a performance provides all participants with the same starting point. All participants will have seen the same stimuli during the first class. Participants who missed the first class will therefore be excluded from the study, but not from the dance classes. The study by Sara Houston and Ashley McGill, discussed in Chapter 2, concluded that the dance classes make the PD patients feel like a community,¹⁴⁶ making them more inclined to continue on with the dance classes. This benefits their mobility. The participants in the experiment work towards a final class where all movement material comes together. The class will be open to other people as well.

Annemarie Labinjo, who teaches the classes in the experiment, also teaches the regular dance classes at Dance for Health. Labinjo danced with Scapino Ballet Rotterdam for many years and understands Ed Wubbe's choreographical style. The biography of Labinjo can be found in Appendix A, 7.1.

4.3 Class curriculum

All classes start with a 20-30 minute warm-up. The warm-up contains exercises for isolated muscles to get the body warm and working. The warm-up starts with the participants sitting on chairs, working until getting up from the chair. Then the dancing continues in a standing position and ends with moving through the space.

The classes are based on the performance *Pearl*. This performance is inspired by the music, the clothing, and the royalty of the Baroque period. The performance demonstrates the romance, glamour, seduction, and decadence of Baroque, but also the fall into decay.¹⁴⁷ Performance specifics can be found in Appendix A, 7.2. PD causes decay in the patient's body; working with the crumbling of the Baroque period might be too confronting for the participants. Therefore the classes focus on the glitter and glamour of the Baroque period.

Different Baroque elements are utilised for the classes, such as the feeling of walking around in a ball gown, making shapes and patterns with groups of people, and the music. As mentioned in Chapter 3, music can be part of metaphorical imagery; therefore the music of the performance *Pearl* will be utilised during the dance classes. Other types of music will be employed to show

¹⁴⁶ Sara Houston and Ashley McGill, 'A mixed-methods study into ballet for people living with Parkinson's disease,' *Arts and Health: An International Journal for Research, Policy and Practice*, (2012): 11-14.

¹⁴⁷ "Pearl", *Scapino Ballet Rotterdam*, January 13, 2012, seen: October 25, 2014, http://www.scapinoballet.nl/nl/pages/voorstellingen+vorige_seizoenen+seizoen_2011_2012+pearl+p+ersbericht_pearl

how music can affect the intention, movement quality, and experience of the movements, creating a new experience. A list of the music accompanying the performance *Pearl* can be found in Appendix A, 7.3. The participants also dance together in the space. In Chapter 2, 2.4, it is concluded that dancing together provides support for the dancers. When dancing around the room together, the participants can support and help each other move.

Each class has its own theme and the classes build upon each other. Elegance, openness, and patterns are important elements in the classes. The complete lesson plan, with elaborate descriptions per class, can be found in Appendix A, 7.4.

4.4 Questionnaire

As discussed in Chapter 2, a questionnaire allows for research on human characteristics, human behaviour, facts, and/or opinions.¹⁴⁸ Utilizing a questionnaire helps gain some quantitative information regarding the new class design that could be easily compared and rated. The questionnaire for the experiment is based on the Westheimer questionnaire. The original Westheimer questionnaire can be found in Appendix B, 8.2. This questionnaire was chosen because it allows for a measurement of the impact of the dance classes on the daily life activities of the participants as well as class experience and mobility, body-feeling, and state of mind.

The Westheimer questionnaire meets the questionnaire standards according to the research methods theory as described by Hennie Boeije and Harm 't Hart. The questionnaire is standardised, which means that all participants are questioned in the same way.¹⁴⁹ This makes the questionnaire answers comparable for analysis and makes replication of the research possible. The questionnaire can be tested when the questions can be duplicated among a different demographic.¹⁵⁰ The answer categories also need to comply with particular elements. The possible answers have to be clearly interpretable, connect to the question, and exclude each other.¹⁵¹ All these criteria are met in the Westheimer questionnaire. The questions have to start simple, in the questionnaire they start with questions on gender, age, months of dance experience, and other physical activities.¹⁵² The questions have to follow each

¹⁴⁸ Hennie Boeije and Harm 't Hart, *Onderzoeksmethoden* (Den Haag: Boom Lemma uitgevers, 2009): 215.

¹⁴⁹ Ibidem, 217.

¹⁵⁰ Ibidem.

¹⁵¹ Ibidem, 235.

¹⁵² Ibidem, 236.

other logically.¹⁵³ The questions need to go from broad to concrete,¹⁵⁴ this happens when moving from part one to part three. The sensitive subjects have to be in the second part of the questionnaires,¹⁵⁵ which happens in the part where people rate their social capabilities, which could possibly be a source of sadness. The questions need to end simple;¹⁵⁶ this probably differs per person as the feeling of class is easily answered for one, but not for another. The instructions and additional information provided on the questionnaire needs to be clear and precise. The questions have to be numbered, short, end with a question mark, and divided into subjects.¹⁵⁷ The Westheimer questionnaire meets all these criteria.

The questionnaire for the experiment starts with questions on demographic variables.¹⁵⁸ These are age, gender, months of dance classes followed with Dance for Health, and other physical activities. Age and gender are asked to obtain the demographical variables of the patients. The number of months of dance classes followed helps to compare improvement in social capabilities in relation to the amount of dance experience. Other physical activities are asked, as they may also affect the movement improvement; it is an external influence on the experiment. These questions are not part of the original Westheimer questionnaire, but are important to take into account when analysing the questionnaires. The second part of the questionnaire asks participants to rate their feelings about social activities on a scale from one to seven: from terrible to delighted. This part of the questionnaire is important to measure the impact of the classes on the participants' wellbeing. The third part of the questionnaire, which will be added to the questionnaire after the last class, questions the participant's experience of the classes. These include body-feeling after class, state of mind after class, positive impact on daily life, duration of the positive impact, and mobility after class.

The questionnaire was translated into Dutch to be usable for the experiment. Some of the elements are changed to allow specific questions about cultural activities. This was chosen because the research aims to investigate the role of culture in general and of dance specifically in the life of people. The questionnaires given before the first class and after the last class can be found in Appendix B, 8.3 and 8.4.

¹⁵³ Hennie Boeije and Harm 't Hart, *Onderzoeksmethoden* (Den Haag: Boom Lemma uitgevers, 2009): 236.

¹⁵⁴ Ibidem.

¹⁵⁵ Ibidem.

¹⁵⁶ Ibidem.

¹⁵⁷ Ibidem, 237.

¹⁵⁸ Ibidem, 213.

4.5 Interview

As concluded in Chapter 2, a semi-structured interview is the best option for this experiment. To recap, a semi-structured interview is an interview in which only some elements are set. These elements are the content of the questions, the way of asking questions, the order of the questions, and the possible answers.¹⁵⁹

Structure in the interview will help with validity of the answers and the prevention of errors.¹⁶⁰ Therefore, some structure in the interview is desirable. Keeping the interview semi-structured will leave room for possible unexpected arguments and opinions.

The questions for the interviews for the experiment examine the use of imagery during the dance classes. The analysis in Chapter 3 showed that imagery is a personal experience; not all types of imagery will work for everyone. Therefore the participants will be asked what kinds of imagery worked best for them and if moving became easier with the movements being based on the same movement material for the eight-week period. The questions, in English and Dutch, can be found in Appendix B, 8.5.

To understand the impact of imagery, the participants are asked about *Pearl* as an inspiration for imagery in three different ways. Firstly, if dancing became easier when working with the same movement style. Secondly, if dancing become easier with *Pearl* as a reference. And thirdly, if moving became easier with the specific movements from *Pearl* as an example. These three questions are posed to discover if the performance as an example helps the participants to move and in what way it is doing so. Is it beneficial to have the performance as a reference, is it beneficial to work in the same movement style, or is it beneficial to have movements from the performance as an example? There are also various other elements to imagery as explained in Chapter 3. Question six is posed to figure out which elements work best for the individual participants, what has been the most helpful? The notes from the teacher, the movements from the performance, all the props and costumes showed during the classes, or the music? Music was also noted in Chapter 2 and 3 as a possible important stimulus for imagery. It will be interesting to find out whether the participants have indeed experienced it that way. To investigate if the participants are more inclined to participate in cultural events after the experiment, the participants are asked if it is likely that they will visit the theatre more often after working with a professional dance performance.

¹⁵⁹ Hennie Boeije and Harm 't Hart, *Onderzoeksmethoden* (Den Haag: Boom Lemma uitgevers, 2009): 267.

¹⁶⁰ Ibidem.

The interviews will be analysed via a coding system. In the book *Analyseren in kwalitatief onderzoek* by Hennie argues that categorizing answers helps analysis of interviews.¹⁶¹ The answers of the participants in the interview will be divided into five categories:

1. Movements in the same dance style
2. Movements with performance as example
3. Imagery options: costume, props, music, and pictures
4. Regular dance class versus dance class based on performance
5. Other

The interview answers will be divided into these categories. The answers will be analysed per category and compared and analysed together within one category. The categories will be analysed individually as well as compared to the questionnaire data to find possible contradictions and consistencies.

The research results of the questionnaire and interviews can be found in Appendix C and D. Appendix C contains the questionnaire and interview results in English. Appendix D contains the interviews transcribed in Dutch. The conclusion and discussion of the results can be found in the following chapter.

¹⁶¹ Hennie Boeije, *Analyseren in kwalitatief onderzoek*, (Den Haag: Boom Onderwijs, 2008): 117.

5. Conclusion and discussion

"What one has not experienced, one will never understand in print." Isadora Duncan

5.1 Introduction

This chapter provides an answer to the research question that was introduced in Chapter 1:

How is the use of imagery in dance classes for Parkinson's disease patients experienced by its participants and how do the classes affect their wellbeing?

This question will be discussed in two parts. First, the participants' experience of imagery utilised in the dance classes is discussed. Then the improvement in the participants' wellbeing, which could be attributed to the dance classes, is examined. In the introduction, wellbeing was defined as the capability to participate in social life. Following this, there will be a reflection on the experiment itself and suggestions for further research. The tables, graphs, and interview responses utilised for this chapter can be found in Appendix C. Parts of these data are repeated in this chapter for the purposes of recapitulation or clarification.

5.2 Imagery and PD patients

In the interviews, the participants were asked about the movements in the dance class and the references to the performance. The question was whether the performance *Pearl*, as a metaphorical image, was benefitting the participants' movement abilities. As noted in Chapter 3, metaphorical imagery in dance consists of four elements. First 'what': which type of imagery was utilised. In the case of the dance classes, the 'what' references to *Pearl*. Second, the time frame: in this experiment the image referred to the Baroque period. Third was the location, which in this case was the royal palace. Fourth was the purpose of the movements, which in the experiment meant dancing with large movements, keeping a straight posture, and moving with flair. All these movements were meant to highlight the glitter and glamour of the Baroque period and to help the dancers image that they were royalty.

The results are based on six respondents. Participants one to five were regular members of the dance classes, participant six was new to the classes and her results will therefore be looked at separately. The questions targeted metaphorical imagery and how the participants experienced the imagery during

the classes. When asked if dancing became easier when the movements were based on the same style, three participants answered that it was the same as in the regular classes, two participants found the movements easier when based on the same style: *"Yes, there are a lot of exercises that you know. That makes it easier indeed."* In response to the question about whether moving became easier with constant references to the performance *Pearl*, three participants said it was the same as in the regular classes: *"I think there is no difference for me. You do have more time for it."* Two participants replied that the references to the performance helped them with the recognition of the movement. Three respondents agreed that using the choreography was useful as an example for the movements: *"Yes, it helps to imagine what it is like. To form an image with it."* Two participants responded it did not necessarily make it easier.

What can be concluded from these answers is that the regular participants were divided over the helpfulness of the imagery from the performance and references to the performance when dancing. They either responded there was no difference between the regular classes and the experimental classes, or having *Pearl* as a movement example benefitted their own movement. The answers from the participants who responded that the imagery was beneficial can be divided into three, not mutually exclusive, categories. These are replicate, repetition, and forming an image. The benefit of replicating the movements seen was mentioned twice, the repetition and recognition of the movements was mentioned five times, and forming of an image of what the movement should be was mentioned twice.

Creating a dance class based on a performance seemed to help some of the participants with recognizing the movements and intentions from the performance style. However, repetition itself appears to be most important. The repetition triggered knowledge the participants have about the movements, the music, and the order of the movements. It can be assumed that repetition makes dancing easier for the participants as they can focus more on dancing itself, rather than on what movements they are required to execute. This relates to the Sanna M. Nordin and Jennifer Cumming's notes on imagery in dance, as discussed in Chapter 3. Retrieving memory is a method of imagery. It must be noted here, however, that this could refer to two things. Firstly, it could refer to the retrieval of personal memories outside of the classes and secondly, to memories from the classes themselves. In the experiment, the focus was on the memory of the movements within the classes. The participants worked on the same material for eight weeks, with each class building on the previous. In this way, the participants worked with what they remembered from the previous classes.

Utilizing imagery in the dance classes occurred in multiple forms, as was noted in Chapter 3. The external stimuli in the experiment were props, costumes, music, and pictures of the performance hanging in the studio. The props were not mentioned by any of the regular participants and only one participant mentioned that the costumes were helpful in seeing how to move. Therefore it can be concluded that the props mostly added to the ambiance of the studio, rather than specifically helping the participants with their dancing. The pictures in the studio were not beneficial for everyone. While participant two mentioned that the photos were very helpful to form an image, participant three stated that the photos distracted her. She explained: *"When we had to look at something, like the pictures, you need to look that way and then I lost my concentration."* All six participants mentioned that dancing is a bit difficult for them because of PD; it required a great deal of concentration from them and they were tired afterwards. Having the pictures in the room did help some participants form images of the movement quality. However, if utilised during a class, they might create a distraction for some of the participants because they will be required to concentrate on something other than the movements.

When the participants were asked which element of imagery worked best for them, three of five mentioned the music. Utilizing imagery can be enhanced through triggers and music can be one of these. Participant two stated: *"I found music the most fun to do, work the best. [...] I love that music."* Participant three said: *"The music was inspiring for me."* Participant four stated: *"The music gives an image as well. [...] and then it helps imagine what it was like in the past."* Participant six, who was new to the classes, gave a very elaborate explanation about how the music affected her dancing:

"Music is a very important factor. You notice the music stays the same. With that come certain movements, which you have practiced and you are repeating. At a certain point, you have that. When the music changes, it is easier to go with it. When the music becomes softer, you move softer, when the music speeds up, you move faster. You go along with the music. The music relaxes you, you become part of the ambiance."

What the regular participants mention, and participant six describes most elaborately, agrees with the entrainment of music as discussed in Chapter 2, 2.5, and music functioning as a trigger in metaphorical imagery, discussed in Chapter 3, 3.4.1. The music helps the participants to move, as participant six mentioned when speaking of easily following the rhythm of the music from fast to slow. The

music also gives the participants information about the ambiance of the Baroque period. As participant four mentions, it helps to imagine the royal life in the Baroque period. The data from the interviews and the theory suggest that music is indeed a very important factor in the metaphorical imagery utilised in dance classes for PD patients.

What remains unclear is whether the movements and music solely trigger the retrieval of information about the movements from the brain, or if the explanation from the teacher helps with this. The research undertaken by Allan Paivio and Ronald A. Finke as noted in Chapter 3, suggests that the movements and music have a stronger effect on recognition than a verbal explanation. However, measuring the specific role of the different elements utilised in the dance classes to improve imagery would be very difficult. Participants might be not aware of how the different elements influence them. The different elements could also collaborate together to create an image, which makes their specific roles difficult to measure. A questionnaire asking specifically about each element could help, but might not be conclusive.

In summary, the research question was: *How is the use of imagery in dance classes for Parkinson's disease patients experienced by its participants?* The interview answers indicated that respondents were positive about the dance classes utilised for the experiment being based on a professional dance performance. They enjoyed working on the same movements for a while, but did not always experience a difference compared to the regular classes. Repetition of movements appears to be the key factor as it helped participants to know what to expect. The repetition together with the imagery elements created recognition of the movements. Replicating movements that the participants had executed before helped the participants to dance with greater ease.

Despite the fact that approximately half of the participants did not find the imagery elements in the experiment more helpful than imagery in the regular classes, I believe that imagery in dance classes for PD patients is important. The slightly low positive reaction might be due to the interview itself. When interviewing the participants, they provided very short answers. Even after asking for further explanation, which was possible due to the chosen semi-structured interview style, their answers remained condensed. While reading the existing studies on dance classes for PD patients, which also included studies other than of the four mentioned in Chapter 2, difficulties with the interviews were never mentioned. It remains unknown whether the researchers were content with the interviews and if they received enough response from them. The lack of information about the way the interviews were conducted is a little strange in

retrospect as speech problems are a side effect of PD. When analysing the existing studies on problems that could occur in an experiment with dance classes for PD patients, the lack of problems mentioned with interviews, led me believe that the interviews were possibly a very valuable way to retrieve information. Despite the shortness of the answers, they still provided me with some information on imagery. From this I believe that imagery is helpful for movement for PD patients. The evidence might not be overwhelming as I generally asked for a comparison between the regular dance classes and the dance classes based on *Pearl*. In retrospect, it would have been more valuable to focus on imagery utilised in dance classes regardless of the class. This might be a good addition if the research were to be repeated. I believe that would deliver more evidence on the positive functioning of imagery utilised in dance classes for PD patients.

5.3 Social life and wellbeing

To measure the improvement of the social life of PD patients, the Westheimer questionnaire was utilised. The explanation can be found in Chapter 2 and the questionnaire, as utilised in the experiment, can be found in Appendix B, 8.3, and 8.4.

5.3.1 Social activities

One part of the questionnaire was asked the participants to rank fifteen social activities. Analysing the data, all participants showed an improvement in the category 'creative expression'. Three of the five participants actually exhibited a significant improvement with a two to four point increase. The data suggests that dance classes based on a professional dance performance enhanced creative expression among the PD patients in this experiment. Three of five participants also ranked an improvement in the categories 'learning abilities', 'self-awareness', and 'work'. Even though most of these improvements were only by one point, with the majority of the participants ranking these higher, there seems to be a positive trend in the improvement in these categories as well.

Significant declines in ranking were seen with participants two, four, and five. Participant two showed a significant decline in the category 'movement' and Participant four showed a significant decline in 'helping others'. This could be due to the progress of PD, which limits the participants in their ability to participate in these activities. It could also be because they had a better day the first day of the experiment than on the last day of the experiment. It might also be due to a combination of all possible reasons or external factors not taken into account in this research. Participant five showed a significant decline in the categories of

'reading and listening', 'visiting museums', and 'independence'. This corresponded with his answer about visiting the theatre after the experiment; he responded that it is not an option. The significant declines in ranking for participants five could be due to the progress of PD or the age of the participant. PD might limit him in these social activities, even though he might want to participate in them.

When looking at the accumulated score of the rating, participant two had the highest overall score. She also participated in the most extra activities in addition to the dance classes. However, when looking at the rest of the participants, the higher amount of extra activities as well as months danced do not correspond with the overall testing score. This would suggest that the number of extra activities and months of dance classes do not correlate with the rating of activities in social life. No information was requested about possible changes in lifestyle among the participants during the experiment. In retrospect, these might be of influence and might be useful information for further research. It is also important to note here that because the participants are regular participants, it might influence this correlation, but might not exist with participants new to the dance classes. Unfortunately, the data from participant six, who was new to the dance classes, cannot be of help here, as there is only data from one new participant.

5.3.2 Impact of the dance classes

The third part of the questionnaire asked the participants about their body-feeling, state of mind, and mobility after the dance classes as well as the duration of the positive impact that the dance classes had on their daily life. All participants answered that the dance classes had a positive impact on their daily life. Four of five participants ranked the positive impact as 'hours'. Participant three ranked it in terms of 'days', which could be related to the information that this participant only has one extra activity, whereas the rest of the regular participants listed two or three extra activities. Only the new participant ranked the impact as 'weeks'. This could be because the effect of the dance classes was entirely new to this participant. Based on this data it can be concluded that participating in the dance classes positively affects the quality of the participants' daily life. The regular participants feel the impact for last at least hours, perhaps even longer. The months of dance classes taken before the experiment does not seem to be connected to the duration of the impact for regular participants.

Body-feeling was ranked from 'same' to 'much better' by four regular participants, with only one participant ranking it as 'worse'. Feeling worse after class might not necessarily mean the class has had a negative effect. It could

mean that participant five was exhausted after class, which made his body feel worse. State of mind and mobility were both ranked from 'same' to 'better', as can be seen in graph 1. The data suggests that the dance classes have a slight positive effect on mobility, body-feeling, and state of mind. However, there is no overwhelming evidence for this. Therefore, it is difficult to make assumptions about these results. The results do correspond with the results of the experiment conducted by Lisa Heiberger et al.¹⁶², as discussed in Chapter 2. The experiment conducted for this thesis might have a smaller pool of respondents, but an interesting comparison can still be made. The 11 participants in the study by Lisa Heiberger et al.'s study show answers range from 'same' to 'much better'. The impact of the dance classes was rated as non-existent by four of the eleven participants, whereas none of the participants in the experiment answered non-existent to the impact in the experiment for this thesis. The experiment shows a 100% positive reaction, whereas the study by Heiberger et al. shows a 63% positive reaction. While conclusions are difficult to make here, the difference in positive reaction between the two studies is remarkable.

The data compiled from the questionnaire indicates that the participants felt an improvement in creative expression. There were also positive trends visible in the categories of learning capabilities, self-awareness, and work. Creating a dance class based on a professional dance performance helped the PD patients with creative expression. This could be because the performance was explained and the participants worked with the movement material and various elements from a professional performance, linking to professional artistic expression.

As for the other categories, it is difficult to claim that these effects were due to these specific dance classes. To measure the difference between the classes, it would be necessary to repeat the experiment, this time with a control group to measure the effects of imagery in a normal dance class versus a performance inspired dance class sequence. As for the positive effect of the classes on the participants' social life, the evidence to substantiate this hypothesis is not overwhelming. However, all participants said the classes have had a positive impact on their daily life and they keep returning to the dance classes, which is a social activity in itself. Therefore, I think we can cautiously conclude that the dance classes have a positive effect on the wellbeing of the PD patients.

¹⁶² Lisa Heiberger et al., "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 9-12.

5.4 Reflection

Looking back at the experiment and research for this thesis, I recognise two important things. Firstly, I started the research with the aim to write about dance classes for PD patients from a dance studies perspective. However, during the literature research, the lack of theories and testing from a dance studies point of view prevented me from doing so. The small amount of information within dance studies on this specific topic forced me to focus more on information from other points of view. I think dance studies can definitely provide added value to the medical humanities discourse. It just requires more research. Hopefully this thesis can add a little bit to that.

Secondly, there are limits to performing this kind of research. When starting the research, there were already some limitations and aspects to be aware of. This was information I received from talking to a physician, members of Dance for Health, and analysing existing research. While analysing the existing studies on dance classes for PD patients in Chapter 2 and talking to a physician familiar with the classes, a few pointers came to the surface that had to be taken into account during the experiment. Firstly, there was the dropout rate of participants because of the progression of the disease. This was taken into account. Of the 12 dance class participants who started the experiment in Utrecht, only 6 participants finished the experiment. Secondly, there were other activities that the participants participated in during the same period as the experiment. If an improvement were to be measured, information on the other physical activities needed to be considered as well. For example, physical therapy, walking, biking, and other types of activities can influence the improvement measured in the experiment. Thirdly, to ensure that all participants had the same imagery experience during the classes, all had to attend the first class in which the choreographical concept of *Pearl* was explained, thus giving all participants the same starting point. Finally, PD is a progressive disease. The speed of the decay differs per patient. During this study the progress of the disease against the progress made by the participants in the dance class was not measured because it would be very difficult to do so and the resources were not available for this experiment. Taking this aspect into consideration, maintaining the same level of mobility might actually be progress in itself for PD patients.

With regard to the teaching method for the dance classes at Dance for Health, two aspects could be of importance. Firstly, most participants enjoyed working on a specific theme for a few weeks, even if they were a bit on the fence about the change in classes at first. Creating a class based on a professional performance also possibly enhanced their creative expression, which could be one

of the specific benefits of dance classes for PD patients over physical therapy. However, to prove this, more data needs to be collected. It might be interesting to add short periods of classes based on a performance to the regular classes, or, perhaps, other specific art pieces. Secondly, almost all participants appreciated repetition. This correlates with the first point about working on the same material for a few weeks. This is possibly because repetition would leave room to think about dancing instead of thinking about how to execute the specific movements.

After completing this research I realised the great number of elements that influence the progress made by PD patients in dance classes. When conducting a study on these particular classes it is important to take all of these factors into account. Therefore, I believe that conducting research on the dance classes for PD patients from a dance studies point of view, without physical or neurological testing is almost to impossible. There are too many external factors that influence the participants in the classes. Having physical tests and data to support the findings from a dance studies point of view would help support the research and rule out some of the outside influences. It would also help to connect how the participants feel about their ability to move and what the physical testing shows about their ability to move. Having physical therapists observe the classes would also reveal if there were differences between the movements people can make in a physical test exercise and while dancing. For some PD patients getting up from a chair during the dance class is apparently easier than doing the same movement at home. For, perhaps, various reasons some movements become easier when they are part of dancing. With the help of a physical therapist it could become easier to detect when exactly this occurs and with what type of movement.

A combination of physical and neurological testing, questionnaires and interviews from a dance studies perspective, and psychological point of view would be the best option. This would provide data on the participants' physical improvements as well as psychological information about how the imagery works and a dance science specific perspective about why dance classes specifically work so well for PD patients. Multidisciplinary research is the best option to observe dance classes, which are different from regular exercise classes and made for patients with a disease that not only affects their physical abilities, but also their wellbeing.

Unfortunately, this research provides little to firmly conclude anything about the use of imagery in dance classes for PD patients. To make more solid claims, the experiment would have to be repeated with new patients. I think this

would be worth doing as it could possibly say more about the distinct benefits of dance classes for PD patients.

5.5 Further research

For further research it could be interesting to repeat this experiment, but with a group of people new to the dance classes and a group of regular participants as a control group. Larger groups and an even number of men and women would allow for more comparative analysis based on gender. The testing would then consist of some movement tests such as the Semitandem test to measure physical improvement. The questionnaires would remain the same but the scores could then be related to physical ability. The interviews would require alteration to ask more specific questions about the use of imagery itself, not about the comparison of imagery utilised in two different types of dance classes. It would be beneficial to learn some interviewing techniques for occasions that people provide short answers. This would mean that there would be more data to work with. Questions on possible changes in lifestyle or activities should be added to address the possible impact of these changes on the research results for specific participants.

As for new research, it might be interesting to look at the imagery utilised in dance classes for PD patients from a different perspective. While researching imagery from a psychological and sports point of view, the possibility of imagining a movement and then executing it improved the movement. As noted in Chapter 3, 3.3, it potentially improves PD patients' dancing if they mentally rehearse the movements outside of the dance class. It might be interesting to experiment with that in the dance classes for PD patients. The group of participants would then have imagery exercises to perform at home; imagining performing the movements without executing them, and also utilising this in the dance classes. When comparing this with a control group of PD patients not working with imagery exercises, one could measure the impact of imagery exercises and utilizing imagery as a specific tool.

Special thanks to

A special thanks to these lovely people who have helped form the idea for this thesis into research and have helped during the writing process.

Andrew Greenwood

Marc Vlemmix

Annemarie Labinjo

Frank Antonissen

Dance for Health dancers

Scapino Ballet Rotterdam

Ed Wubbe

6. Sources

6.1 Articles & Books

Boeije, Hennie and Harm 't Hart. *Onderzoeksmethoden*. Den Haag: Boom Lemma Uitgevers, 2009.

Brown, Steven et al. "The Neural Basis of Human Dance." *Cerebral Cortex*, August (2006), 1157-1167.

Calvo-Merino, Beatriz et al. "Seeing or Doing? Influence of Visual and Motor Familiarity in Action Observation." *Current Biology*, 16 (2006): 1905-1910.

Cameron, Ian G.M. et al. "Changes to saccade behaviours in Parkinson's disease following dancing and observation of dancing." *Frontiers in Neurology*, 4 (2013): 1-10.

Earhart, G.M. "Dance as therapy for individuals with Parkinson disease." *European Journal of Physical and Rehabilitation Medicine*, 45-2 (2009): 231-238.

Finke, Ronald A. *Principles of Mental Imagery*. Cambridge, MA: The MIT Press, 1989.

Foster, Erin R. et al. "A community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinsons disease." *Arch Phys Med Rehabil*, February (2013): 240-249.

Hackney, Madeleine E. et al. "A Study on the Effects of Argentine Tango as a Form of Partnered Dance for those with Parkinson Disease and the Healthy Elderly." *American Journal of Dance Therapy*, 29-2 (2007): 109-127.

Hanrahan, Christine and Ineke Vergeer. "Multiple Uses of Mental Imagery by Professional Modern Dancers." *Imagination, Cognition and Personality*, 20-3 (2001): 231-255.

Heiberger, Lisa et al. "Impact of a weekly dance class on the functional mobility and on the quality of life of individuals with Parkinson's disease." *Frontiers in Aging Neuroscience*, 3 (2011): 1-15.

Houston, Sara and Ashley McGill. "A mixed-methods study into ballet for people living with Parkinson's. *Arts and Health: An international Journal for Research, Policy and Practice*, (2012): 1-17.

Houston, Sara and Ashley McGill. "English National Ballet Dance for Parkinson's. An investigative study." *Roehampton University*, May (2011): 4-33.

Jones, Lesley and Gretchen Stuth. "The use of mental imagery in athletics: an overview." *Applied & Preventive Psychology*, 6 (1997): 101-115.

Nordin, Sanna M., and Jennifer Cumming. "The Development of Imagery in Dance. Part I: Qualitative Findings from Professional dancers." *Journal of Dance Medicine and Science*, 10 (2006): 21-27.

Nordin, Sanna M., and Jennifer Cumming. "The Development of Imagery in Dance. Part II: Quantitative Findings from a Mixed Sample of Dancers." *Journal of Dance Medicine and Science*, 10 (2006): 28-34.

Nordin, Sanna M., and Jennifer Cumming. "Where, When, and How: A Quantitative Account of Dance Imagery." *Physical education, Recreation and Dance*, 78-4 (2007): 390-395.

Paivio, Allan. *Imagery and Verbal Processes*. Hillsdale: Lawrence Erlbaum Associates Publishers, 1979.

Warner, Linda., and Evelyn McNeill. "Mental Imagery and Its Potential for Physical Therapy." *Physical Therapy*, 68 (1988): 516-521.

Westheimer, Olie. "Why dance for Parkinson's Disease." *Topics in Geriatric Rehabilitation*, (2007): 1-15.

<http://journal.frontiersin.org/Journal/10.3389/fnagi.2011.00014/full#B60>

White, A., Hardy, L. "An in-depth analysis of the uses of imagery by high-level slalom canoeists and artistic gymnasts." *The Sport Psychologist*, 12 (1998): 387-403.

6.2 Booklets

Berg, van den, Bellis. *De ziekte van Parkinson en Parkinsonisme in Nederland*. Amsterdam: Regioplan Beleidsonderzoek. 2010.

Dancing for Older People's Health and Well-Being Toolkit. Arts for Health Cornwall and Isles of Scilly. Cornwall: Arts For Health Cornwall. 2010.

http://www.artsforhealthcornwall.org.uk/wp-content/uploads/2010/10/AFHC_Dance_Toolkit.pdf

Keus, S.H.J. *KNFG – Richtlijn. Ziekte van Parkinson*. Amersfoort: Drukkerij de Gans. 2006.

7.3 Websites

"Alles over hersenen." *Hersenstichting*. Seen May 4th, 2014.

<https://www.hersenstichting.nl/alles-over-hersenen/hersenaandoeningen/parkinson>

"Annemarie Labinjo." *Dance for Health and Parkinson*. Seen May 4th, 2014.

<http://www.danceforhealth.nl/over-dfh/onze-docenten/annemarie-labinjo/>

"Dance for Health." *Dance for Health and Parkinson*. Seen May 4th, 2014.

<http://www.danceforhealth.nl/>

"Parkinson Vereniging." *Parkinson Vereniging*. Seen May 4th, 2014.

<http://www.parkinson-vereniging.nl/>

"Pearl", *Scapino Ballet Rotterdam*. January 13, 2012. Seen: October 25, 2014,

http://www.scapinoballet.nl/nl/pages/voorstellingen+vorige_seizoenen+seizoen_2011_2012+pearl+persbericht_pearl

7. Appendix A - Research specifics

7.1 Biography Annemarie Labinjo

Annemarie Labinjo started her career as a dancer for 'Introdans' and 'Scapino Ballet Rotterdam'. After her dancing career Labinjo retrained as Gyrotonic Expansion System Trainer and Master Coach of Strategic Intervention System. She combines the power of the body with the mind. Labinjo teaches for Dance for Health in Utrecht and Rotterdam.¹⁶³

7.2 Performance *Pearl* specifics

Choreography: Ed Wubbe

Music: Antonio Vivaldi, Robert de Visée, Tarquinio Merula

Orchestra: Combattimento Consort Amsterdam

Set design: Ed Wubbe, Pamela Homoet

Light Design: Benno Veen, Ed Wubbe

Costume Design: Pamela Homoet

Opening night: February 9th, 2012. Rotterdamse Schouwburg¹⁶⁴

7.3 Music for *Pearl*

1. Concerto in E. Allero Non Molto – Antonio Vivaldi
2. Concerto in E. Lagro – Antonio Vivaldi
3. Concerto in E. Allegro– Antonio Vivaldi
4. Concerto in E. Andante– Antonio Vivaldi
5. Concerto in E. Adagio– Antonio Vivaldi
6. Concerto in D. Allegro – Antonio Vivaldi
7. Concerto in D. Adagio – Antonio Vivaldi
8. Concerto in D. Largo E Spiccato – Antonio Vivaldi
9. Concerto in D. Adagio E Spiccato - Antonio Vivaldi
10. Concerto in D. Allegro – Antonio Vivaldi
11. Concerto in D. Larghetto– Antonio Vivaldi
12. Giustino. Aria 'Sento CH'in Piogga De Lagrime – Antonio Vivaldi
13. Giustino. Aria 'Vedro Con Mio Diletto – Antonio Vivaldi
14. Sonata in D. 'Follia' – Antonio Vivaldi
15. Andromeda Liberata. Aria 'Sovvente II Sole – Antonio Vivaldi

¹⁶³ "Annemarie Labinjo," *Dance for Health and Parkinson*, seen May 4th, 2014, <http://www.danceforhealth.nl/over-dfh/onze-docenten/annemarie-labinjo/>

¹⁶⁴ "Pearl", *Scapino Ballet Rotterdam*, January 13, 2012, seen: October 25, 2014, http://www.scapinoballet.nl/nl/pages/voorstellingen+vorige_seizoenen+seizoen_2011_2012+pearl+p_ersbericht_pearl

16. Suite in A. Prélude – Robert de Visée
17. Suite in B. Prélude – Robert de Visée
18. Suite in B. Prelude 1 – Robert de Visée
19. Suite in B. Prelude 2 – Robert de Visée
20. Canzoni Overe Sonata. Ciaccona in C- Tarquinio Merul

7.4 Lesson plan

Class 1: Openness

The first class will regard openness. Royalty in the Baroque period walked around with their shoulders open to the world, wanted to show off. The feeling of being open to the world and opening up the body is the theme of the first week. The movement material will come from the choreography of *Pearl*. As discussed in Chapter two, objects and images are more easily remembered than words. Therefore the participants will be shown a short video of the performance *Pearl*, costumes and props at the beginning of the class. These will serve as stimuli for the rest of the classes. At the end of the first class the participants will receive a Chinese tea pearl. They will be asked to go home and pour hot water on the pearl to make tea and see what happens to the pearl.

Class 2: Connection

The second class will begin by sharing the experiences of opening the Chinese tea pearl. Then the class will build upon the first class. During this class the focus will be on the openness created in the first class and how this openness can be used to connect to them selves to other people.

Class 3: Everything else

The third class will continue with the material from the first and second class. When there is openness and connection, how will that create space in the body and mind and what will fill up the new space? The class will relate to letting go of what one has and making room for new things. This class will also contain a release technique to loosen up the body.

Class 4: Freedom

In this class new movement material from *Pearl* will be introduced. From this material and the previous material the participants get the chance to create their own new movements. Ed Wubbe also works with movement input from his dancers in his choreographies. This method will show the participants part of what it entails to create a choreography. New music will also be introduced in this

class to demonstrate how different kinds of music can effect movements. Posters of *Pearl* were also hanged in the classroom, and in every other class following.

Class 5: Together

During this class the focus will be on collaboration. In *Pearl* there are many duets, trios and group movements. The focus will be on elegance as in the Baroque period. Patterns and human gateways are introduced to walk though elegantly. An other teacher, who was informed by Annemarie Labinjo on the theme and performance focus of the classes, gave this class.

Class 6: Choreography

The focus of this class will be on all the material given and created by the participants in the previous classes. Use of other music then used in the performance was introduced to show different ambiances and different impulses to the movements. Participants will play with the movements and mirror each other.

Class 7: Choreography, the self and the other

In the seventh class the connection will be made with the fourth and fifth class, going back to the creation process. The participants work on dancing their own movements and collaborating together as a group in the choreography.

Class 8: Presentation

In the eight' class there will be an open class where the participants can invite people to join the class. All the movement material utilised in previous classes will be connected to each other. The tea pearls, props and costumes will be present in this class again.

8. Appendix B – Questionnaires and Interviews

8.1 Informed consent form

Geachte heer/mevrouw,

Bij deze willen we u vragen om uw toestemming om deel te nemen aan dit onderzoek naar het effect van danslessen voor Parkinson patiënten. Bij dit onderzoek vult u tweemaal een vragenlijst in, vindt er aan het einde een interview plaats en worden de lessen gefilmd. Hieronder vindt u de uitleg over de onderdelen van het onderzoek.

Filmen

Het filmen is puur en alleen bedoeld om de lesmethode te analyseren.

Vragenlijsten

De vragenlijst wordt tweemaal gedaan, voor de eerste en na de laatste les. De vragenlijst is bedoeld om informatie te verkrijgen over uw ervaringen tijdens en na de lessen.

Interview

Het interview vindt plaats na de laatste les en is bedoeld om informatie te verkrijgen over uw ervaringen tijdens en na de lessen.

Vrijwillige deelname

Deelname aan dit onderzoek is volledig op vrijwillige basis. Als u enig ongemak ervaart tijdens het filmen, het invullen van de vragenlijsten of het interview, dan wordt u verzocht dit bij de onderzoeker te melden.

Vertrouwelijkheid

Uw gegevens worden niet versterkt aan derden. Het invullen van de vragenlijsten is anoniem en de antwoorden van de vragenlijsten en interviews zullen niet terug te leiden zijn naar u.

Wilt u meedoen aan dit onderzoek, dan verzoeken wij u om het onderstaande in te vullen.

Alvast bedankt!

Hierbij verklaar ik dat ik al het bovenstaande heb begrepen en toestemming verleen voor het filmen van de lessen en het gebruik van de door mij ingevulde vragenlijsten en interview antwoorden.

Naam:

Datum:

Plaats:

Handtekening:

8.2 Westheimer questionnaire

Note: this is not the original design of the questionnaire, only the content.

The questionnaire as it was designed can be found in the study by Lisa Heiberger et al.¹⁶⁵

Quality of life scale

Sixteen-item Oregon health and science university version + 17th item of the Brooklyn Parkinson Group (BPG)

Please read each item and circle the number that best describes how satisfied you are at this time. Please answer each item even when you do not currently participate in an activity or have a relationship. You can be satisfied or dissatisfied with doing the activity or having the relationship.

(Note: Participants were asked to rate their feelings on a scale of 1–7: Terrible, Unhappy, Mostly Dissatisfied, Mixed, Mostly Satisfied, Pleased, or Delighted).

1. Material comforts – home, food, conveniences, financial security.
2. Health – being physically fit and vigorous.
3. Relationships with parent's siblings and other relatives – communicating, visiting, helping.
4. Having and rearing children.
5. Close relationships with spouse or significant other.
6. Close friends.
7. Helping and encouraging others, volunteering, giving advice.
8. Participating in organisations and public affairs.
9. Learning – attending school, improving understanding, getting additional knowledge.
10. Understanding yourself – knowing your assets and limitations – knowing what life is about.
11. Work – job or in home.
12. Expressing yourself creatively
13. Socializing – meeting other people, doing things, parties, etc.
14. Reading, listening to music, or observing entertainment.
15. Participating in active recreation.
16. Independence, doing for yourself.
17. Moving around – walking, standing-up (17 was added by BPG).

¹⁶⁵ Lisa Heiberger and others, "Impact of a weekly dance class on the functional mobility and on quality of life of individuals with Parkinson's disease," *Frontiers in Aging Neuroscience*, 3 (2011): 14, 15.

After completing the QOL 5, respondents were asked by BPG: "Have any of the numbered items, 1–17, changed for me better as a result of attending the Dance for PD classes? If so, please write the numbers below."

Modified questionnaire of ?

- A. How is your body-feeling after the dance class?
 - 1. much better
 - 2. better
 - 3. the same
 - 4. worse
 - 5. much worse
- B. How is your state of mind after the dance class?
 - 1. much better
 - 2. better
 - 3. the same
 - 4. worse
 - 5. much worse
- C. Do you feel the consequences of the dance class impact your quality of life on a daily basis? Yes No
- D. If yes, how long do you feel that the impact last?
 - 1. minutes
 - 2. hours
 - 3. days
 - 4. weeks
- E. How is your mobility after dance class?
 - 1. much better
 - 2. better
 - 3. the same
 - 4. worse
 - 5. much worse
- F. Open questions (please describe in detail):
 - – What do you believe specifically makes dais dance class work for you?
 - – What brings you back to class each week?

8.3 Experiment questionnaire – I (22-09-2014)

Vragenlijst - Deel 1

Patiënt informatie

Datum:

Leeftijd:

Man/vrouw

Hoelang volgt u al dansles bij Dance for Health?

.....
.....

Welke andere fysieke activiteiten doet u wekelijks?

(fysiotherapie, fietsen, wandelen etc.)

.....
.....

Vragenlijst - Deel 2

Lees de volgende onderdelen beneden en geef ieder onderdeel een nummer van 1 tot 7 op basis van de volgende uitleg:

1. Verschrikkelijk
2. Ontevreden
3. Voornamelijk ontevreden
4. Middelmatig
5. Voornamelijk tevreden
6. Tevreden
7. Blij

Onderdelen

- | | | |
|-------|---|-------|
| I. | Gezondheid: denk aan fysiek fit zijn en energiek zijn | ..... |
| II. | Bewegen: denk aan wandelen, opstaan | ..... |
| III. | Actief deelnemen aan recreatie: denk aan sporten, spelletjes etc. | ..... |
| IV. | Relaties met anderen: denk aan communiceren, bezoeken, helpen | ..... |
| V. | Anderen helpen, vrijwilligerswerk, advies geven etc. | ..... |
| VI. | Meedoen in organisaties en openbare activiteiten | ..... |
| VII. | Sociaal leven: denk aan met mensen afspreken, feestjes etc. | ..... |
| VIII. | Leren: denk aan dingen beter begrijpen, meer kennis op doen | ..... |
| IX. | Zelfkennis: eigen mogelijkheden en beperkingen kennen | ..... |
| X. | Werk: denk aan baan of in huis | ..... |
| XI. | Jezelf creatief uitdrukken: in muziek, dans, schilderen etc. | ..... |
| XII. | Lezen, muziek luisteren | ..... |
| XIII. | Bezoeken van theater/concerthal | ..... |
| XIV. | Bezoeken van musea/galleries | ..... |
| XV. | Zelfstandigheid: dingen zelf doen | ..... |

8.4 Experiment questionnaire – II (10-11-2014)

Vragenlijst - Deel 1

Patiënt informatie

Datum:

Leeftijd:

Man/vrouw

Vragenlijst - Deel 2

Lees de volgende onderdelen beneden en geef ieder onderdeel een nummer van 1 tot 7 op basis van de volgende uitleg:

- 8. Verschrikkelijk
- 9. Ontevreden
- 10. Voornamelijk ontevreden
- 11. Middelmatig
- 12. Voornamelijk tevreden
- 13. Tevreden
- 14. Blij

Onderdelen

XVI.	Gezondheid: denk aan fysiek fit zijn en energiek zijn	.....
XVII.	Bewegen: denk aan wandelen, opstaan	.....
XVIII.	Actief deelnemen aan recreatie: denk aan sporten, spelletjes etc.	.....
XIX.	Relaties met anderen: denk aan communiceren, bezoeken, helpen	.....
XX.	Anderen helpen, vrijwilligerswerk, advies geven etc.	.....
XXI.	Meedoen in organisaties en openbare activiteiten	.....
XXII.	Sociaal leven: denk aan met mensen afspreken, feestjes etc.	.....
XXIII.	Leren: denk aan dingen beter begrijpen, meer kennis op doen	.....
XXIV.	Zelfkennis: eigen mogelijkheden en beperkingen kennen	.....
XXV.	Werk: denk aan baan of in huis	.....
XXVI.	Jezelf creatief uitdrukken: in muziek, dans, schilderen etc.	.....
XXVII.	Lezen, muziek luisteren	.....
XXVIII.	Bezoeken van theater/concerthal	.....
XXIX.	Bezoeken van musea/galleries	.....
XXX.	Zelfstandigheid: dingen zelf doen	.....

Vragenlijst - Deel 3

Omcirkel het antwoord dat het meest van toepassing is.

1. Hoe voelt uw lichaam na de dansles?
 - a. Veel beter
 - b. Beter
 - c. Hetzelfde
 - d. Slechter
 - e. Veel slechter
2. Hoe is uw stemming na de dansles?
 - a. Veel beter
 - b. Beter
 - c. Hetzelfde
 - d. Slechter
 - e. Veel slechter
3. Voel je een positief effect van de danslessen op de kwaliteit van je dagelijks leven?
 - a. Ja -> ga naar vraag 4
 - b. Nee -> ga naar vraag 5
4. Zo ja, hoelang voelt u deze positieve effecten na de dansles?
 - a. Minuten
 - b. Uren
 - c. Dagen
 - d. Weken
5. Hoe beweeglijk voelt u zich na de dansles?
 - a. Veel beter
 - b. Beter
 - c. Hetzelfde

- d. Slechter
- e. Veel slechter

8.5. Interview Questions

Dutch

1. Was u al bekend met de voorstelling Pearl van Scapino Ballet Rotterdam?
2. Wat vond u ervan dat de lessen waren gebaseerd op een dansvoorstelling?
3. Was het makkelijker om de bewegingen uit te voeren nu de bewegingen steeds in dezelfde stijl waren?
4. Was het dansen makkelijker nu er steeds werd verwezen naar de bewegingen uit de voorstelling?
5. Was het dansen makkelijker nu de bewegingen uit de voorstelling als voorbeeld dienden?
6. Welke voorbeelden uit de voorstelling had u het meeste aan bij het dansen? De bewegingen uit de voorstelling, de aanwijzingen van de docent over de voorstelling, de spullen die u in de eerste les heeft gezien of de muziek?
7. Nu de dansles op Pearl was gebaseerd, vond u de bewegingen makkelijker te volgen dan in de reguliere danslessen?
8. Zou u na het volgen van deze lessen vaker een voorstelling willen bezoeken in de toekomst?
9. Is er nog iets dat u kwijt wilt over de danslessen?

English (translated)

1. Were you familiar with the performance Pearl from Scapino Ballet Rotterdam?
2. What is your opinion on the fact that the classes were based on a dance performance?
3. Did moving become easier with all the movements based on the same style in every class?
4. Did moving become easier with constant referencing to the performance?
5. Did moving become easier with the movements from the performance as examples?
6. Which examples of the performance benefitted you most in moving? The movements, the notes from the teacher on the performance, the things from the performance seen in the first class or the music?
7. With the dance classes based on specific movement material, were the classes easier to follow than regular dance classes?
8. Would you be more inclined to visit the theatre after participating in these classes?
9. Is there anything you would like to add?

9. Appendix C - Results

In this appendix you can find the experiment results. The data of participant six will be analysed separately from the other five participants, as participant six was the only participant new to the dance classes. The data of participant six is available in the schematic overviews in italics. The starts with the overview of the answers from questionnaire part I, II, and III. This will be followed by the data collected from the interviews.

9.1 Questionnaire results

9.1.1 Questionnaire part I

The first part of the questionnaire was utilised to obtain social demographic data of the participants.

Table 1: Participant data

	Gender	Age	Other activities	Dance classes	Knows <i>Pearl</i>
1.	Female	61	Physical therapy, walking	4 months	No
2.	Female	69	Biking, walking, swimming	12 months	Yes
3.	Female	80	Biking	12 months	No
4.	Female	75	Physical therapy, walking	6 months	No
5.	Male	90	Walking, 'Nederland in Beweging'	12 months	No
6.	<i>Female</i>	<i>59</i>	<i>Fysiofitness, pilates, biking, walking</i>	<i>New</i>	<i>Yes</i>

When looking at the participants' data, the average age of the regular participants is 75 years, with a 29-year age difference between the youngest and the oldest regular participant. The only male participant is also the oldest participant, with a 10-year difference with the eldest female participant.

The regular participants have taken at least four months of the regular dance classes prior to the experiment. Only one participant has seen the performance *Pearl* prior to the experiment, the others are not familiar with the performance. The new participant is familiar with *Pearl* and is two years younger than the youngest regular participant.

All regular participants have active activities next to the dance classes. Four participants walk regularly, two participants bike, two partake in physical therapy, one swims, and one follows the television program 'Nederland in Beweging'¹⁶⁶. The new participant appears to be more active than the regular participants with four activities.

¹⁶⁶ Translation: The Dutch are moving. It is a televised fitness program.

9.1.2 Questionnaire part II

These are the answers to the second part of the questionnaire. The participants were asked to rank daily activities on a scale from 1-7.

Categories:

- | | |
|--------------------------------|-----------------------------------|
| (1) Health | (9) Self-awareness |
| (2) Movement | (10) Work |
| (3) Active in sports and games | (11) Creative expression |
| (4) Relationships with others | (12) Reading, listening to music |
| (5) Helping others | (13) Visiting theatre / concerts |
| (6) Part of public activities | (14) Visiting museums / galleries |
| (7) Social life | (15) Independence |
| (8) Learning capabilities | |

Table 3: Daily activities

	Gender	Age	Test date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Female	61	22 sept	4	6	6	7	0	0	7	4	6	4	2	4	2	0	6
			10 nov	4	5	5	6	6	0	6	5	0	5	5	6	0	0	6
2.	Female	69	22 sept	5	6	5	6	6	6	6	4	5	5	6	6	6	6	6
			10 nov	4	4	5	5	5	5	6	6	6	4	7	7	6	6	6
3.	Female	80	22 sept	5	5	5	6	4	4	5	4	5	0	4	6	4	5	6
			10 nov	5	5	5	6	5	3	5	5	6	6	5	6	4	5	6
4.	Female	75	22 sept	5	4	5	6	5	4	5	5	4	2	2	5	5	3	4
			10 nov	4	4	5	5	3	4	4	4	5	3	4	5	5	5	5
5.	Male	90	22 sept	3	2	1	3	0	0	4	2	6	0	0	6	0	6	4
			10 nov	3	3	3	4	1	1	3	1	6	1	4	3	1	2	1
6.	Female	59	22 sept	4	4	3	4	4	4	4	4	5	2	5	4	4	3	4
			10 nov	4	5	6	5	4	4	4	4	6	2	4	4	4	3	4

Some participants left a few answers blank, as they could not perform the activities. These are marked as 0, but will be treated as a score of 1, as that is the lowest score in the test. When comparing the answers of the first and second testing moment, the scores are somewhat fluctuating. When analysing, one-point differences will be seen as not significant as the difference is too little. Significant changes will be measured when there is a two or more point difference in scoring.

Participant one had a significant increase in the categories reading and listening to music (12) and creative expression (11). Participant two had a significant rise in learning capabilities (8). Participant three had a significant rise in the work category (10). Participant four had a significant rise in creative expression (11) and visiting museums (14). Participant five showed a significant increase in being active in sports and games (3) and creative expression (11).

Participants one and three showed no significant decline in any category. Participant two showed a significant decline in the category movement (2). Participant four showed a significant decline in helping others (5). Participant five showed a significant decline in the categories of reading and listening (12), visiting museums (14), and independence (15).

Only participants one and two ranked categories on the highest point of the scale. Participant one ranked relationships with others (4) and social life (7) with a seven in the first measuring moment, both were ranked as six in the second measuring moment. Participant two ranked creative expression (11) and reading and writing (12) with a seven in the second measuring moment. Both were ranked as six in the first measuring moment.

When inspecting all the results, also looking at the differences in score by 1 point, we see that 27 categories were ranked higher, 38 were ranked on the same level and 25 were ranked lower. All regular participants ranked creative expression (11) higher, the new participant ranked it lower. Three out of five participants ranked learning capabilities (8), self-awareness (9), and work (10) higher.

Table 3: Overall score

	Gender	Age	Test date	Overall score
1.	Female	61	22 sept	61
			10 nov	63
2.	Female	69	22 sept	84
			10 nov	82
3.	Female	80	22 sept	69
			10 nov	77
4.	Female	75	22 sept	64
			10 nov	65
5.	Male	90	22 sept	42
			10 nov	37
6.	<i>Female</i>	<i>59</i>	22 sept	<i>58</i>
			10 nov	<i>63</i>

The overall, accumulated, score shows an increase in score with participant one, three, and four, as well as with the new participant. A decrease is seen with participant two and five. None of the scores stayed the same. Participant three shows the most substantial increase on overall score, participant five shows the most substantial decrease in overall score. Participant one, two, and four only showed a one or two-point difference in overall score, which cannot be seen as a significant difference. Participant two and three had the highest overall scores. Participant five had the lowest overall score.

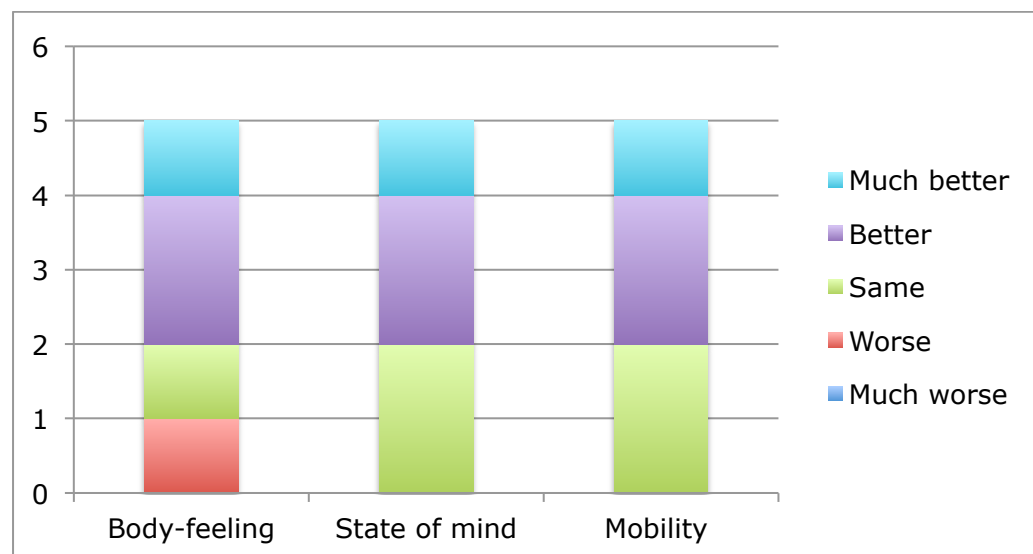
9.1.3 Questionnaire part III

The third part of the questionnaire measured the effect of the dance class on body-feeling, state of mind, and mobility as well as the impact of the class measured in time. The answers portrayed in Table 4 are visualised in the graphs.¹⁶⁷

Table 4: impact of the dance class

	Gender	Age	1. Body-feeling	2. State of mind	3. Impact	4. Duration impact	5. Mobility
1	Female	61	Much better	Better	Yes	Hours	Much better
2	Female	69	Better	Much better	Yes	Hours	Better
3	Female	80	Same	Same	Yes	Days	Same
4	Female	75	Better	Better	Yes	Hours	Better
5	Male	90	Worse	Same	Yes	Hours	Same
6	Female	59	Better	Much better	Yes	Weeks	Better

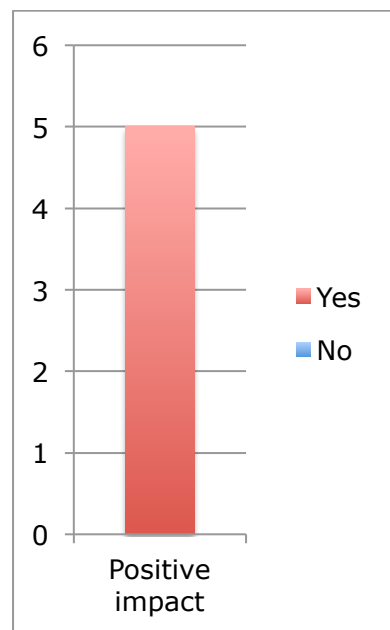
Graph 1: Effect and impact of the dance classes per category.



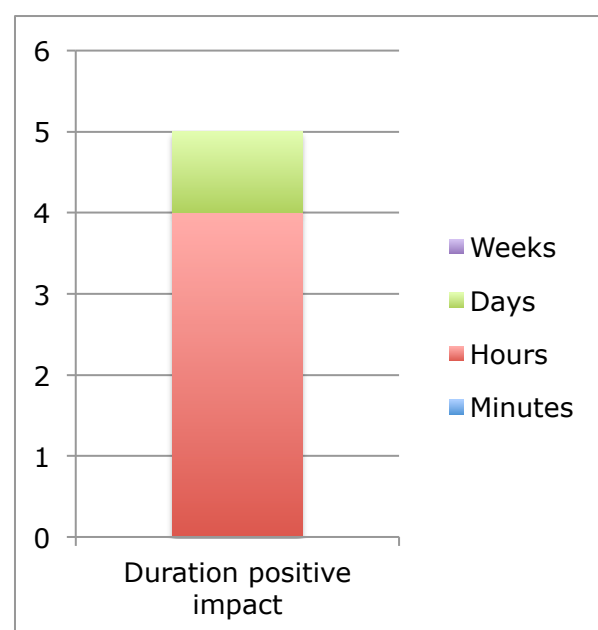
What can be seen from these answers is that all women had a 'same' or 'better' body-feeling after class, only the male participant felt 'worse' after class. State of mind after class was ranked 'much better' by one participant, 'better' by two participants, and 'same' by two participants. Mobility was ranked the same way. The new participant ranked all answers as 'better' or 'much better'.

¹⁶⁷ Even though graphs are not necessary for a study with such a small respondents group, I think it shows a nice visual of what might happen when this pilot study is repeated with a larger group of participants.

Graph 2: Positive impact



Graph 3: Duration of impact of dance class



All participants felt a positive effect of the dance class on their daily life. The duration of the impact was ranked as 'hours' by four participants and as 'days' by one participant.

The new participant also felt a positive effect of the dance classes. For the duration of the impact of the classes on the daily life she was the only one ranking it as 'weeks', whereas the regular participants ranked the impact either in 'hours' or 'days'. The category 'minutes' was chosen by none of the participants.

9.2 Interview results.

The interview results are reported below. The interviews transcribed in Dutch can be found in Appendix D, 10.1. The answers are accumulated per question and translated into English. The text between [...] is added to clarify the answers. The answers to question 1, familiarity with the performance *Pearl*, can be found in Table 1: Participant data. Three of the interviews were conducted in person immediately after the dance class. The other three interviews were conducted via phone, a few hours after the dance class. Conduction the interview face-to-face or via phone slightly influences the interviews, but it allowed for the participants to go home and rest a while before answering the questions. Having those participants answer the questions while tired from the dance class would have affected the answers even greater.

Question 2: What is your opinion on the fact that the classes were based on a dance performance?

- Participant 1: "Very fun. First I thought of it as gymnastics exercises. After a while more as a performance, as dancing."
- Participant 2: "I really enjoyed it, I also enjoyed the performance and I kept thinking about that. I liked the broad, large movements and also very calm. It was not that I thought that it was easier. It was the same as in the regular classes."
- Participant 3: "I did not want to do it, to be honest. But I really enjoyed it. It was not that bad. I thought that it was such a hassle, let's be normal, now she [the teacher] is going to change everything. But in retrospect I really enjoyed it."
- Participant 4: "Yes, it was fun. With a theme and everything."
- Participant 5: "I found it very positive. Because you are more participating in life, with dancing in general. Yes, I liked the performance, also moving your hips."
- Participant 6: "I do not have comparative material, I haven't participated in the dance classes before. I liked it. The performance was a source of inspiration, which was very clear."

Question 3: Did moving become easier with all the movements based on the same style in every class?

- Participant 1: "No, it did not matter that much."
- Participant 2: "No, I did not think it was easier. No, I thought it all went smoothly, the movements. It was not that I thought it was easier, no. It was the same as in the other classes."
- Participant 3: "I thought it was similar to what we normally do. It becomes funnier, with the things you see and hear."
- Participant 4: "Yes, there are a lot of exercises that you know. That makes it easier indeed."
- Participant 5: "Yes, I think so. Yes, because you have done the same for weeks now."
- Participant 6: "Yes, I think so. You move with more ease because you have done it before."

Question 4: Did moving become easier with constant referencing to the performance?

- Participant 1: "No, it was the same for me. The movements in the other class (regular classes) were sort of the same."
- Participant 2: " Yes, because I think about what I have seen [in the performance]. That makes it easier for me. But I think I am the only one who saw the performance. I have a beautiful image of it. It makes you replicate the movements almost automatic."
- Participant 3: "I think there is no difference for me. You do have more time for it, for when you see something different, like on television or something. It also worked a little bit the other way around for me. I liked that."
- Participant 4: "Yes, I think so. Yes the recognition."
- Participant 5: "No."
- Participant 6: "No, not really. I did have an image of the performance. But I did not look at the performance the way we did in class. So no, not really."

Question 5: Did moving become easier with the movements from the performance as examples?

- Participant 1: "No, not for me."
- Participant 2: " Yes, certainly, it helped me. Just because I have an image of the performance and you replicate the movements automatically. And you see the photos of the performance in the studio [where the dance class was], so that also helped. So I enjoyed it very much."
- Participant 3: "You mean with the costumes? Easier? I just though it was entertaining, funny. But it was not like I want to say I did everything with ease. You need a lot of concentration to do the movements, you are really busy with that."
- Participant 4: "Yes, it helps to imagine what it is like. To form an image with it."
- Participant 5: "Yes, I liked that."
- Participant 6: " I do not know if Annemarie really used it [the performance] as an example. She worked more from the subjects, the Baroque clothing, and the decorations. More from the time image then from the performance. It makes it easier to visualise what Annemarie wants you to do. When she asks us to form triangles with our feet as they did in the Baroque period, I do not feel that is based on the performance but more on the era. The ambiance is more from the

performance. The pride, the curtsies, and being a member of royalty. The ambiance is very helpful.”

Question 6: Which examples of the performance benefitted you most in moving? The movements, the notes from the teacher on the performance, the things from the performance seen in the first class or the music?

- Participant 1: “I enjoyed all of it, but it was the same as before [in the regular classes]. I actually think that’s terrible. But for me there was no difference.”
- Participant 2: “I found the most fun to do, work the best, when we started with slow Baroque music and then sometimes alternated with faster and contemporary music. To be more modern. I liked that variation a lot.”
- Participant 3: “I think the music. The niceness goes a bit automatic. When we had to look at something, like the pictures, then you need to look that way and than I lost me concentration. The music was inspiring for me.”
- Participant 4: “I think the music. Yes, the music gives an image as well. First I though the Baroque music, mwah. But after a while you like it. And than it helps imagine what it was like in the past [Baroque period].”
- Participant 5: “The costume, the dress with the wide hips. That helped me the most.”
- Participant 6: “Music is very important factor. You notice the music stays the same. With that come certain movements, which you have practiced and you are repeating. At a certain point, you have it. When the music changes, it is easier to go with it. When the music becomes softer, you move softer, when the music speeds up, you move faster. You go along with the music. The music relaxes you, you become part of the ambiance.”

Question 7: With the dance classes based on specific movement material, where the classes easier to follow than regular dance classes?

- Participant 1: “Did not make a difference.”
- Participant 2: “No that did not make a difference for me. I also enjoy the regular class a lot. It goes without effort. No, it did not make a difference for me.”
- Participant 3: “That did not differ so much for me. No.”
- Participant 4: “Yes, I liked the theme, that you work with that. And that you repeat the exercises.”
- Participant 5: “No.”
- Participant 6: Not applicable as the participant was new to the classes.

Question 8: Would you be more inclined to visit the theatre after participating in these classes?

- Participant 1: "I visited a musical. There was so much noise that I completely shut down. It was 'Soldaat van Oranje'. It was so loud, it scared me. I left half way through. I went home."
- Participant 2: "If I would go more often? I already go regularly, you might have noticed that. I visit the theatre regularly. I think about once every three months. The last one was with that horse, War Horse."
- Participant 3: "Well, yes. Because of the disease of my husband, visiting a theatre is not an option. But it would be possible to that I would like to go see something. That is possible, but that is very personal of course."
- Participant 4: "Well, I'm not such a ballet person. So I would not go to the ballet. But if it is playing and everyone is enthusiastic, that I would say, let's try it."
- Participant 5: "No that is not an option."
- Participant 6: "I always like to visit the theatre, so this does not have an influence on me."

Question 9: Is there anything you would like to add?

- Participant 1: "I do not think so. I enjoyed it, but I also enjoy the other [regular] classes."
- Participant 2: "No, I mostly just really enjoyed it. And the music, I love that music. I do not really have anything to add. I almost think it is a pity that the project ended. I could have lasted for a couple of more weeks if you ask me, as a matter of speaking of course. But I also really like it when Annemarie [teacher] starts her own classes again."
- Participant 3: "No."
- Participant 4: "No. It is pretty tiring for us; it is over an hour you know. It is very tiring. I can barely make it through the class. And then I need to go to the bathroom, practical, but that is the way it is. But it is worth it. When I do something strenuous at home I am also tired. I just keep thinking, moving is good for me, so we should do this. I talked about it with the physical therapist before this [the dance classes] existed. I wanted to do something, but preferably in a group. And then this happened, so that's why I joined the class."
- Participant 5: "No."

- Participant 6: "A lot of compliments. I did not know what to expect when I signed up, I had no idea. But I thought it was fantastic. Annemarie is a warm person, extremely inspiring. I liked it a lot. The group and the music were great. I have learned that I can feel freer than I expected beforehand. It brought me a lot. When you go somewhere as a patient, where there are other patients with the same disease, it is always a bit confronting. It is like looking in the mirror or future. But when even the people who are the furthest in the disease have so much fun, I thought that was fantastic to see."

10. Appendix D –Interview transcribed

10.1 Interviews transcribed

Deelnemer 1

1. *Was u al bekend met de voorstelling Pearl van Scapino Ballet Rotterdam?*

Nee.

2. *Wat vond u ervan dat de lessen waren gebaseerd op een dansvoorstelling?*

Heel leuk. Ik dacht eerst aan gymnastiek oefening. En naderhand kwam het meer als voorstelling, als dansen.

3. *Was het makkelijker om de bewegingen uit te voeren nu de bewegingen steeds in dezelfde stijl waren?*

Nee, maakt eigenlijk niet veel uit.

4. *Was het dansen makkelijker nu er steeds werd verwezen naar de bewegingen uit de voorstelling?*

Nee, het was voor mij gelijk. De bewegingen die we voor deze les hadden kwamen eigenlijk op hetzelfde neer.

5. *Was het dansen makkelijker nu de bewegingen uit de voorstelling als voorbeeld dienden?*

Nee voor mij niet.

6. *Welke voorbeelden uit de voorstelling had u het meeste aan bij het dansen? De bewegingen uit de voorstelling, de aanwijzingen van de docent, de spullen die u in de eerste les heeft gezien of de muziek?*

Ik vond het allemaal heel leuk, maar het was eigenlijk hetzelfde als eerst. Dat vind ik eigenlijk heel erg. Maar voor mij was het geen verschil.

7. *Nu de dansles op Pearl was gebaseerd, vond u de bewegingen makkelijker te volgen dan in de reguliere danslessen?*

Maakt geen verschil.

8. *Zou u na het volgen van deze lessen vaker naar een voorstelling willen bezoeken in de toekomst?*

Ik ben naar een musical geweest. En dat was zoveel kabaal, ik klapte helemaal dicht. Soldaat van Oranje was dat. Dat gaat zo hard, ik werd er helemaal angstig van. Halverwege ben ik eruit gestapt, ben ik naar huis gegaan.

9. Is er nog iets dat u kwijt wilt over de danslessen?

Nee, dat geloof ik niet. Ik vond het leuk, maar ik vond de andere lessen ook leuk.

Deelnemer 2

1. *Was u al bekend met de voorstelling Pearl van Scapino Ballet Rotterdam?*

Ja, al gezien.

2. *Wat vond u ervan dat de lessen waren gebaseerd op een dansvoorstelling?*

Ik vond het heel erg leuk, ik vond het ook een prachtige voorstelling en dat had ik steeds in mijn hoofd. *Wat vond u er zo leuk aan?* Die ruime, grote gebaren en ook wel heel rustig. En dan zo, ja je mag er zijn, trots. Vond ik echt heel leuk.

3. *Was het makkelijker om de bewegingen uit te voeren nu de bewegingen steeds in dezelfde stijl waren?*

Nee, vond ik niet makkelijker. Nee, ik vond het eigenlijk vanzelf gaan allemaal, die bewegingen. Dat was niet echt dat ik dacht, nou het is gemakkelijker, nee. Hetzelfde als in andere lessen.

4. *Was het dansen makkelijker nu er steeds werd verwezen naar de bewegingen uit de voorstelling?*

Ja, omdat ik op mijn netvlies zie wat ik gezien heb. Dat maakt het makkelijker voor mij. Maar ik denk dat ik de enige ben die he al gezien heeft. Ik heb daar een mooi beeld bij. Dan doe je de bewegingen haast automatisch na of zo.

5. *Was het dansen makkelijker nu de bewegingen uit de voorstelling als voorbeeld dienden?*

Ja zeker, heeft mij wel geholpen. Gewoon omdat ik die voorstelling op mijn netvlies heb en die doe je bewegingen automatisch na. En dan zie je die platen van de voorstelling (*hingen in de zaal*) dus dat zag je ook, dus dat heeft ook wel geholpen ook, dus dat vond ik ook heel erg leuk.

6. *Welke voorbeelden uit de voorstelling had u het meeste aan bij het dansen? De bewegingen uit de voorstelling, de aanwijzingen van de docent, de spullen die u in de eerste les heeft gezien of de muziek?*

Ik vond eigenlijk het leukste, beste werken, we deden eerst dan de langzame barok muziek en tussendoor af en toe snelle, eigentijdje muziek. Om het eigentijds te doen. Dat vond ik ook wel erg leuk als afwisseling.

7. Nu de dansles op Pearl was gebaseerd, vond u de bewegingen makkelijker te volgen dan in de reguliere danslessen?

Nee, dat maakt voor mij geen verschil. Ik vind de reguliere les ook heel erg leuk. Dat gaat eigenlijk vanzelf. Nee, voor mij maakt het geen verschil.

8. Zou u na het volgen van deze lessen vaker naar een voorstelling willen bezoeken in de toekomst?

Of ik vaker ga? Ik ga al regelmatig, dat merk je misschien wel. Ik ga regelmatig wel naar het theater hoor. Nou ik denk zeker één keer in de drie maanden. De laatste was met dat paard, War Horse.

9. Is er nog iets dat u kwijt wilt over de danslessen?

Nee, ik vond het voornamelijk heel leuk erg leuk om te doen. En de muziek, ik hou van die muziek. En nee eigenlijk heb ik niets toe te voegen. Ik vind het eigenlijk haast jammer dat het project is af gelopen. Het van mij nog wel een paar weken mogen duren, bij wijze van spreken dan he. Maar ik vind het ook leuk als Annemarie met haar eigen lessen weer komt.

Deelnemer 3

1. *Was u al bekend met de voorstelling Pearl van Scapino Ballet Rotterdam?*

Nee.

2. *Wat vond u ervan dat de lessen waren gebaseerd op een dansvoorstelling?*

Ik had er helemaal geen zin in om eerlijk te zijn. Ik vond het heel leuk. Het viel me reuze mee. Ik dacht wat een gedoe, laat ze nou maar gewoon doen, nu veranderd ze alles. Maar achteraf vond ik het heel leuk.

3. *Was het makkelijker om de bewegingen uit te voeren nu de bewegingen steeds in dezelfde stijl waren?*

Nou dat vond ik een beetje gelijk met wat er normaal gedaan wordt. Je het wordt wat grappiger he, met dingen die je ziet en hoort.

4. *Was het dansen makkelijker nu er steeds werd verwezen naar de bewegingen uit de voorstelling?*

Ehm, ik vind eigenlijk voor mij zelf hetzelfde blijft. Je hebt meer tijd gekregen hebt, voor als je iets ander ziet, bijvoorbeeld op televisie ofzo, ja dat deed ik ook. Het werkt ook een beetje de andere kant op voor mij. Wel leuk trouwens vond ik dat.

5. *Was het dansen makkelijker nu de bewegingen uit de voorstelling als voorbeeld dienden?*

Je bedoeld met het verkleeden enzo? Nou makkelijker? Ik vond het gewoon amusanter, ja ik vond het grappig. Maar het was niet zo dat ik zeg, o nou deed ik het allemaal vlot. Je hebt behoorlijk wat concentratie nodig om die bewegingen te doen, en daar ben je al zo druk mee.

6. *Welke voorbeelden uit de voorstelling had u het meeste aan bij het dansen? De bewegingen uit de voorstelling, de aanwijzingen van de docent, de spullen die u in de eerste les heeft gezien of de muziek?*

Ik denk de muziek. Nou, dat mooie dat gaat een beetje vanzelf. Als je dan moet kijken naar iets, naar de posters of zo, dan moet je daar weer heen kijken, dan ben ik weer uit mijn concentratie. Ik vond de muziek toch eigenlijk wel inspirerend.

7. *Nu de dansles op Pearl was gebaseerd, vond u de bewegingen makkelijker te volgen dan in de reguliere danslessen?*

Nou dat maakt mij niet veel uit. Nee.

8. *Zou u na het volgen van deze lessen vaker naar een voorstelling willen bezoeken in de toekomst?*

Nou, ja. Bij ons is door de ziekte van mijn man zit een bezoek aan het theater of wat dan ook er niet in. Maar je krijgt dan wel van ja, daar zou ik ook wel naar gaan kunnen kijken. Dat zou wel kunnen ja, maar dat is echt persoonlijk natuurlijk.

9. *Is er nog iets dat u kwijt wilt over de danslessen?*

Nou, nee.

Deelnemer 4

1. *Was u al bekend met de voorstelling Pearl van Scapino Ballet Rotterdam?*

Nee.

2. *Wat vond u ervan dat de lessen waren gebaseerd op een dansvoorstelling?*

Ja wel leuk, met een thema he.

3. *Was het makkelijker om de bewegingen uit te voeren nu de bewegingen steeds in dezelfde stijl waren?*

Ja, dat zijn wel veel oefeningen die ken je, die weet je. Dan gaat het inderdaad makkelijker.

4. *Was het dansen makkelijker nu er steeds werd verwezen naar de bewegingen uit de voorstelling?*

Ja ik denk het wel. Ja de herkenning.

5. *Was het dansen makkelijker nu de bewegingen uit de voorstelling als voorbeeld dienden?*

Ja dan kun je een beetje voorstellen hoe het is. Er een beeld bij vormen.

6. *Welke voorbeelden uit de voorstelling had u het meeste aan bij het dansen? De bewegingen uit de voorstelling, de aanwijzingen van de docent, de spullen die u in de eerste les heeft gezien of de muziek?*

Toch wel de muziek denk ik. Ja de muziek kun je ook beelden alsof je zeg maar zelf he. *En dat de muziek steeds hetzelfde was?* Ja, eerst dacht ik die barok, Nou ja. Ja maar op een gegeven moment vind je het toch mooi. Maar dan kun je je toch inbeelden hoe dat vroeger was.

7. *Nu de dansles op Pearl was gebaseerd, vond u de bewegingen makkelijker te volgen dan in de reguliere danslessen?*

Ja dat thema is wel leuk, dat je daarop voortbordurt. En dat je de oefeningen herhaald.

8. *Zou u na het volgen van deze lessen vaker naar een voorstelling willen bezoeken in de toekomst?*

Ja, nou ja. Ik ben zelf niet zo van ballet. Dus ik zou zelf niet zo naar een ballet voorstelling gaan. Maar ja, misschien als hij draait en iedereen is enthousiast erover, dan zou ik zeggen ik probeer het een keer.

9. Is er nog iets dat u kwijt wilt over de danslessen?

Nee. Het is best wel vermoeiend voor ons, het is ruime een uur he. Het is wel vermoeiend. Ik kan het ook maar net volhouden. Dan moet ik ook naar het toilet he, ja heel praktisch, maar dat is dan zo. Maar dan heb ik er voorover. Als ik thuis wat inspannends doe ben ik ook moe. Ik denk maar, ja bewegen is goed voor me, dus dan moeten we dit maar doen. En ik vind het ook leuk met de groep samen. Met de therapeut ook wel besproken voor dat dit er was, ja ik wil ook dingen doen maar het liefst in een groep of zo. Nou dat kwam in deze vorm, dus vandaar dat ik hierin gestapt ben.

Deelnemer 5

1. *Was u al bekend met de voorstelling Pearl van Scapino Ballet Rotterdam?*

Nee.

2. *Wat vond u ervan dat de lessen waren gebaseerd op een dansvoorstelling?*

Dat vond ik heel positief. Omdat je dan meer in het leven staat, bij dansen in het algemeen. Ja die voorstelling vond ik leuk. Je beweegt je heupen.

3. *Was het makkelijker om de bewegingen uit te voeren nu de bewegingen steeds in dezelfde stijl waren?*

Ja dat denk ik wel. Ja want je hebt nu weken lang hetzelfde gedaan.

4. *Was het dansen makkelijker nu er steeds werd verwezen naar de bewegingen uit de voorstelling?*

Nee.

5. *Was het dansen makkelijker nu de bewegingen uit de voorstelling als voorbeeld dienden?*

Ja dat vond ik wel aardig.

6. *Welke voorbeelden uit de voorstelling had u het meeste aan bij het dansen? De bewegingen uit de voorstelling, de aanwijzingen van de docent, de spullen die u in de eerste les heeft gezien of de muziek?*

De japon met de heupen hielp het meest.

7. *Nu de dansles op Pearl was gebaseerd, vond u de bewegingen makkelijker te volgen dan in de reguliere danslessen?*

Nee.

8. *Zou u na het volgen van deze lessen vaker naar een voorstelling willen bezoeken in de toekomst?*

Nee, dat zit er niet in.

9. *Is er nog iets dat u kwijt wilt over de danslessen?*

Nee.

Deelnemer 6

10. Was u al bekend met de voorstelling Pearl van Scapino Ballet Rotterdam?

Ja, toevallig.

11. Wat vond u ervan dat de lessen waren gebaseerd op een dansvoorstelling?

Ik heb geen vergelijking, ik heb het nog niet meegemaakt. Ik vond het erg leuk.

De voorstelling was een inspiratiebron, dat was duidelijk.

12. Was het makkelijker om de bewegingen uit te voeren nu de bewegingen steeds in dezelfde stijl waren?

Ja dat denk ik. Je beweegt makkelijker omdat je het vaker hebt gedaan.

13. Was het dansen makkelijker nu er steeds werd verwezen naar de bewegingen uit de voorstelling?

Nee, niet echt. Ik had wel een beeld van de voorstelling. Maar ik had het nog niet op die manier bekeken. Dus nee, niet echt.

14. Was het dansen makkelijker nu de bewegingen uit de voorstelling als voorbeeld dienden?

Ik weet niet of Annemarie het echt als voorbeeld heeft gebruikt? Meer gedaan vanuit de onderwerpen, de kleding in de barok stijl, de versieringen. Meer een tijdsbeeld i.p.v. voorstelling zelf. Je kunt je daardoor wel iets beter visualiseren wat Annemarie van je wil. Als ze bijvoorbeeld zegt: driehoeken vormen met je voeten omdat ze dat zo in de barok tijden deden, dan heb ik niet het idee dat het gebaseerd is op de voorstelling, maar meer op de tijd. Maar qua sfeer wel: het trotse, de buigingen, aan het hof zijn. De sfeer heb je wel wat aan.

15. Welke voorbeelden uit de voorstelling had u het meeste aan bij het dansen? De bewegingen uit de voorstelling, de aanwijzingen van de docent, de spullen die u in de eerste les heeft gezien of de muziek?

Muziek is een hele belangrijke factor. Je merkt dat de muziek iedere keer hetzelfde is. Daar heb je bepaalde bewegingen op, geoefenden en die herhaal je. Op een gegeven moment zit dat er lekker in. Als de muziek dan opeens veranderd, dan ga je daar makkelijk in mee. Gaat de muziek zachter, dan ga je zachter bewegen en gaat de muziek sneller dan ga je sneller bewegen. Je gaat erin mee. De muziek maakt je relaxed, je komt in de sfeer.

16. Nu de dansles op Pearl was gebaseerd, vond u de bewegingen makkelijker te volgen dan in de reguliere danslessen?

N.v.t. volgt alleen de lessen van het onderzoek.

17. Zou u na het volgen van deze lessen vaker naar een voorstelling willen bezoeken in de toekomst?

Ik ga altijd wel al graag, dus speelt voor mij geen rol.

18. Is er nog iets dat u kwijt wilt over de danslessen?

Veel complimenten. Ik wist niet wat me te wachten stond, ik had er geen beeld van. Maar ik vond het fantastisch. Annemarie is een warm mens, enorm inspirerend. Ik vond het leuk. De groep en de muziek leuk. Ik heb geleerd dat ik me vrijer kan voelen dan ik wist van de voren. Het heeft mij veel gebracht. Als je als patiënt ergens komt waar andere patiënten zijn met dezelfde ziekte, dan is het altijd even slikken. Het is even alsof je in de spiegel of toekomst kijkt. Maar als ook de mensen die het verste in de ziekte zijn, als je ziet hoeveel plezier zij hebben, dat vond ik fantastisch om te zien.