…edges of resting and GOing…

The possibilities and limitations of recovering from Chronic Fatigue Syndrome in a dance-training environment

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Abstract

Chronic Fatigue Syndrome (CFS) is a common but poorly understood condition that includes limited exercise tolerance. Exercise undertaken via a balanced, holistic approach in which exertion is balanced with rest is recommended in recovery from CFS. This research project investigated how a contemporary dance-training environment can/cannot support recovery from CFS. This investigation is significant given that fatigue, burnout and overtraining are prevalent in dance-training environments. The project drew on the fields of exercise physiology and somatic inquiry to design a purpose-built program of Graded Exercise Therapy and implement it within a tertiary dance-training environment. The project was undertaken as practice-led research by a dancer suffering from CFS and aimed to examine the complexities of recovering from CFS specifically in relation to returning to dance peak performance. The research included participation in dance classes, recording heart rate and perceived exertion, learning somatic techniques The Feldenkrais Method and The Alexander Technique and applying somatic principles to dancing and dance teaching. The research revealed a lack of high-intensity physical activity and a lack of effective rest/recovery in the dance environment studied, as well as the necessity for holistic mental/emotional management of both a CFS recovery and the demands of dance training. Somatic principles, the somatic practice of intentional rest and a somatic-centered, rest-focused dance improvisation methodology were shown to be valuable augmentative elements in the CFS recovery. This research contributes to the knowledge of exercise used as recovery from CFS, provides an insight into the resources and culture of one contemporary dance-training environment and describes a unique personal dance practice. The implications of this study include the need for dance-training environments to provide more effective high-intensity physical activity, dedicated rest/recovery and holistic care for training dancers. The study suggests that somatic learning and practices, particularly a somatic practice of intentional rest, have the potential to be of significant benefit to both CFS sufferers and training dancers.

Declaration

I declare that this thesis is my own unaided work, submitted for the

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Edith Cowan University of Western Australia.

This thesis not been submitted prior,
or for any other degree or examination in another university.

Name of candidate: Daisy Sanders

Signature: 

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Introduction

The central aim of this research has been the development of a personalised program for recovery from Chronic Fatigue Syndrome (CFS). I designed my recovery program by combining Graded Exercise Therapy (GET) with somatic practices for application within (and adaptation to) the tertiary dance-training environment.[1] Developing and implementing the program has provided a framework for a comprehensive study of the distinctive pedagogical ecologies in which I work and the implicit physical understandings I have, as a contemporary dance artist, and how these support and/or inhibit my recovery from CFS.

I am an independent professional contemporary dance artist who is recovering from CFS. It is three years since I first experienced symptoms of the syndrome and twenty months since a formal diagnosis. During the most challenging stages of my experience with CFS (twenty months ago), I began paying close attention to my physical body. I noticed that my skills in doing so, learned via vocational dance training, professional dance experience and various complementary somatic practices, significantly aided my ability to realise my body's need for rest and respond in a suitable way. Approximately eighteen months ago my health improved enough for me to partially re-engage with the activities I had taken for granted in my daily life pre CFS. At this time I commenced GET under the guidance of a qualified exercise physiologist and re-entered contemporary dance environments including class, rehearsal and creative development, at postgraduate level and in an independent professional dance community. I found that I could participate in these settings even with limited physical strength and endurance. Participation would, depending on a variety of factors, either significantly accelerate or delay the improvement of my health. I became eager to understand more intimately how these various factors interrelated so that I could use that understanding in the process of re-establishing an active lifestyle and more importantly, eventually enjoy a return to full participation in the dance environment. The unique combination of a contemporary dance lineage combined with a CFS diagnosis has generated a particular synthesis of knowledge that I extend and formalise in this research project.

At the commencement of this research I had already re-established functional health levels and my most significant remaining limitation was intolerance to physical activity of a high intensity or extended duration. The goal of the recovery process in this study was to reduce this limitation and advance my physical capacity toward peak performance as a dancer. My functional wellness and

[1] I would like to acknowledge that alongside the recovery program I also extended my artistic practice to create a danced durational performance work called *A Resting Mess*. Although a fascinating, interactive gallery piece that linked my illness experience to notions of rest, chaos and sustainability, it was beyond the scope of an Honours research project, thus is not discussed in this thesis.

overall wellbeing is discussed holistically where relevant to the research, however, the ultimate aim of the research was to link my recovery process specifically to my goals as a dance artist. Therefore, my capacity to incrementally increase my tolerance of physical activity and my changing ability to participate in the dance environment was the focus of this research.

My project should be understood within the frame of practice-led research – where the researcher (myself) was deeply imbedded in the research and the personal experience of the research journey was balanced with objectivity and contextualisation within relevant scholarship. It is important to clarify that while I utilised a quantitative and qualitative mixed methods approach – including reporting on heart rate beats-per-minute (BPM) combined with Borg ratings of perceived exertion (RPE) – I researched from a personal, experiential perspective. This thesis, thus, is not a traditional quantitative analysis in health science, which would follow a hypothesis, results, discussion and conclusion structure but rather an integrated report and discussion of findings, that includes excerpts from my journals and a summary leading to future research recommendations.

Recent literature reveals an increasing prevalence of injury, overtraining and fatigue in dance-training environments (Grove, Main, & Sharp, 2013; Wyller, Eriksen, & Malterud, 2009) and also that "exercise treatment (for CFS) follows the basic principle of exercise prescription for healthy indiviudals but should be adapted to the subjects' capacities" (Fulcher & White, 1998, p. 224). This means adapting exercise for a fatigue rate faster than seen in healthy individuals and a recovery rate slower than seen in healthy individuals. This research project examines the extent to which my personal experience supports the literature on CFS recovery and what insight it provides into notions of rest and recovery. In essence, the project reveals what my experience has been over the last 18 months in applying GET and somatic principles within a dance-training environment. My research may provide an exemplar for recovering from long periods of illness or injury while remaining engaged in the dance environment and/or a potential prophylactic approach (preventing fatigue and overtraining) for other training and pre-professional dancers. I anticipate that this research will contribute new knowledge about the healing potential of dance and somatic practices, the (dance specific) factors that do and do not assist recovery from CFS, the process of re-establishing performance fitness for dancers post illness, and that it will provide a unique insight into dance-training ecologies.

Research questions and significance

This project was initiated as a pursuit to discover, through practice-led research, ways in which to optimise improvement in my health in the tertiary dance-training environment. The project became an opportunity to reflect analytically on my recovery from CFS and my return to peak physical ability as a dance artist. I began with the central research question, what are the possibilities and limitations of recovering from Chronic Fatigue Syndrome (CFS) in a dance-training environment? In examining this research question, the following sub-questions emerged:

- What are the recommendations for exercise as recovery from CFS?
- What elements of a CFS recovery program are most essential, as evidenced by improved health and wellbeing?
- How does the dance-training environment provide or lack these essential elements?

These questions connect directly to my review of existing scholarship in the fields of exercise physiology, sports science, dance and somatic enquiry, which continually supported my actual experience in implementing GET in the dance environment and indicated the significance of my research. My study has potential to make a contribution to the knowledge of effective treatment for CFS, dance as therapy for illness and dance health scholarship.

In this study, the term 'exercise as recovery' refers to including a program of appropriate physical activity during treatment of an illness. There are a number of studies assessing exercise as recovery from CFS that conclude by recommending further research (Gordon, Knapman, & Lubitz, 2010, p. 1078; Larun, Brurberg, Odgaard-Jensen, & Price, 2015, p. 2; Marques, De Gucht, Gouveia, Leal, & Maes, 2015, p. 136; Nijs et al., 2014, p. 111). It is generally agreed in the literature that exercise, instigated in combination with other treatment methods and undertaken in a mindful and balanced way, is beneficial to sufferers of CFS. However, more needs to be understood about the type, duration and quality of physical activity that can improve the condition rather than contribute to it (Larun et al., 2015, p. 29; Marques et al., 2015, p. 135). This research involved a close recordkeeping of the duration, intensity and perceived exertion of my physical activity. I also exercised with the highly developed skills in attention to and control of movement that is unique to the contemporary dancer. Thus, my study may provide qualitative insight relevant to the knowledge of Graded Exercise Therapy (GET), or exercise as recovery from illness, particularly CFS.

In this study, holistic wellbeing refers to an understanding of good health that encompasses physical, mental and emotional factors. A number of studies investigating the treatment of CFS examine exercise in combination with behavioural interventions (Bertoia, 1999; Larun & Malterud, 2007; Marques et al., 2015; Reynolds & Vivat, 2006; White et al., 2011; Winger, 2015; Winger, Ekstedt, Wyller, & Helseth, 2014). Larun and Malterud conclude that the psychosocial context of exercise, along with a developed, holistic understanding of cognitive, emotional and physical stressors, is essential in determining the effectiveness of treatment (2011, p. 225). This study explores the context of exercise as a treatment for CFS by acknowledging the additional life and mental/emotional factors that impact my recovery as undertaken in the dance environment. My project also examines (via literature and practice) somatic practices, which may further the understanding of CFS in a way that prioritises the holistic integration of mind and body.

There are very few studies examining dance specifically as a therapy for CFS. According to the International Expressive Arts Therapy Association (IEATA), the model of using creative arts (including visual arts, music, drama, poetry) is known as expressive-arts therapy, and Dance Movement Therapy (DMT) is one part of this (Martinec, 2013, p. 144). Blázquez, Guillamó and Javierre were the first to evaluate the influence of DMT on the perception of wellbeing and functional capacity in women with CFS and summarised their findings as follows:

> Although we did not demonstrate an improvement in functional capacity, women with CFS reported improvements in their perceptions of physical and psychological wellbeing after the DMT program. A larger sample is required to assess the possibilities of DMT with CFS in greater depth. (2010, p. 285)

The existing DMT research focuses on dance environments tailored specifically to be therapeutic for the illness, whereas my research utilised an established, tertiary dance-training environment. My study thus relates to the concept of dance as therapy for CFS, but not directly to DMT. Therefore, my insights contribute new understandings of dance as therapy for illness but more specifically, a unique insight into contemporary dance skills and resources.

There does not appear to be any existing research which asks about the compatibility within a dance environment of a GET program, or which analyse the elements of tertiary dance training that may aid or inhibit a GET program (or recovery from CFS). In addition there does not appear to be any published research in which the person with CFS has undertaken exercise as recovery via contemporary dance, as practice-led research. As such my research offers unique impact in dance scholarship and health related disciplines.

Contextualising practice through literature review

Chronic Fatigue Syndrome (CFS)

Chronic Fatigue Syndrome (CFS) is a condition that is complex to diagnose and has multiple symptoms (Bertoia, 1999, p. 2). The 1994 diagnostic criteria for CFS provided by the Centres for Disease Control and Prevention (CDC) is the most widely cited in research (Larun et al., 2015, p. 7; Nijs et al., 2014, p. 95). It outlines CFS as "'a condition characterised by the presence of new onset unexplained persistent fatigue (lasting for at least six months or more) that is not alleviated by rest, is debilitating and leads to significant functional impairment'" (Marques et al., 2015, p. 124). At least four of the following additional symptoms need to be present for a CFS diagnosis: lengthy malaise after exertion (known as post-exertional malaise or PEM), un-refreshing sleep, impaired memory or concentration, sore throat, tender cervical or axillary lymph nodes, muscle pain, multi-joint pain without swelling or redness and headaches of a new type or severity (Marques et al., 2015, p. 124). The diagnosis is also exclusionary: a full medical history examination must be conducted to rule out other medical conditions that may explain the symptoms (Larun et al., 2015, p. 7; Larun & Malterud, 2007, p. 20; Marques et al., 2015, p. 124; Nijs et al., 2014, p. 95; White et al., 2011, p. 2).

International consensus criteria for diagnosis of CFS have recently been established which highlight post-exertional malaise (PEM) as the characteristic symptom of CFS (Carruthers et al., 2011, p. 330). These new diagnostic criteria do not require the presence of fatigue for at least six months, but must include post-exertional malaise (PEM) along with a variety of other specified neurological, immune, gastro-intestinal and energy production impairments (Carruthers et al., 2011, p. 329). Although the new diagnostic criteria identify the syndrome as Myalgic Encephalomyelitis (ME), CFS is still the term most clearly defined for research purposes (Larun et al., 2015, p. 7). The prominent symptom of CFS appears to be PEM, resulting in limited exercise tolerance (Fulcher & White, 1998, p. 223). PEM is considered a characteristic symptom of CFS because, as asserted by Nijs, Paul and Wallman, "it is not present in other disorders where fatigue is a predominant symptom, such as depression, rheumatoid arthritis, systemic lupus erythamatosis or multiple sclerosis" (2008, p. 242). PEM is a severe exacerbation of symptoms up to 24 hours after physical exertion, which can be interpreted as an indication that the physical activity undertaken was too vigorous and exceeded the tolerance level of the sufferer (Nijs et al., 2008, p. 242).

Treatment of CFS via combined, holistic approach

Based on a review of existing literature, it is apparent that a holistic approach to recovery from CFS is essential. A variety of methods have been developed to treat CFS and these are most effective in combination, such as using physical exercise together with cognitive, behavioral and other interventions. Full recovery from the syndrome is rare, although an improvement in symptoms is commonly reported and is therefore considered a realistic outcome of treatment (Gordon et al., 2010, p. 1073; Marques et al., 2015, p. 125). The methods researched in the literature as having impact on improving the symptoms of CFS include Graded Exercise Therapy (GET), Cognitive Behavioural Therapy (CBT), Adaptive Pacing Therapy (APT) and Specialist Medical Care (SMC) (White et al., 2011). Much of the research regarding CFS indicates that the mental and emotional aspects of the syndrome are evident, (and must be considered of equal significance to physical aspects), in the onset, symptoms and treatment of the condition (Nijs et al., 2008, p. 241; Van Houdenhove & Luyten, 2008, p. 472; Werker, Nijhof, & van de Putte, 2013, p. 1295; Winger, 2015, p. 14). A number of studies concur that, when comparing methods of treatment, the combination of GET with CBT over an extended period of time yields the best improvements in physical capacity and perception of overall wellbeing (Larun et al., 2015, p. 11; White et al., 2011, p. 8). If GET is more effective in combination with CBT this may imply that support for the CFS sufferer's cognitive and behavioural patterns is essential to recovery. White and Naish indeed assert this in an audit of GET for CFS, adding also that the sufferer's knowledge of and ability to accept and suitably respond to their own limits is paramount (2001, p. 287). Using, in GET, the measure of heart rate to signify the safe range of physical exertion can shift mental/emotional attention toward achievements and ability rather than focusing on symptoms and fear beliefs (Moss-Morris, Sharon, Tobin, & Baldi, 2005, p. 260). This information is key to my study in relation to applying GET (including heart rate measurement) in the dance-training environment. A mindful and holistic approach to exercise as recovery, comprising awareness and management of the mental/emotional and other impacting life factors and an acceptance of/effective response to physical limitations, was central to my study.

Treatment of CFS with exercise – balancing activity and rest

In terms of the exercise component of a holistic approach to treating CFS, there are various discrepancies regarding GET, resulting in specific recommendations for physical activity that is appropriate to the condition. According to Marques, De Gucht, Gouveia, Leal and Maes, several studies have emphasised that the prolonged physical inactivity of non-exercising control groups results in physical deconditioning, along with other psychosocial and physiological consequences that perpetuate the fatigue and physical disability associated with CFS (2015, p. 124). There is,

nevertheless, acknowledgement in the literature that physical activity of an inappropriately high intensity can also perpetuate CFS (Gordon et al., 2010, p. 1076; Larun et al., 2015, p. 7; Marques et al., 2015, p. 124; Nijs et al., 2014, p. 102). GET appears to be a successful intervention of exercise as treatment for CFS, because of its underlying principles:

> GET is based on the assumption that physical activity…must be initiated at a level (intensity and frequency) that does not exacerbate symptoms. It must be gradually, incrementally increased and tailored to each patient's initial (and ongoing) level of physical capacity. (Marques et al., 2015, p. 125)

The principle of GET is to establish an exercise baseline, and, however minimal, the baseline physical activity should not cause exacerbation of symptoms/PEM (Moss-Morris et al., 2005, p. 246). An improved sense of energy and holistic wellbeing and an ability to rest effectively after physical exertion is a positive outcome, while inappropriately high intensity will be evidenced by PEM (including an increased stress response and difficulty resting) and has been shown to down regulate the immune system (Nijs et al., 2008, p. 243). Werker agrees, adding that an appropriate balance between rest and activity is essential to the success of GET (2013, p. 1295). GET was an appropriate strategy to use in this study, including incremental increases of physical activity (adapted in ongoing response to my tolerance of that activity) balanced by effective rest and recovery.

Heart rate BPM and Borg RPE measurements in exercise as treatment for CFS

The incremental increase of activity during GET for CFS can be calculated and regulated by measuring heart rate beats-per-minute (BPM) and recording ratings of perceived exertion. The average BPM for any period of physical activity is an important measure in terms of response to exercise as treatment from CFS (Moss-Morris et al., 2005, p. 257). Perceived exertion is defined as the subjective experience of strain/effort and the discomfort and/or the fatigue that is experienced during exercise (Mohammadzadeh, Tartibiyan, & Ahmadi, 2008, p. 67). In this study, the intensity of exercise was appropriate to measure in heart rate BPM but also to consider in relation to duration and frequency of activity and perceived exertion. The reason for this is aptly described by Borg, who writes:

> A single heart rate (intensity measure) must be used in relation to other variables (eg. duration and frequency) and understood to be just one factor in a complicated pattern of interacting factors. A patient's perceived exertion is considered in exercise prescription because, although subjective, it is related closely to the heart rate and also integrates some important strain variables. (1982, p. 380)

Borg developed a scale for ratings of perceived exertion (known as Borg RPE) as a method for measuring the subjective experience of physical activity. Borg describes in detail how physical

activity may feel more or less strenuous on any given attempt of the same activity, even when recording the same average heart rate BPM (1982, pp. 379-380). Borg also states that:

> The RPE value may be used equally with heart rate in determining a 'risk factor'. Neither a single RPE value nor a heart rate measure may be used alone as an accurate indicator of strain. They complement each other. (1982, p. 380)

According to this information, it was important in my study to measure all physical activity that I undertook by recording both the intensity (heart rate BPM) and my perceived exertion (Borg RPE), and to consider the impact of that physical activity in relation to its duration and frequency as well as any influencing mental/emotional factors and the presence or lack of effective rest.

Benefits of rest for athletes and dancers

Rest is well understood to have multiple benefits for physical activity, particularly for the motor learning, performance and overall wellbeing of athletes, and by implication, for dancers. Over the last 20 years, sports coaches have consistently implemented the knowledge that the quality of motor training is more important than length or quantity and that rest is a vital component of training (Wyon, 2010, p. 70). The resting phase within a practice session must be equal to or longer than the activity phase (Batson & Schwartz, 2007, p. 47) and, according to Rushall and Pyke, "training stresses which do not allow periods of recovery are no longer acceptable" (1990, p. 10). The sports science literature suggests that an imbalance between any athlete's training specific stresses (physical workload), additional stresses (such as mental/emotional or other life impacting factors) and a lack of rest/recovery activities can negatively affect their physical and mental ability to perform, and can eventually result in fatigue and underperformance (Batson & Schwartz, 2007, p. 54; Budgett, 1998, p. 107; Grove et al., 2013, p. 75). There are, conversely, many ways that athletes benefit from spaced practice conditions (balanced activity to rest ratios), as detailed by Batson, who writes:

> Evidence from sport and exercise science…substantiates multiple benefits of rest for health and performance. The benefits of rest for physiological recovery (local and central muscle fatigue) are well documented…evidence also suggests that embedding rest within physical practice aids in motor skill acquisition, learning and performance, and impacts positively on psychological wellbeing.
> (2009, pp. 178-179)

The benefits of rest to motor skill acquisition, learning, performance and psychological wellbeing are also pertinent for dancers, who, as highly skilled athletic artists, experience many of the same issues as athletes and thus may benefit from the methods of maximising performance that are used in sport (Wyon, 2010, p. 68). Koutedakis and Jamurtas agree, highlighting that the demanding training

and performance schedules of dancers "make their physiology and fitness as important as skill development" (2004, p. 651). The same authors do acknowledge that whether aerobic fitness and other physiological measurements of athletic competence coincides with better dance performances (indicating artistry and other subjective measures of the quality of the dancer) remains to be examined (Koutedakis & Jamurtas, 2004, p. 654). Nonetheless, Batson and Schwartz consider a balance between rest and action as a fundamental pedagogical strategy for dance training, and they highlight a broad range of positive implications specific to dance (2007, p. 48). These include benefits of rest for technique, creativity, general wellbeing and personal authority (Batson & Schwartz, 2007, p. 48).

Despite this, there is a limited amount of research examining rest and recovery in dance-training (and professional) environments. Also limited is any evidence of the practical implementation of effective rest and recovery in dance, despite the fact that the literature, knowledge and practice of work balanced with rest in sport is overwhelming (Wyon, 2010, p. 67). Batson (2009, p. 180) states that research about rest to activity ratios in dance is essentially non-existent. Wyon (2010, p. 67) and Batson (2013, p. 55) both assert that the protocols evident in sport and exercise science, which promote rest, are non-existent in dance-training environments. Batson and Schwartz write that "the practice conditions within dance training have remained essentially unchanged for decades and…appear to be based largely on…a philosophy which implies that continuous practice is the most beneficial way to improve" (2007, p. 47). The continuous practice of the dance-training enironment is described as a culture of rigour by a number of authors (Batson, 2009, p. 179; Batson & Schwartz, 2007, p. 51; Nettl-Fiol & Vanier, 2011, p. 10), in which dancers "must prove themselves worthy by hard unflagging physical effort and repetition well beyond the point of fatigue" (Batson, 2009, p. 180). Batson also suggests that "rest carries a negative connotation of lack of dedication or commitment" in the dance environment (2009, p. 180), emphasising that the physiological and behavioural benefits of rest are not well understood in dance (2009, p. 179). In this study, the exploration of how to (or if it was to possible to) balance work with rest while participating in the dance-training environment, in order to maximise engagement while also progressing my recovery from CFS, was of paramount importance. According to the literature, there does not appear to be an effective understanding and utilisation of rest in dance-training environments.

Rest (and other key characteristics) of somatic practices

An inherent understanding and application of activity balanced with rest is present in a field of embodied enquiry known as somatic practices. Thomas Hanna originally coined the term somatics in

1976 (Fortin, Long, & Lord, 2002, p. 155) and described it (as cited by Green), as follows: "A field of study that generally views the body from a first-person perception…somatics is a matter of looking at oneself from the inside out, where one is aware of feelings, sensation, movements and intentions" (2002, p. 1). Hanna defined somatics as "the study of the soma, not as an objective body but an embodied process of internal awareness and communication"(Green, 2002, p. 1). The nature of a somatic enquiry is described as attending to the whole person, inclusive of body, mind, emotion and spirit, via an internal awareness process (Eddy, 2011, p. 119; Green, 2002, p. 5). Attention to process, rather than outcome, is a concept inherent in somatic enquiry (Green, 2002, p. 1). According to Batson, over 100 movement-based somatic practices exist and "in movement-based somatic practices, both movement and stillness are potent phases of embodied learning and change" (2009, p. 179). Batson and Schwartz state that "virtually every somatic practice has embedded within its methods an essential balance between activity and rest" (2007, p. 49) and "at the center of somatic education is a pedagogical emphasis on balancing rest with activity" (2007, p. 47). The authors examine the presence of rest as integral to a number of specific somatic techniques including The Feldenkrais Method and The Alexander Technique, which were key elements my practice-led research.

A somatic approach to dance

Understanding somatic practices in the context of dance is relevant to this study. According to Batson and Schwartz, "the primary difference between somatic techniques and dance lies in that philosophical emphasis on the role of restful reflection in learning to move" (2007, p. 47). Dance and somatics do share a number of similar values and attributes, such as an interest in personal expression, bodily movement (Batson & Schwartz, 2007, p. 47), and, as Fraleigh describes, they are related "at an intrinsic, experiential level" (2000, p. 60). Dance education becomes inherently somatic when the distinct humanness and wholeness of each student is acknowledged, when feelings, thoughts and sensation arising amidst the movement experience are included in the learning process (Eddy, 2011, p. 119; Green, 2002, p. 5). Fortin, Long and Lord state that "one way somatic education links with dance education is through learning to enhance awareness and direct attention to movement on an incrementally fine level" (2002, p. 166). Enghauser describes a somatic approach to dance as being characterised by this intricate attention to the experience of embodiment, which she terms 'body-listening'. This notion, when integrated in the context of dance is "simply to attend closely to the processes, functions, needs and intuitions of the body" (Enghauser, 2007, p. 33). The term body-listening is pivotal to this study, in relation to my ability to identify and respond appropriately to the limits of physical exertion caused by CFS. The principles of

somatic practices that are key to this study include balancing work with rest and attending holisitically to my lived experience through an awareness process of body-listening.

Somatic principles seem to be compatible and beneficial to the teaching and learning of dance, however, the presence of somatic influence in dance environments is inconsistently regarded in the literature. Fortin et al. note that although many authors state the influence of somatics in dance teaching, choreography, performance and dance medicine, there is a lack of empirical investigation to examine such influence (2002, p. 156). Enghauser contends that there are insufficient opportunities for somatic body-listening within dance-training environments (2007, p. 33) and Batson and Schwartz write that it has taken more than 50 years for somatic philosophies to become commonplace in dance education (2007, p. 47). Eddy disagrees, stating that somatic enquiry has been "applied to dance for at least 50 years" (2011, p. 119) . Eddy's chief concern is that the somatic system and/or principles that have been integrated within dance environments remain unnamed and unknown to dancers. The author describes this and advocates for the integration of somatics within dance, writing:

> Many dancers are finding benefit from somatic awareness both technically and creatively. While somatic disciplines have influenced this and influenced the shift in dance toward a more self-directed paradigm, the history and naming of somatic influence may or may not be made explicit. (Eddy, 2011, p. 126)

In summary, the literature suggests that a somatic influence in dance environments exists to varying degrees, but is often unspecified. This is relevant to my study, in which the presence of somatic practices within the dance-training environment and, correspondingly, their contribution to my recovery from CFS were examined.

Research methodology

This study was undertaken through qualitative practice-led research. My practice as a dance artist was the overarching research paradigm and the research incorporated "participation in practice, experimentation and adaptation of practice and the interpretation of practice" (Borgdorff, 2016, p. 23). As the practitioner and the researcher in the study, I have undertaken the study via reflection-on-action and reflection-in-action. Schon, (as cited by Bleakley), defines these approaches as follows:

> Reflection-on-action is retrospective, pondering an event after it has happened as a distancing or second thought. Reflection-in-action is an intuitive reflectivity involving the prospective, where thinking and doing coincide in a moment-to-moment adaptation. (1999, p. 322)

I have combined sustained retrospective review of my participation in the dance environment with moment-to-moment adaptations of action in an effort to maximise positive outcomes toward my health recovery. My mechanisms for this reflective research included participating in undergraduate and postgraduate dance classes, learning somatic techniques and teaching my personal somatic-centered, rest-focused dance practice to postgraduate dancers. The research was undertaken via ongoing thinking, reading, writing, observation, feedback/discussion, reviewing and adapting practice and behaviour in action, interactions, dancing, being and resting. Bleakley (1999, p. 323) extends the definition of reflective practice by introducing the term 'reflection-as-action'. He describes reflection-as-action as an act of responding and adapting that utilises tacit or intuitive knowing, introspective human cognition and is continually re-educated through environmental sensitivity and response. I understand environmental in Bleakley's sense to mean both an ecological awareness as well as a complex appreciation of the conditions and circumstances of the environment in which the research practice exists. Reflection-as-action is applicable within my research methodology as the process of researching through practice that identifies the relationship between my adaptive recovery process and the dance environment in which it occurred, and in fact, continues to occur.

There were three phases of research from which distinct findings and various data/documentation were generated. Each research phase is described below.

Phase 1. Applying GET principles in the dance environment (Journal 1 & 2)

I undertook reflective practice-led research between June 2016 and June 2017 via my continued engagement with the tertiary dance-training environment. This research included clarifying my understanding of the principles of Graded Exercise Therapy, applying these principles within

undergraduate dance classes (also the occasional post-graduate or independent professional dance class) and adapting my application in response to the improvement or decline of my health. Early in this research process I generated Journal 1 (see Appendix 1) as a record of my initial reflections and learning. My observations in Journal 1 were organised into the following areas: GET principles, GET in the dance class, health improvements, health setbacks, life factors which impact health improvement/setback, recovery, mental/emotional (and related) observations, discoveries about (and through) rest, features unique to the dance environment. The purpose of Journal 1 was to collate my initial knowledge/observations, generate key discussion points, to establish method and maximise outcomes for three focused research periods, detailed below.

During three specific time periods - Feb 20th - 25th 2017 (6 day period), February 27th - 6th March (7 day period), 27th March - 9th April (14 day period) - I continued to take classes within the tertiary dance-training environment but more thoroughly documented results in Journal 2 (see Appendix 2). I kept daily records in the following categories: frequency, duration and intensity (heart rate BPM) of activity, perceived exertion of activity (Borg RPE – see basic scale as Appendix 4), type, duration and quality of rest, the presence and/or impact of somatic practices, notes on mental, emotional and dance environment specific factors, notes on other impacting factors. My aim was to implement specific principles of GET during dance classes and use any other resources available in the dance environment which might assist my recovery from CFS. Between each of these periods of focused, closely documented research I would rest and reflect and adapt my plans for action/approach based on the results of the previous research period. The length of each period of focused research changed in response to the resources/dance schedules available to me and to my ongoing efforts to maximise positive health outcomes as well as data quality.

Phase 2. Somatic practice external learning

I accessed lessons in The Feldenkrais Method (Awareness Through Movement 90-minute lessons led by Molly Tipping) and The Alexander Technique (one-on-one 45-minute lessons with teacher Glenn Swift). These lessons were held externally to the tertiary dance-training environment. I also extended and applied my somatic understandings to my participation in dance classes. The learning generated by my exposure to somatic practices is detailed in the following chapters titled *Results and Reflections: Discoveries of Phase 2* and also throughout *Discussion and Implications*.

Phase 3. Developing a dance improvisation framework (LINK teaching journal)

I augmented my CFS recovery by developing my personal dance methodology to specifically support my illness experience. This involved building a creative framework for dance improvisation, in which a particular emphasis on extending exertion and deepening rest was generated by the use of somatic principles and poetic language. I integrated this framework within my pedagogical strategy for teaching postgraduate dancers in the LINK Dance Company (eight 90-minute warm-up classes over a six-week period in March and April 2017). Surveys from the LINK dancers and excerpts of my reflections on teaching the company are provided as Appendix 3. The learning and implications arising from Phase 3 are outlined in *Results and Reflections: Discoveries of Phase 3* and *Implications of Phase 3*.

Results and Reflections: Discoveries of Phase 1.

Initial GET recommendations

The initial recommendation for my CFS recovery using GET (provided prior to the study by a qualified exercise physiologist) was to undertake physical activity on four days in each week. Each session of physical activity should include intentionally and methodically raising my heart rate BPM. Ideally, the total duration of each session of physical activity was not to exceed 45minutes. I was instructed to briefly visit an initial maximum heart rate zone of 155BPM – 165BPM four or five times within each activity session, and record overall average heart rate (aiming for a 130-145BPM average heart rate to begin with) as well as overall perceived exertion (Borg RPE). I was initially advised (also by the qualified exercise physiologist) to undertake a 10 – 30 minute rest period (such as meditation, gentle stretching or lying down, without social or other distractions) immediately after each of the four sessions (per week) of physical activity. On all other days in that week it was recommended that I only undertake low-intensity physical activity (eg. walking) that was easily tolerable and enjoyable. To support these exercise and rest recommendations, I was advised to employ a consistent, integrated and holistic approach to my recovery program. This included managing mental and emotional wellbeing along with life factors such as diet, sleep-patterns, domestic duties and employment commitments. Ongoing management of the theoretical/academic demands of the research project also became necessary.

Applying recommendations in the dance environment

In attempting to implement my GET recommendations within the dance environment, I accessed between three and six 90-minute dance classes each week. Journal 2 provides a snapshot of my participation in dance classes including details of the number, style and length of dance classes and my actual duration of participation on any given day. I found that a high number of classes were available to me during the first three days of the week (Monday – Wednesday) and after that my choices were more limited. This made it difficult to spread out the advised four sessions of physical activity across the week. I was not able to reach my initial maximum intensity or recommended average heart rate while participating in dance classes, and I usually exceeded the recommended 45-minute duration of participation. I would often fatigue after 55 – 60 minutes of participation and observe/rest during the final 30 minutes of the dance class. If I rested regularly throughout the dance class I found I could extend my participation to 75 minutes. It was rare for me to participate for the full 90 minutes of any given class. Implementing a rest period of 10 – 30 minutes after each class was achievable, as was maintaining low-intensity tolerable activity on days in which I did not

dance. Overall, I found that my GET recommendations were not particularly compatible for application within the dance environment.

I discovered that it was very difficult to manipulate the intensity of my physical activity in dance classes and also rest at times appropriate to my body, due to the established behaviours within the dance environment. My specific recommendations relating to intensity were immediately difficult to follow within any dance class. The process of actively increasing and retreating from a particular heart rate (starting range 155-165 BPM as initially recommended) was unmanageable in the context of the dance activity that was taking place. I found that any change of intensity was determined by the length and style of the dance exercises, which were initiated by the teacher and interrupted by breaks for conversation, observation or other learning and reflective processes. This process also dictated the moments for pause or rest within the class, which did not always correspond with my need to rest. The intensity and duration of physical activity in the dance class was produced as a by-product of the pursuit of technique/skill acquisition.

Findings relating to intensity

The most intense dance exercises of the 90-minute dance classes available to me seemed to occur within the final 10-30 minutes. After sufficient warm up and skill/movement pattern information had been communicated, dancers were given exercises that included travelling and jumps. Research exists which details the change of intensity between the warm up, centre and travelling/jumping phase of dance classes, at university and professional levels (Wyon et al., 2004, p. 646; Wyon, Head, Sharp, & Redding, 2002, pp. 42-43; Wyon & Redding, 2005, pp. 611-613). In these studies, the conclusions drawn by Wyon et al. suggest that the highest intensity occurs in the centre and travelling phases of the dance class, but the actual time for each dancer's participation may be shorter (than in the continuous warm up phase), as well as sporadic or unpredictable, depending on the size of the class or other factors. I considered joining dance classes for just the final 45minutes, in order to maximise the possibility that I might repeatedly visit a higher intensity of exertion during a shorter period of time. Aside from the fact that I could not guarantee that high-intensity activity would be occurring in the final 45minutes of any given class, I also found it physically and socially difficult, as evidenced by my entry in Journal 1.

"It is very difficult to commence a dance class halfway through (or after two thirds has passed) because the early part of class is crucial in laying the foundations for the later activities (pathways, information, particular sequences of movements etc.) It is (possible but) not ideal in terms of the learning progression for the body and for physical safety. Additionally, in a social sense it seems

(feels to me) inappropriate to interrupt the class and join late because an important sense of shared energy and investigation is established in the early part of the class."

My attempts to apply the principles of GET to my participation in the dance environment were ultimately unsuccessful, and revealed an overall lack of high-intensity activity in dance classes. All dance classes were scheduled for 90 minutes of continuous learning. However, I cannot locate a particular reason for this – perhaps timetabling – and there is no apparent rationale for this based on physiological benefit or motor skill acquisition for dancers (Redding et al., 2009, p. 3; Wyon et al., 2004, p. 648; Wyon & Redding, 2005, p. 611). Like Batson and Schwartz I found myself asking "where does dance derive its concepts for practice conditions?" (2007, p. 54) According to Wyon, Head, Sharp and Redding "the formal dance class has long been considered the cornerstone of dance training providing all the technical, physical and aesthetic requirements" (2002, p. 41). The dance class is described in the literature to have focused for centuries on skill acquisition and mastery of the art form (including movement vocabulary, musicality, phrasing and creativity in expression), yet it lacks the functional, intentional use of high-intensity physical activity (Wyon et al., 2004, p. 646). The findings in my research confirm these contentions. There was a significant lack of high-intensity physical activity in any element of my participation in dance classes. Even in jumps and travelling steps my peak heart rate rarely reached higher than 140BPM, and the highest average heart rate I recorded was 115BPM. The classes available to me largely offered opportunities for physical exertion at low – moderate intensity across a duration of 90 minutes. I found it very difficult to effectively use the low-intensity, extended-duration physical activity occurring in the dance environment to raise my heart rate as part of my GET program for recovery from CFS.

Inadequate intensity substantiated by low-moderate perceived exertion

My ratings of perceived exertion (RPE) on the Borg scale remained moderate, which further evidenced the finding that my participation in the dance environment did not effectively extend my toleration of physical activity. Most Borg RPE that I recorded were between 10 'Very light' and 12 'Fairly light' with just one rating of 14 'Somewhat hard' (refer to all ratings on the basic Borg RPE scale provided as Appendix 4). In the two instances where a higher Borg RPE was recorded, my average heart rate was below 100BPM. This, and the presence of CFS symptoms, suggested that my perception of a more difficult exertion at those times was due to experiencing post-exertional malaise (PEM). Curiously, when PEM did occur, it was unlikely to have occurred from physical exertion. As I physically exerted myself in the dance environment, the cause of PEM (or any CFS symptoms at all) was difficult to clearly identify in relation to intensity, because my heart rate BPM

and my Borg RPE did not appear to exceed my tolerable limit at any time. CFS symptoms occurring after physical activity during the study were therefore more likely to have been caused by my exceeding a reasonable duration of exertion and/or a combination of other impacting factors, including a lack, on any given day, of adequate rest and recovery.

Rest and recovery – essential 'dedicated rest/recovery activities'

During the research a number of specifically restorative activities became indispensable to the success of my recovery program and to the improvement of my overall health and wellbeing. These 'dedicated rest/recovery activities' included deep tissue massage, acupuncture (Traditional Chinese Medicine), myofascial release and regular trips to the pool to float and stretch in warm water and/or the spa. Undertaking these activities on a regular basis allowed me to effectively recover from physical exertion so that I could continue my efforts toward participating in dance classes. By the end of the three specific research periods of Phase 1 (Feb – April 2017) I had found that it was necessary to balance every single attempt at participation in a dance class with a dedicated rest/recovery activity, and visits to the pool became the most common of these. Immersion in water also meaningfully supported the overall improvement of my health and wellbeing, including as revival from the physical strain of computer work (associated with the academic demands of the research), and providing an opportunity for mental as much as physical recovery. Prior to undertaking this study (particularly during my undergraduate dance training) I had rarely considered or accessed rest and recovery as essential elements of dance training. I now have a deep felt-sense of the importance of rest and recovery post-exercise learned through my experience with CFS, and also gleaned from my review of the literature. Grove, Main and Sharp present a framework for understanding the physiological training distress process with specific reference to dance, writing:

> Passive and active recovery processes serve to counteract the influence of both physical and psychosocial training stresses. We view passive recovery as synonymous with rest and consider it to be the single most important element in effective recovery. Appropriate rest must involve cultivating interests that allow for temporary mental disengagement. (2013, p. 72)

When I accessed dedicated rest/recovery activities, they provided an opportunity for physical as well as mental rejuvenation, so long as I gave myself permission to mentally and emotionally rest. I will describe my developing ability to do so later on, in relation to the holistic management of my recovery program and to my learning and application of somatic practices in Phase 2.

Lack of rest/recovery in the dance environment

I was completely dependent on resources external to the dance-training environment for all of the most effective, dedicated rest/recovery activities, and I found a significant lack of time, practice or conversation to provide or advocate for rest and recovery in the dance environment. There were no classes in the dance-training schedule identified as specific rest/recovery activities. I sought out some of the more gently active 'Related Physical Disciplines' (scheduled as part of the tertiary dance-training classes available to me) such as yoga and Feldenkrais Awareness Through Movement (ATM) classes. I found yoga in the dance environment to be active rather than passive. My heart rate BPM during a 90-minute yoga class remained low but a use of physical strength beyond my capacity was required. This meant that yoga became an element of my physical activity pursuits rather than an effective rest/recovery activity. Feldenkrais ATM lessons were beneficial to me in many ways, (described later on), but I ultimately found that I had to access these lessons externally; within the dance environment Feldenkrais ATM lessons were only available in one semester and ceased during the second half of my research period and also throughout all performance periods.

As well as a lack of allocated Feldenkrais ATM or any other classes that might have provided dedicated rest/recovery activities for myself (or for other dancers), rest/recovery was rarely discussed within the dance environment. I had a sense that my particular interest in practicing and conversing about rest was curious to select members of the dance environment but overall relatively novel, and that there was not really time for rest amidst all of the other dance department priorities (such as assessment, choreography, performance and academic demands). Rest was occasionally mentioned or recommended in dance classes, but not often. The level of detailed understanding and actual application of rest/recovery activities amongst other training dancers seemed low. The fact that I would regularly rest within dance classes made me a complete anomaly in relation to the behavior of other dancers taking class in the dance environment. I also observed two dance educators after a long (four-day) weekend verbally perpetuating the negative connotation of rest. One teacher said to the dancers "This is why you should never have a rest. Your brains fall out of your heads! Never have a rest!" In another class the teacher highlighted the evident loss of physical strength and co-ordination, rather than discussing any benefits that may have arisen from the dancers' four-day break from training. A detailed cultural analysis of the lack of effective discussions of rest (and even in some cases the negative promotion of rest) within the dance environment is beyond the scope of this study. However, I can conclude that within my experience, effective rest and recovery practices were not provided or commonly discussed in the dance-training environment.

Holistic management of recovery program

Dedicated rest activities were essential to the success of my recovery program but only effective if supported by a number of other elements. Mental/emotional and other life factors had a significant impact on my ability to physically participate in dance classes and a consistent holistic management of my general health and wellbeing was crucial. Below is a list that I recorded in Journal 1, titled *Life factors that impact health improvements/setbacks*. The factors are listed in order of highest to lowest impact.

1. Uncontrollable challenging factors: additional illness (cold/flu), hot weather (average heart rate increases significantly in high temperatures)
2. Stress or other negative mental/emotional states, particularly when combined with neglecting dedicated rest/recovery activities or neglecting daily rest practice
3. Food (must be hot, wholefood, eaten at regular intervals of the day, especially pre and post exercise)
4. Sleep (good quality, 9 - 10 hours per night, best if uninterrupted)
5. Ignoring the body's warning signals and pushing beyond them in dance class: an immediate response when I realise that rest is needed is essential
6. External accumulative activities, listed below in order of highest – lowest impact
   Significant impact: computer work >2hrs duration, noisy environments, socialising
   Moderate impact: driving, riding public transport, reading difficult or dense material - particularly on a screen, intellectually challenging meetings or lectures
7. Neglecting immediate rest/recovery activity after class
8. Neglecting daily dedicated rest/recovery activity

As the list reveals, neglecting rest/recovery had less of an impact than a number of other factors. I found I had to maintain positive dietary and sleeping habits as consistently as possible and keep external commitments at a manageable level. This management made a notable influence on reducing my CFS symptoms but also helped me to maintain a sense of mental focus and emotional balance. I recorded numerous observations in Journal 1 and 2 of the mental/emotional states that had varying effects on my recovery. Analysing the complex cause and effect of these is outside the scope of this thesis; however, the most essential observations I made were that negative emotional states (such as despair, hopelessness, frustration and anxiousness) were often a result (rather than a cause) of fatigue, and that stress could perpetuate my fatigue levels very quickly. When stressed I would ignore my need to rest and have a sense of 'speeding up'. I would then neglect the essential management of food, sleep and external commitments, find myself doing too much, become more stressed and ultimately more fatigued. Additionally, stress was more likely to develop if I neglected resting after physical exertion and/or neglected my dedicated rest/recovery activities.

A detailed analysis of the mental/emotional aspects of my CFS recovery is beyond the scope of this thesis. However, three main conclusions can be drawn from my observations relating to the mental/emotional and other life factors that impacted my CFS recovery. Firstly, a consistent management of food, sleep, travel, domestic, employment and social activities was critical, supporting my physical exertion in dance classes and my ability to maintain a mental/emotional balance. Secondly, it was essential that I reduce stress and prevent the 'acceleration' of activity that came with feeling stressed. Thirdly, and inseparably, high quality and regular dedicated rest/recovery activities significantly assisted me to avoid stress. A number of authors investigate the holistic management of CFS, including physical, behavioral and cognitive/emotional factors (Nijs et al., 2008, p. 241; Van Houdenhove & Luyten, 2008, p. 472; Werker et al., 2013, p. 1295; Winger, 2015, p. 14). Rushall and Pyke describe, of particular relevance, the way that interpersonal relationships, work and study commitments can detract from the available energy of a training dancer (1990, p. 13). It is likely that training specific (physical) stresses will combine with a variety of additional psychosocial stresses to influence a dancer's mental and physical readiness to perform. The list of potential psychosocial stresses is virtually endless but they can be grouped into categories that include ambient stresses, daily hassles, role stresses, and major life events (Grove et al., 2013, p. 71)**.** My ability to physically exert energy and participate in the dance environment was made possible only by an effective, holistic management of all mental/emotional and life factors, supported by regular and effective rest/recovery activities.

Conclusions

My attempt to apply the principles of GET in the dance environment provided me with an insight into the intensity/duration ratios in dance classes and revealed the necessity of rest/recovery and a holistic approach to my CFS recovery. I found a significant lack of high-intensity physical activity in the dance environment, recorded consistently low - moderate perceived exertion and experienced difficulty manipulating my heart rate within skill-acquisition-focused dance classes. Rest and recovery were essential to my continued ability to participate in dance classes but I was dependent on resources external to the dance environment to effectively provide these. Dedicated rest/recovery activities contributed to my ability to reduce stress, manage impacting life factors and maintain a mental/emotional balance, all essential to my CFS recovery in the dance environment.

Results and Reflections: Discoveries of Phase 2.

Somatic practices as rest/recovery

Lessons in the specific somatic practices of The Feldenkrais Method and The Alexander Technique (AT) that I accessed outside of the dance environment came to act as dedicated rest activities and notably benefited my experience of CFS. Participating in a Feldenkrais Awareness Through Movement (ATM) lesson once each week was the main somatic practice that I undertook and quite quickly became the single most effective dedicated rest activity in my recovery program. I consistently noticed that at the conclusion of a 90-minute ATM my overall physical comfort had increased (pain had decreased), my mood and spirits had lifted and feelings of fatigue and/or stress were reduced or completely absent. 45-minute AT lessons which I attended every two weeks had the same effect, with a particularly notable reduction of any physical discomfort in my neck, shoulders and back and a sense of greatly improved mental clarity. I became able to recognise physiological changes occurring in my body during Feldenkrais and AT lessons via the different but equally restful and detailed quality of attention that is invited in these two somatic techniques. I discovered that many of the physiological changes I was learning to notice relate to the gradual deactivation of the sympathetic nervous system and an increase of parasympathetic activity. The sympathetic nervous system is a key element of the stress response system (Martínez-Martínez, Mora, Vargas, Fuentes-Iniestra, & Martínez-Lavín, 2014, p. 146). A stress response involves sympathetic arousal, which is a state of elevated blood pressure, heart rate, breathing rate and secretions of adrenaline and cortisol (Harrison, 2013, p. 62; Wyller et al., 2009, p. 2).

A number of studies have demonstrated a link between sustained arousal of the sympathetic nervous system and CFS (Martínez-Martínez et al., 2014, p. 146; Winger et al., 2014, p. 12; Wyller et al., 2009, p. 2) implicating chronic stress (sympathetic nervous system dominance) in the development and perpetuation of the condition. My personal experience with sustained sympathetic arousal as an element of CFS is aptly reflected in this excerpt from existing literature: "CFS patients seem to present an arousal response physiology which is, however inappropriate…present at rest and during manoeuvres which are normally not distressing" (Wyller et al., 2009, p. 4). Each time I participated in a Feldenkrais ATM or AT lesson my sense of sustained sympathetic arousal was interrupted and I noticed my felt experience of my body changing toward a parasympathetic state. This included feeling overall more relaxed, noticing my heart rate slow, breathing deepen, saliva production increase and my stomach rumbling. I felt a sense of pleasure and relief as my body shifted into a parasympathetic state, and found that it had both an immediate

and residual benefit to my CFS recovery. Feldenkrais ATM and AT lessons provided opportunities for me to experience (and understand more about) this restful change, and thus came to serve as dedicated rest/recovery activities. These lessons, essential to the improvement of my CFS, were unavailable to me within the existing dance environment.

Somatic learnings and the development of my daily rest practice

My engagement with somatic practices also led me to develop an ability to practice rest and increase the quality of rest/recovery every day. Batson writes that "rest is - like dance - a disciplined, empowering practice" (2009, p. 178). The notion of rest is commonly interpreted as relaxation, or a state of idle disengagement (Lowe, 2007, p. 98); however, via my developing understanding and practice of somatic techniques, I came to regard and practice rest as an intentional act. I began to practice resting in any position (ie. not just while lying down) by cultivating a particular quality of attention that was focused as well as calm. My pursuit of practicing rest is echoed in Lowe's description below:

> It is by no means assured that in lying down one will either remain awake or come to rest, let alone both…this being the quality of attention that is implied as 'rest'…Again and again, as paradoxical as it sounds, we seek to become more restful yet at once, more awake…thus we work on resting itself. (Lowe, 2007, p. 89)

Batson identifies the Savasana posture, used in many yoga practices, as one example of where rest is intentionally practiced, writing that "savasana is designed to empty the mind and promote a meditative state in which the body moves towards physiological restoration, autonomic regulation and mental calm" (2009, p. 182) . It became clear to me that if I practiced somatic intentional rest each day, (especially after physical exertion), then I might be able to regularly invite my body into the relief and physiological benefit of a parasympathetic state. Harrison writes that "the only part of the nervous system network that we can control directly is the breath. If we consciously relax our breathing, this simultaneously drags down all the other aspects of sympathetic arousal" (2013, p. 62). Attending to a somatic process of body-listening, initially by observing and relaxing my breathing, became one essential part of my daily practice of intentional rest. Other skills included practicing the particular quality of attention that is invited during an ATM or AT lesson: I would scan my body and notice small sensations and/or changes (as is invited in Feldenkrais ATM) or use thoughts to imagine energy moving in directions outwards and away from the body (as is invited in The Alexander Technique). Performing my daily rest practice (usually after a dance class) could cause immediate beneficial physiological shifts in my body and act as an effective rest/recovery activity in and of itself. Also, by using the rest practice to promote a mindful attention to my body, I increased

the quality of dedicated rest/recovery activities and found a sense of rest in many other moments of my lived experience. I realised that although allocating dedicated time for rest and recovery was important, even more so was ensuring the quality of that rest and recovery. Through somatic practices I undertook a self-investigation and developed an embodied understanding of intentional rest that I practiced and applied every day, and this became the single most essential element of my CFS recovery, as described in this excerpt from Journal 1.

"I am interpreting rest but also inviting a sense of rest into my body in new ways each day. On any given day, what I might need to do in order to head towards a state of rest will be different to the day before or after. In fact, each moment of a day requires something different. But the key feature of the rest I am practicing is the way that I can quiet my mental and physical activity by directing attention gently but in a very focused way. Often I scan the body systematically and invite a sense of falling, undoing or unraveling to each area: piece by piece and then all of me, slowly coming to rest. If I can give my whole self over to resting, even only for a few brief moments, my energy is quickly replenished. I am also noticing that I can find restfulness within day-to-day activities, to even make the texture of my thinking restful, or rest with how I feel. Finding rest anywhere and everywhere has become the core of my CFS recovery process."

Literature reflects my experience with intentional rest, revealing that active recovery can involve the development and use of various cognitive behavioural strategies to moderate stress responses and facilitate recovery. Prominent among these skills is the deliberate use of self-monitoring and self-reflection procedures to enhance awareness of training workload, psychosocial stresses and thoughts and emotions (Grove et al., 2013, p. 72). Using somatic and cognitive rest techniques on a regular basis is also a useful aid to recovery. These techniques include abdominal breathing, progressive muscular relaxation, imagery and meditation, all of which are effective for reducing muscular tension, anxiety and stress (Grove et al., 2013, p. 73). One study investigated the physiological effects of somatic and cognitive rest techniques (including Integrative Body Mind Training and meditation) and revealed decreased sympathetic activity and increased parasympathetic activity during and after meditation (Tang et al., 2009, p. 8867). My somatic learning emerged as a response to the unique needs of my body (due to CFS) and also to the lack of effective rest information and practices within the dance environment. It was through my engagement with somatic practice that I learned the most valuable feature of ensuring effective recovery, and that was a quality of restful attention. By particular use of the breath, mental body scanning and other skills in self-awareness, I could ensure that all activities were as restful as possible.

Somatic learnings as applicable in the dance environment

The practice of somatic body-listening became the fundamental way of attending to my experience in any dance class. Regardless of the teacher or style of the class, I would begin dancing from a sense of attending to my internal experience (using the skills and quality of attention I had learned through ATM and AT lessons). By improving my ability to sense the tiny details and information in my body, I could identify my energy levels and choose the way in which I moved. When I applied a restful, somatic quality of attention to dance exercises, I found I could dance with greater ease and efficiency. I could attempt the same movements during a dance class by using less energy and thus participate overall for longer. Batson and Schwartz have researched the application of somatic rest in a dance environment and describe the experience of one participant as follows:

> Resting encouraged a sense of self-listening which, when attended to, bolstered a sense of personal choice-making in regards to how she attended the class. She found that resting re-energised her. By discerning a rhythm of rest and action she was able to modulate her effort and dance for longer periods of time with more efficiency, less fatigue and a deeper sense of commitment to her dancing. (2007, p. 51)

This account very closely resembles my experience, highlighting the way that resting provided me with a sense of agency and an opportunity to discern my personal 'rhythm of rest and action'. It was through somatic body-listening that I became intimately aware of my need to rest at any moment, while also able to identify my natural motivation and arising energy for movement and action. Managing my personal 'rhythm of rest and action' in the context of a dance class (where the shifts between activity and rest did not always correlate with my own) was made possible by my developing of a sense of personal choice-making and full permission for rest. Specifically, in Feldenkrais ATM lessons, a 30 second – 1-minute rest phase is invited every 2 – 3 minutes of verbally guided movement and permission to take rest at any other moment of the lesson is repeatedly made verbally explicit. It was during Feldenkrais ATM lessons that I really learned to give (and practiced giving) myself permission for rest whenever and for however long it was needed. Through Feldenkrais ATM lessons, my ability to not only listen closely to my body but also, in particular, notice my need for and grant myself permission to rest, was greatly enhanced. These somatic skills in body-listening and effectively balancing activity with rest were particularly beneficial to my ability to participate in the dance environment while recovering from CFS.

Conclusions

In summary, the somatic practices that I accessed externally to the dance environment became a vital element of my CFS recovery. Lessons in The Feldenkrais Method (Awareness Through

Movement) and The Alexander Technique served as effective dedicated rest/recovery activities while also providing somatic learning that was applicable outside the lesson times. This somatic learning led to the development of a daily intentional rest practice and my ongoing interpretation and application of rest in all activities. By integrating my somatic learning within dance classes, I increased my skills in body-listening and granting self-permission for rest. I found my dance participation/attempts at physical exertion were greatly enhanced by my developing ability to effectively balance exertion with somatic rest.

Results and Reflections: Discoveries of Phase 3.

Improvisation framework as response

During the course of my research, it became apparent that the dance environment could provide me with neither high-intensity activity nor the rest essential for my CFS recovery. I accessed somatic practices, developed a daily somatic practice of intentional rest and applied somatic learnings to my participation in the dance environment as ways to aid my attempt to recover from CFS in the dance environment. Additionally, I developed a creative interpretation of the lack of high-intensity activity and rest in the dance environment, identifying that the top and bottom 'edges' of the scale of physical exertion were missing from my engagement with the dance environment, but also that visiting each of these 'edges' was essential to my CFS recovery. So, as a response to the needs of my body engendered by CFS, and as a response to what the dance environment seemed unable to provide, I generated a framework for dance improvisation that could encourage me to visit both high-energy exertion and deepest rest. This framework is now a key part of my personal dance methodology[2]. Using somatic principles and poetic language, I attempt to dance to the 'edges' of my range of possible physical activity.

My dance improvisation framework includes the use of the words 'GO', 'antiGO' and *REST*. I use the word 'GO' to identify the feeling of impetus for action, the smallest beginnings of movement in my mind, imagination and physical body. I also use the word 'GO' to describe an energetic state of action that is continuous, sustained, or pushing at the utmost edge of my physical capacity. I use 'antiGO' to describe the internal messages the body sends when tiring, needing to decelerate, reduce activity or rest. The word *REST* in the context of the improvisation framework implies the

[2]The improvisation framework is just one element of my personal dance (and artistic) methodology. A detailed description of my methodology and how I apply it to teaching, performing and creating immersive dance works is outside the scope of this research project. The improvisation framework is thus summarised in this thesis as relevant to my discoveries relating specifically to the dance-training environment.

various use of somatic, intentional rest. *REST* is permitted and invited at any moment in the improvisation framework and might manifest as complete stillness or by attending to any action with a restful quality of attention. The framework provides an opportunity to creatively explore and practice embodying *REST*, including restfulness in action, and through these explorations I find that I can broaden my skills and deepen my ability in somatic intentional rest.

The notions of 'GO', 'antiGO' and *REST* act in service to one another; from one physical state eventually emerges another. A key aspect of the improvisation framework is to examine my habitual energetic patterns as I shift between a state of impetus and action ('GO'), reducing or deceleration ('antiGO'), then, taking *REST* intentionally and effectively, thus gathering renewed energy to 'GO' again. Essentially, I use the word 'GO' to identify and then explore my natural, internal motivations toward high-intensity activity and 'antiGO' to identify and respond immediately to the signs that my body is tiring. Somatic body-listening is central to this investigation as I attend closely to the information my body provides me. Additionally, I employ a sense of noticing and accepting that information, aiming to allow and work with (rather than against) my body's natural shifts of energy. Batson and Schwartz write that "somatics encourages respect for lived experience and the wisdom that can be found through attending to rather than conquering or controlling life's processes." (2007, p. 49) These words echo my pursuit, within the improvisation framework, to cooperate with my lived experience of CFS and use whatever energy shifts already naturally exist in my embodied experience to dance towards the 'edges' of my physical capacity. With a sense of awareness, acceptance and permission for rest at any time, I notice and allow any surge or development of energy and channel it into spontaneous movement. This is a physical, creative and playful pursuit. It incorporates an inherent sense of holisitic self-care through accepting, accommodating and creatively interpreting my natural energy levels. The improvisation framework is an imaginative playground for pushing my physical limits, and this is supported by deep and effective somatic rest whenever necessary[3].

Pedagogical application (LINK Dance Company classes)

I applied my improvisation framework within teaching pedagogy for LINK Dance Company warm-up classes. I invited the LINK dancers to increase their internal awareness, and through encouraging them to engage with the process of sensory body-listening, suggested that they could recognise their need to rest and take rest at any time within the class. I supported this invitation by offering

[3] The improvisation framework formed a central component of my durational performance work *A Resting Mess*. I also regularly practiced it (and will continue to do so) in studio sessions as a solo dance research exploration. My preliminary finding utilising the framework in these contexts was that it had a pervasively positive impact on my health and also made a significant contribution to my artistic goals.

skills in the somatic practice of intentional rest, so that the dancers might choose to rest idly but also in an embodied, intentional way. I instigated improvisations scores/frameworks in which the dancers could independently identify their own impetus for 'GO' and high-energy movement. Establishing trust and understanding in this process took time, and further teaching of the methodology would be beneficial to both developing the methodology and understanding its application as pedagogy in a dance environment. The main observation I made over a six-week teaching period - garnered via personal communication and written feedback collected during and at the conclusion of the teaching period - was that the dancers found the notions of rest and self-determination beneficial. They experienced positive impacts physically and creatively during my classes and also residual effects in their company choreographic work. However, the novelty of these notions was apparent, as was the difficulty the dancers had in granting themselves permission to rest. Additionally, within many of the improvisation scores that I set up, I observed the entire group of dancers reverting to a medium bandwidth of physical activity – neither using high energy in fast, powerful movement, nor working very quietly and sensitively toward stillness and rest. It was as though their physical and creative capacities resembled the frame of the dance-training environment, lacking the top and bottom 'edges' of the scale of physical exertion. My practice was pushing the dancers to embody themselves and dance on the 'edges' of the energetic scale, and this seemed to be unfamiliar to them.

Conclusions

In summary, I created a dance improvisation framework that included the somatic characteristics of body-listening, balancing work with rest and utilising a sense of holistic attention to/care of the body. This framework directly facilitated the extension of physical exertion through a focus on deepening somatic intentional rest. The practice evolved in this way as a direct response to the needs of my body due to CFS and to the essential elements of my recovery that the existing dance environment seemed unable to provide. Teaching my somatic-centered, rest-focused practice to other dancers revealed its benefit but also novelty within the dance environment.

Discussion and Implications

Implications for my personal CFS recovery arising from Phase 1.

The lack of high-intensity activity in dance classes has implications for my continued recovery from CFS and return to full participation/peak performance in the dance environment. During the research, any improvement in my ability to tolerate high-intensity activity was incidental. Studies have shown that the development of the physical fitness of dancers seems to be a by-product of skill acquisition, which is the traditional focus of dance classes as training (Redding et al., 2009, p. 8; Wyon & Redding, 2005, p. 614). If I wish to follow the GET structure for recovery from CFS, I will need to undertake physical activity in which I can choose the duration of my physical exertion and, more particularly, regulate the intensity levels that I reach. There is some potential for somatically investigating this within my personal dance improvisation practice, via natural motivations toward high-intensity activity. Otherwise, as highlighted in the concluding notes of my Phase 1 Journal 2 (Appendix 2), I will need to access high-intensity physical activities outside dance classes to progress my recovery from CFS, specifically my ability to tolerate high-intensity physical activity. Wyon et al. suggest that an intervention to improve physical fitness for dancers may be best undertaken outside of the technique-focused dance class (2004, p. 649). The implications of these findings are that I may need to identify the physiological demands of my specific goals as a dance artist, particularly in performance, and work towards those consistently. It would be beneficial to ensure that my body can physiologically tolerate high-intensity levels rather than experiencing them for the first time in dance performance. This will be crucial for preventing PEM and an exacerbation of my CFS, and may allow me to successfully enjoy a return to full health and peak performance.

My research has identified the necessity for adequate rest/recovery and the impact of mental/emotional and life factors on physical exertion. This has instigated essential learning that will continue to practically serve my CFS recovery and goals as a dance artist. I will continue to learn how and when I can choose to rest within dance training, maximise ways of resting within movement/action and access effective, dedicated rest/recovery activities externally to the dance environment. Effective rest and recovery will be essential for reducing stress, making possible the continued improvement of my health towards (and during) a physical career as a dancer. Additionally, the sustained pursuit of mental and emotional self-understanding may be beneficial to my recovery, and also to my ability to train and perform as a dance artist (Lazarus, 2000, p. 241). Efforts to maintain the balance of mental/emotional and life factors that influence my physical

exertion, energy levels and holistic wellbeing will valuably assist me to achieve my CFS recovery and dance goals.

Implications for other dancers/the dance environment arising from Phase 1.

The cultural habits of the dance class, the lack of high-intensity activity, rest and recovery, and the impacts of external stressors may have implications for other dancers (training and/or professional) and for the dance environment more broadly. "Dance performance has been classified as high-intensity, intermittent exercise" (Wyon et al., 2002, p. 44) but the dance-training environment is low-intensity, high-duration (Redding et al., 2009, p. 3; Wyon et al., 2004, p. 646; Wyon & Redding, 2005, p. 613)**.** Literature reveals that many dancers perform at high intensities and are therefore left physiologically unprepared by their training for the demands of performance (Redding et al., 2009, pp. 3,8; Wyon et al., 2004, p. 648; Wyon & Redding, 2005, pp. 613-614). Redding et al. illuminate the challenge of evaluating intensity levels in contemporary dance performance in particular, stating:

> While one study may show contemporary dance performance to be high in intensity another may show the opposite to be true. It would be fair to suggest therefore that contemporary dancers need to be…prepared for the many different demands of the genre. (2009, p. 8)

My study contributes to this existing knowledge, raising the question of what intensity a contemporary dancer may need to tolerate and how they might then ensure they have access to adequate training. If contemporary dance performance outcomes are understood in relation to intensity (and other physiological parameters), dance training can be mindfully and more effectively directed to maximise performance, (as well as enhance health and overall wellbeing). Helgerud et al. confirm this in relation to other athletic endeavours, stating that "it is essential to know how different training intensities influence adaptations in physiological parameters when selecting an optimum training regimen" (2007, p. 665). In addition, further questions emerged from my research including: what awareness of rest within action and/or small opportunities for rest might be necessary or offer benefit to training dancers? How might training dancers ensure that they access effective recovery activities? How might dancers need to holistically support their training (and beyond training, their careers) through a mindful and balanced approach to mental/emotional and impacting life factors, including the effective management of stress? The findings of my research could imply that an increase in a dancer's ability to take rest and having access to consistent, dedicated recovery activities is necessary, and may thus help to reduce the possibility of injury, overtraining and fatigue. A balanced and supported approach to dance training also appears to be ideal for maximising goals/outcomes and overall wellbeing. My study reveals the lack of high-intensity activity and effective rest for dancers in the dance-training environment studied, and the necessity for a holistic, balanced approach to dance training. In conclusion, this begs the question of

how the dance-training environment (and/or professional dance support structures) might best ensure the effective use of high-intensity training, advocate for (and/or provide) essential rest/recovery processes and holistic care to pre-professional and professional dancers.

Implications for my personal CFS recovery arising from Phase 2.

The implications of my engagement with somatic practice are central to the next steps in my recovery from CFS and my goals to continue participating in the dance environment. In order to maximise both my health outcomes and goals towards professional engagement in dance, eventually at peak performance, I will continue to access somatic practices outside the dance environment. These are likely to serve as ongoing dedicated rest/recovery activities, provide learning that can inform my overall attention to and quality of rest and facilitate an increased participation in the dance environment. I will also seek dance environments (particular classes, courses, choreographers) in which the dancing is specifically supported by somatic principles and pedagogy, as a way of extending my somatic learning through dance, and further increasing my participation in the dance environment.

The compatibility of somatic principles with a CFS recovery

Learning somatic practices and integrating a somatic approach within my rest/recovery activities and attempts to participate in the dance environment had a pervasive, positive impact on my CFS recovery. The key somatic principles of holistically attending to the whole self, body-listening and balancing activity with rest directly correlate with the recommendations for treating CFS that I initially outlined. My review of existing literature revealed that exercise as recovery for CFS must include attentiveness to overall wellbeing, employment of self-awareness around the limits of physical capacity and an approach to exercising within these limits that effectively balances physical exertion with rest. It was only through a somatic approach to dance that I could practically experience the treatment of my CFS in the way that is recommended.

Additionally, while it was essential for me to approach my recovery program from a balanced and holistic perspective, including the management of my mental/emotional wellbeing and life factors, a somatic approach to dance allowed me to attend holistically to my CFS experience *during* physical activity. Much of the literature regarding treatment of CFS that has been discussed in this thesis indicates that a notable improvement in symptoms is most likely if the syndrome is treated holistically, on physical, mental and emotional levels (Larun et al., 2015; Marques et al., 2015; White

et al., 2011; Winger, 2015). These elements are commonly treated simultaneously but via separate and distinct methods of treatment: for example, a combination of GET (to improve physical limitations) with CBT (to address cognitive and behavioural patterns). Nijs et al. assert that although the mental/emotional experience of CFS has been discussed at length, few studies address the relationship between that experience and the exercise or physical activity that is undertaken as recovery (2008, p. 243). My study found that somatic practice (and/or somatically based dance experiences) may be able to provide an environment in which exercise as recovery for CFS can be newly understood by attending to the whole person, through movement. Eddy states that "when the dancing body is approached from a holistic perspective, which involves experiential inquiry inclusive of physical awareness, cognitive reflection, and insights from feelings, the dancing is somatic" (Eddy, 2011, p. 119). Somatic practices attend to the whole person, inclusive of feelings, thoughts, emotions and experiential physiology. CFS is a condition that includes physiological, mental and emotional symptoms (and perpetuating factors); thus treating it via the holistic approach that is unique to somatic movement practices may be effective for other CFS sufferers.

Implications for other dancers/the dance environment arising from Phase 2.

My experience attempting a recovery from CFS in the dance environment indicates that somatic intentional rest may be a beneficial addition to dance training. My study has revealed the lack of somatic practices in one tertiary dance-training environment, and the significant benefit that somatic learning has had on my physical participation in dance classes. The degree to which somatic influence is integrated amongst the teaching and learning of dance training seems to be variable (Batson & Schwartz, 2007, p. 47; Eddy, 2011, p. 126; Enghauser, 2007, p. 33; Fortin et al., 2002, p. 156). One area of further research might be to investigate the source and/or influence of somatic principles in this particular (or any particular) dance-training environment, although I acknowledge the challenge to trace, quantify and record exactly what that might be in the ephemeral art form that is dance. Specifically, it would be interesting to implement the regular learning of somatic practices for training dancers in an effort to understand if such practices can serve as effective, dedicated rest/recovery activities within dance-training environments, and also to review the interest in and/or capacity of training dancers to independently develop a practice of somatic, intentional rest. Most particularly, how might the regular application of somatic intentional rest within dance environments be of benefit to dancers? Skills in somatic intentional rest have the potential to enhance recovery as well as inform efficiency and restfulness in action for training dancers, who are dealing with demanding training schedules.

Implications arising from Phase 3 – benefits and applications of personal practice

As a result of this research I have expanded my personal dance methodology to include a unique somatic-centered, rest-focused framework for dance improvisation. I can utilise this improvisation framework as part of my ongoing CFS recovery and also integrate it within my future dance-making and dance teaching. The characteristics of the improvisation framework mean that it has inherent potential to benefit my health and wellbeing as well as my goals and pursuits as a dance artist. My somatic-centered, rest-focused dance practice may also be of use and/or benefit to other dancers and the dance environment.

The future application of the improvisation framework will firstly be as part of my continued recovery from CFS. I now intend to design and undertake a personal exercise schedule that balances short-duration, high-intensity physical activity with dedicated rest/recovery activities and includes regular allocated times to continue working with my dance improvisation framework. It would be worthwhile measuring not only my overall perception of improved health and wellbeing but also the physiological effects that occur in my body while utilising the framework as an element of my recovery. I already have a felt-sense of the benefit of the dance improvisation framework to my CFS (improvising with the framework seems to increase my overall energy, strength and fitness) but I would like to discover quantitative evidence that may support my subjective experience. I plan to measure over a certain, controlled period of time, factors such as an increased tolerance of physical exertion (reaching a higher average heart rate BPM without experiencing PEM) and other measures of my gradually improving levels of strength and fitness.

As well as any potential physical benefit, I consider that this improvisation framework has had (and may continue to have) a positive impact on my mental and emotional experience of CFS. The nature of the improvisation framework as an opportunity to notice and attend to my embodiment encourages an acceptance of my illness experience. The framework is ultimately a process of deeply listening to (sensing internally) the natural changes of energy in my body, and respecting and permitting those changes as impetus for movement improvisation. This approach is inherently mindful, a term described by Hayes and Feldman as “attending to internal experiences with a curiosity and acceptance, which allows for intensive self-observation without judgement or…. attempts to fix the experience” (2004, p. 257). The framework acts as an enjoyable opportunity to follow my curiosity in dance improvisation, closely investigate my habitual energetic patterns, while always accepting whatever it is that I observe (sense) is needed in my body. Hayes and Feldman identify mindfulness as a tool for regulating emotions in the experience of chronic illness (2004, p.

257). De Ridder, Geene, Kuijer and Van Middendorp discuss the patterns of emotional adjustment that occur in people living with chronic disease, highlighting clear cause and effect links between emotional awareness, empowerment, self-management, positive mood and positive health outcomes (2008, p. 249). The dance improvisation framework is a mindful and pleasurable practice that I have personally developed and I have self-directed its various applications[4]. It is therefore an element of my CFS recovery that provides me with a sense of empowerment in the ongoing management of my health and it generates positive emotional wellbeing.

The second future application of the dance improvisation framework will be as an integral part of my pursuits as a dance artist. I intend to continue developing the framework for use in making immersive/interactive dance works and teaching dance classes. The framework exists initially as a personal practice; by attending to my own internal experience with detailed sensory attention my skills in somatic body-listening will continue to improve. In addition, the framework has potential to generate a sense of connectedness for me, because it has become a practice that I can teach in dance classes, explore with other dance artists and share with audience as part of my artistic work. To be effective, exercise as treatment for CFS must be pleasurable, easily adaptable, individualised, self-managed and undertaken with a sense of connection to and support from others (Larun & Malterud, 2011, pp. 225-226; Winger, 2015, pp. 84-86). These are the characteristics of the improvisation framework, particularly when shared. Exercise undertaken as treatment for CFS in this way empowers the sufferer of CFS and reduces fear and avoidance of exercise and feelings of isolation (Winger et al., 2014, p. 2654). I expect the dance improvisation framework to encourage my continued pursuit of exercise as recovery from CFS, while also providing me with opportunities to connect to others. It has potential to be intrinsically beneficial to my CFS recovery through its application to my teaching and artistic endeavours.

There is evidence in existing literature about the novelty but need for a method of effectively incorporating somatic intentional rest into dance environments. Batson asserts that theoretical and practical discussions of the value of somatic rest are elusive in dance, stating that "despite more than five decades of influence of somatic education on dance pedagogy, dance educators remain sceptical of the value of ascribed to intentional rest in somatics" (2009, p. 178). Effective rest offers benefit to the recovery, motor learning/skill acquisition, agency, performance health and overall wellbeing of dancers. In addition to this, intentional somatic rest may have the potential to enhance the aesthetic and artistic requirements of dance performance. A creative methodology that utilises

[4] This refers to utilising my dance improvisation framework as a solo improvisation/research practice, as teaching pedagogy for LINK Dance Company and also as part of the methodology for my danced durational work *A Resting Mess*.

somatic rest to support high-energy movement ('GO'), thus invites dancing further toward the 'edges' of the scale of physical exertion, might be applicable to the diverse range of dynamics and presence required in contemporary dance choreography and performance. Batson writes:

> A method that captures the concept of somatic rest is essential in dance. Honing a reliable and valid method that adequately captures the construct and value of intentional rest…is needed to shift from initial states of awareness around rest (as recovery) towards greater accessibility, applicability and intimacy in reflexive dance practice, choreography and performance. (Batson, 2009, p. 191)

Thus, in addition to promoting somatic rest as recovery for training (and also professional) dancers, a practice that can clarify somatic intentional rest as appropriate in the context of dance may be beneficial. A method that can facilitate intentional rest to become an accepted and accessible practice, and highlight its intimate applicability to dance choreography and performance would be worthwhile.

In summary, my personal dance methodology, and correspondingly, my artistic practice, has ultimately been expanded and enriched by my experience of CFS. I have developed extensive skills in body-listening and an improvisation framework unique to my needs and interests, both of which are likely to be valuable to my future dance/artistic pursuits. In this way, I have discovered (and generated) some benefits and positive outcomes of having CFS. Going forward, I intend to continue using the improvisation framework as a mindful, empowering, creative and connecting practice, a somatically embodied way to extend the 'edges' of my physical capacity as part of my CFS recovery. The framework will be valuably applied to my dance teaching and dance making pursuits. Lastly, it would seem that a method which successfully integrates somatic intentional rest within dance practice might be beneficial to the dance environment, being relevant not only to the health and wellbeing of dancers but also to dance choreography and performance.

Future research

The possibilities for future research arising from this study include personal explorations as well as areas more broadly applicable to the dance environment, including the following:

1. I plan to utilise my personal dance practice as an ongoing augmentative element of my health recovery process. I will measure and research the actual physiological benefits of my dance improvisation framework and document my increasing capacity to participate in the dance environment. This may serve as proof of benefit as well as motivation to continue developing my

personal dance practice. I also plan to investigate how rest and recovery relates to and impacts on my creative inspiration, dance creation and performance.

2. Further clarification around the physiological parameters of various contemporary dance activities would be worthwhile. In particular, investigation of the benefits of high-intensity exercise as a supplementary element to contemporary dance training and/or a review of the cultural inhibitors that prevent the dance environment from providing effective high-intensity training is needed.

3. Future research relating to rest and recovery for training and/or professional dancers might include: a detailed study of where effective recovery practices already exist in dance environments, implementing a rest/recovery program and identifying its impacts and reviewing cultural inhibitors which may be preventing the effective provision of rest and recovery in dance environments. Investigating the three related areas of high-intensity exercise, effective rest/recovery and holistic mental/emotional management for training and/or professional dancers would be worthwhile.

4. Examining the use of somatic practices (specific techniques *and* broader application of somatic principles) in GET recovery for CFS would offer a considerable contribution to the scholarship around CFS recovery and somatic practice. An extension of this would be to review the presence of somatic principles in Dance Movement Therapy (DMT) for CFS and/or research the use of somatic centered dance pedagogy as exercise in recovery programs for CFS sufferers.

5. A study that implements an interim rest practice (informed by somatics) within dance training may provide insight into perception of benefit as compared to the actual physiological benefits of rest. Research into how somatic practices may counter injury, illness, overtraining and fatigue in training and/or professional dancers would be worthwhile. Investigations into how the somatic practice of intentional rest may enhance the physiology but also sensitivity, performance quality/skill and balance (work/rest, holistic impacting factors, overall wellbeing) of training and professional dancers could lead to significant impact in dance health scholarship.

Conclusion

In this study, reflective practice-led research was utilised to investigate the possibilities and limitations of undertaking a recovery from Chronic Fatigue Syndrome (CFS) in a tertiary dance-training environment. I attempted to employ principles of Graded Exercise Therapy (GET) in dance classes, developed somatic learning and applied it to my illness experience and generated a creative dance improvisation methodology that augmented my recovery. The principles of GET recommend that recovery from CFS using exercise should include measured periods of high-intensity physical activity, which is balanced by effective rest/recovery and supported by holistic management of mental/emotional wellbeing. In the dance-training environment studied, I found that high-intensity physical activity and effective rest/recovery did not occur and were not available to me. In this way, this particular contemporary dance environment had limitations in providing me with the elements essential to my CFS recovery. By accessing dedicated recovery activities and somatic techniques externally to the dance environment, applying somatic learning within dance classes and developing my own somatic-centered, rest-focused dance methodology, I discovered the possibilities of dance practice to support my CFS recovery.

My findings have implications for my ongoing recovery from CFS and goals as a dance artist. In order to progress my recovery I may need to extend my physical tolerance of exercise using high-intensity activity outside of the dance environment. I will pursue somatic techniques and somatic dance pedagogy, and continue to utilise a somatic quality of attention, in particular, a daily practice of somatic intentional rest, as part of my recovery. Through this project I have developed a mindful approach to my dance-training schedule, with a focus on listening closely to my body, balancing exertion with rest and supporting this with consistent holistic management of mental/emotional and other impacting life factors. My long-term goal is to eventually enjoy full health, which permits highly physical work as a professional dance artist. By undertaking a carefully designed and adaptive recovery program, through which I determined how the dance environment can/cannot support my optimal health improvement and recovery from CFS, this project has generated a framework for achieving my goal. This includes the accumulation of practicable information that may assist me to autonomously sustain my health at a professional dance performance standard in future.

There are implications for other dancers and the dance environment arising from this project. My research provides a unique case study of navigating an extended recovery from illness as a dance artist. My approach has included: understanding how I can manipulate the training volume ratios of

intensity, frequency and duration to be effective for my specific needs, discovering effective rest/recovery activities as additions to my dance-training schedule and learning to deepen the quality of rest/recovery via somatic principles. This approach has ensured that I can remain engaged in the dance environment by undertaking an active yet effective recovery process. My research may provide an exemplar for other dance artists, particularly those recovering from long periods of injury or illness. In addition, my discoveries may also be applicable in the prevention of fatigue and overtraining for dancers. The demanding schedules and apparent lack of high-intensity physical activity and rest/recovery in the dance-training environment make clear the necessity for dancers to develop an independent awareness of and ability to manage their training load. The dance-training environment may be enhanced with a more effective integration of high-intensity physical activity, dedicated rest/recovery, the provision of support for the holistic wellbeing of dancers and the possible implementation of a reflexive method of somatic intentional rest.

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Appendix 1

Journal 1 - Phase 1 qualitative reflections

Recording initial knowledge, generating discussion points, establishing method and potential

This journal is an organised documentation of my observations gathered via on-going reflective practice June 2016 – June 2017. The information was collected outside of the three specified research periods but used to influence decisions during the specified research periods, in an effort to maximise positive outcome in health improvements.

GET principles

Graded Exercise Therapy can be described simply but the embodied experience of it is not straightforward. GET's central premise is to incrementally increase physical activity but these increases must continually respond to the unique personal and environmental factors of the individual in order to be at all effective. My earlier correspondence (prior to this study) with a qualified exercise physiologist included numerous and constant reminders that it is more important for me to be receptive to the information my body provides than pre-determine an incremental exercise regime and stick with it. In addition, there are external factors that not only support my pursuit of GET but are in fact essential contributors to any positive or negative outcome. These factors include; diet, sleep, time of day when undertaking physical exercise, attitude, long and short-term goals, social activity, travel in public environments and computer work. I am not implementing GET in isolation; it is one lifestyle feature among many that contribute to my recovery process. This makes my research proposition difficult to adhere to and thus the focus of the study may shift.

I will attempt now to describe the structure of GET, in a simplified version, as I currently understand it. One period of 30-45minute exercise each day is more than adequate (even too much). 3-4 sessions of focused exercise per week is recommended, using the other 3-4 days of the week to just exercise comfortably/casually (eg. a walk, a swim at the beach, a short bike ride), with a low, easily tolerable heart rate. Focused exercise sessions should be timed and average and peak heart rate recorded. As my physical capacity improves, I can also work within particular 'training zones'. These are levels of intensity, which relate to heart rate – higher BPM is a higher intensity, and a particular range of heart rate readings is classified as a zone. (Zones setting as of 20/02/2017: Zone 1: 90-115BPM, Zone 2: 115-130BPM, Zone 3: 130-145BPM, Zone 4: 145-155BPM, Zone 5: 155-165BM). By pushing my body briefly into the higher zones, then retreating down to the zone below, I am gradually re-educating my nervous system that those higher heart rate levels are safe (and thus prevent the body's protective reaction which is a severe onset of symptoms). It is not necessary for me to stay working at peak heart rate, but most effective to nudge that top end of intensity in an effort to gradually increase the overall average heart rate at which I exercise.

The method outlined above prioritises a gradual increase in intensity rather than duration. It is also possible to work with systematically increasing duration. Whichever element is in focus, the other will improve in response. According to the exercise physiologist's work with many other CFS sufferers, focusing on intensity allows a clear improvement of stamina, but working with duration proves to be more inexact (and thus difficult) in increasing tolerance of high intensity activity.

My interpretation of this information (as relayed to me in on-going conversation with Greer Campbell, and informed by my attempts to implement GET) is that I should prioritise working with increasing intensity. I could probably work mostly clearly with this, in a GET structure, by running or swimming. Those two activities both allow me to have complete control over raising and lowering the intensity, actively pushing and reducing my heart rate. But GET can be, at times, personalised to the activity the CFS sufferer most wants to perform, firstly because genuine desire generates positive mentality and energy in the activity, but also, it is important to train specifically toward the desired activity. My challenge, therefore, is to figure out how best to implement the principles of GET within the dance environment.

GET in the dance environment

The central challenge of implementing GET into a dance environment is that the duration of activity and level of intensity is not entirely within the dancers agency or control. Early in the research period I was experiencing difficulty with completing a class of 1.5 hour duration. I considered perhaps that I could enter for the last half hour or 45 minutes only, to maximise high heart rate and my opportunity to work with intensity. (The intense part of dance class traditionally comes at the end, in jumps and travelling steps.) It is very difficult to commence a dance class halfway through (or after two thirds has passed) because the early part of class is crucial in laying the foundations for the later activities (pathways, information, particular sequences of movements etc.) It is (possible but) not ideal in terms of the learning progression for the body and for physical safety. Additionally, in a social sense it seems (feels to me) inappropriate to interrupt the class and join late because an important sense of shared energy and investigation is established in the early part of the class.

That being said, teachers and other students are open to my actions - I experience a great level of support in terms of being permitted to do whatever I feel is best for my body. 'Do what you need to do' is a common saying heard in the dance environment. I am in dance technique classes with a specific goal to use the dancing as a recovery practice for myself. Staff and other students know this. I am therefore not required to participate in any particular way. In different environments (eg. undergraduate degree course, company environment) dancers would be working under different expectations and pressures.

The changes in energy exertion and the opportunities for rest in a dance technique class are not always within the dancers agency or control. As I push my heart rate into higher zones I may experience physical signals of that challenge (such as sweat, heat, discomfort). In this instance I may not necessarily immediately need to cease activity but work with other ways to take a break while remaining engaged in the class. Some possibilities include; resting into the lower zones, resting standing, resting sitting rather than lying down, resting momentarily until my heart rate lowers and then attempting to push it up higher again. There is a finely tuned sensitivity to understanding and implementing that process of push and retreat, challenge and ease off. My attempt is not always accurate and sometimes the repercussions are only felt 24 to 48 hours after the exertion. Even so the dance class has pre-established spaces when the intensity lowers. For example; breaks between exercises for learning,

watching other groups, receiving information from the teacher and other customary breaks of habit or necessity. These established troughs and peaks of energy do not always correlate with my actual need to rest. This is challenging at both ends of the spectrum. Needing to rest when activity is underway means compromising an opportunity to dance or (continuing to dance and) compromising my body's message to retreat from high intensity activity. A feeling of high energy in the body when a teacher is relaying information or the students are observing may mean that my maximum potential for developing strength and endurance is missed.

This study does not examine how someone who is not a dance artist and not interested in pursuing a longer engagement with dance may use a dance environment for a CFS recovery. This study is unique to me as a trained dancer with a long lineage and history with dance. I have a unique body of knowledge that is consciously and subconsciously informing the way I work in this process. This body of knowledge has been (and is continually being) formed as much by my dance specific learning as by my immeasurable corporeal experience and learning in many other facets of life. My specific lineage and interests are also inextricably impacting the way I implement GET. I have a higher expectation of what 'recovery' means. I am not using dance to pursue a general level of physical health and fitness but a full recovery that permits me to dance at a very high level. I have some questions about how I can ensure my body is prepared for the potential level of intensity I may need to work at as a professional dancer. What is my 'peak performance' fitness, which includes and allows for the high intensity of live performance, and how can I achieve that? The information, resources and customs of the dance environment at this preliminary stage of my observations, do not seem to adequately provide me preparation for high intensity performance.

Intensity is not the only significant factor in measuring the exertion of activity or the strain on the body in dance. However, it is central to this study because it is high levels of intensity (measured by a high BPM) that clearly flag the edge of a tolerable activity level for me. The heart rate measure is my first reference point in trying to figure out why I might be experiencing an increase of CFS symptoms. The secondary factor I review is all the accumulative factors such as; (in addition to reaching a high heart rate) if I have exerted myself socially for a long or intense period of time, if I have I experienced stress before or after dancing for any reason, if I have worked on the computer for a number of hours, travelled in a noisy environment, or not eaten or sleep well prior to and after dancing, if I don't include adequate recovery activity immediately prior to, after and between dance classes. The heart rate measure seems to be the most straightforward. The measure of accumulative factors is qualitative and subjective. I would imagine that measuring the physical toll of a dance class (for someone without CFS) could also be treated in a multifaceted, accumulative way (i.e. a dancer in training might perform below optimum if fatigued by a number of factors). Nevertheless it is interesting to consider the role of intensity in dance training. It seems to me that high heart rate levels are not often present in the dance-training environment; it is predominantly an activity of endurance and sustained attention. My questions are about how the dancer then makes the physiological transition to performance (for example if they are 'performing' an assessment or 'performing' a show) and how high adrenaline and a condensed sense of time (material presented continuously without break for observation and reflection) might force the dancer to be working at a much higher intensity. This area of questioning is relevant to me because my goal is to resume to full health as a professional dancer. This might include performing and I need to be sure that my body can tolerate the intensity of performance before it occurs. My questions are also interesting in terms of the dance environment; how can dancers in a

training or professional environment best be prepared for the demands of performance? How is dance training preparing the dancer for the demands of assessment and performance and where might it be lacking?

Health improvements

The most notable periods of health improvement were experienced when I was relaxed, stress was absent and particular events contributed to a strong mental and emotional confidence. When I felt that my work as an artist was valued, my pursuit to recover using dance was respected and I was connected to the other dancers around me, I would experience an improvement of my health. Developing new strength and endurance occurred most often when I found myself working with ease and pleasure in a dance class. There are many complexly interconnected factors that contribute to achieving this mental and emotional balance. Some are worth mentioning but not possible to examine here in any depth – for example, different times of the menstrual cycle affect my mood and energy levels. I experienced a significant health improvement after I had been absent from the dance environment on tour for a couple of months. The time away gave me new perspectives and gave my chance a body to rest completely from dancing (while still being active every day in functional ways). On tour I had structured routine, great food, sleep and positive, supportive working relationships with my colleagues. I also felt my health improve each time I reached new mental clarity on my thesis and thus felt I was making progress intellectually. I felt my health stabilise when I had less academic deadlines to meet. My health stabilised after handing in my thesis proposal.

Health setbacks

My health was set back whenever I decided I would dance every day of the week. Often if I experienced a surge of good health, then in that moment I would be motivated to schedule a class in my diary for every day. This was overambitious but often driven by desire (because I enjoy dancing so much, am eager to learn and really want to see progress in my recovery). Sometimes this would mean I got tired but didn't make permission for rest. I would keep pushing through to meet the expectation I had set for myself and this only exacerbated the fatigue.

Feldenkrais, meditation, Alexander technique, massage appointments and using my own rest/GO dance improvisation practice are all recovery methods, through which I have learned how to rest. When the parasympathetic nervous system kicks in; the tummy grumbles as the body calms into a digestive state, breathing deepens, saliva is formed (like dribble when you sleep), eyes become shiny, heart rate slows. These are just some of physiological signs that the body is relaxed. My body has a tendency to flick the switch to the opposite state, the sympathetic nervous system 'fight or flight' mode, very easily and very often. I can be immediately in a high alert, highly sensitive, hyperactive state even with very small external stressors. This is the state in which adrenaline runs through body, muscles tighten, heart rate goes up and etc. It is very effective for me to allow or actively invite my body into a state of low arousal (focused and present but deeply relaxed) every day. The process acts not only as a rejuvantive activity in itself but also as a neurological reminder for my nervous system, so it realises 'I know this place, I can return to this place with and without Daisy's active assistance.' I experienced significant health setbacks when I neglected to make this practice a priority.

The ripple effect of neglecting the rest practice/s would be an accumulative acceleration in all areas of my life. I would become too busy, feel pressured by academic and other demands, try to do too many things at once, rush everywhere (even *think* hurriedly! or

attempt ‘recovery activities’ with too much vigour) and become stressed. This would result in my health becoming notably poorer because I might, for example; work at a computer for too long, not eat regularly or enough before class, not allow enough recovery time immediately after class and not allocate time for valuable additional recovery activities (spa, massage) in my life outside of the dance environment. I would sometimes get a sense of speeding up and being unable to slow down, so, for example, I might go to the pool as a recovery activity but end up swimming around very actively and pushing myself too hard.

Life factors which have high impact on health improvement or setback (in order of impact)

1. Uncontrollable challenging factors: additional illness (cold/flu), hot weather (average heart rate increases significantly in high temperatures)
2. Stress or other negative mental/emotional states, particularly when combined with neglecting ‘dedicated rest/recovery activity’ or neglecting ‘daily rest practice’
3. Food (must be hot, wholefood, eaten at regular intervals of the day, especially pre and post exercise)
4. Sleep (good quality, 9 - 10 hours per night)
5. Ignoring the body’s warning signals and pushing beyond them in dance class: an immediate response when I realise that rest is needed is essential
6. External accumulative activities, listed below in order of highest – lowest impact
   Significant impact: computer work >2hrs duration, noisy environments, socialising
   Moderate impact: driving, public transport, reading difficult or dense material - particularly on a screen, intellectually challenging meetings or lectures
7. Neglecting immediate recovery activity after class
8. Neglecting daily additional ‘dedicated recovery activities’

Recovery
I am entirely dependent on external resources for providing me with meaningful recovery activities. After a strenuous dance class I find the most effective recovery activity for my body is to be immersed in water - salt water at the beach, warm spa water and/or the pool. Hot baths are also helpful but the spaciousness of the ocean and the pool allows me to move around, stretch and float completely weightless and supported by the water. It is important to mention here that I have also invested significant time and money into various treatments, which provide me with rest opportunities and contribute meaningfully to my recovery. These include Traditional Chinese Medicine (TCM – herbal and acupuncture), deep tissue massage, osteopathy, physiotherapy and myofascial release/Structural Integration work.

I have regularly accessed Feldenkrais ATM lessons, which provide a unique opportunity for me to lower my body’s arousal, to work quietly with the nervous system in a relaxed and attentive state and to find greater ease and efficiency of movement. Much of a Feldenkrais ATM lesson is spent lying supine. These lessons are the most noteworthy recovery activity because they provide an invaluable opportunity for rest while also generating embodied information that I can apply in dance or physical action/exertion of any kind. The scientific and philosophical underpinnings of The Feldenkrais Method are ideal for my goals; it involves a process of communicating with and evolving the nervous system and an ever-present permission for rest is granted. Self-permission for rest is a mental ability that (in my case) has needed to be developed over time. The quality of ease and restful attention induced when working in a Feldenkrais ATM class is difficult to achieve in any other environment. Dedicated Feldenkrais lessons are offered at a maximum of once weekly in the dance environment and not available in some semesters at all. Attending ATM lessons

proves to be the single most valuable recovery activity with effects felt both immediately and over time. I have some questions about the effectiveness of Feldenkrais ATM when implemented in the dance environment; how it is received, when it is offered (time of day/what part of the degree), the age, maturity and interest of the students. The Feldenkrais Method has been extremely valuable for me in my recovery process and in improving my sensitive attention to physicality as a dancer. But this progress has essentially been generated in classes outside of the dance environment and fuelled by my personal interests.

Mental/emotional (and related) observations

Like anyone, I have certain preferences in the dance environment. There are techniques and ways of working that I am more curious about, inspired by and more easily enjoy. When I have low fatigue, high mental clarity, feel strong and integrated in my physicality, I can work with a positive internal dialogue and work ethic in classes that are not as preferable to me. I find myself more up for the challenge of meeting a new teacher and a new way of working. When I am not fatigued I can sense, navigate and dissipate any rises and changes in mental/emotional challenges. When my fatigue and mental/emotional state are less stable I don't feel I have the same patience and attention to work in classes that are new or not as preferable to me. I will examine the factors that are of more/less interest to me later (see 'Dance environment unique features – discussion').

There are some reasonably clear, simple and easily achieved factors, which assist me to feel mentally/emotionally balanced while working in the dance environment. I prefer the teacher (choreographer/person initiating the work) to know why I am there before the class starts. It only takes a short conversation to establish understanding. If I feel that my situation is clear to the teacher then I give myself permission to rest more fully. I am not particularly concerned about other dancers knowing about why/how I am working in the space but if some of them have a point of interest in relation to my recovery then it helps me to feel connected and can lead to useful discussions.

How I feel (emotionally) in the dance environment is physically energising or tiring. Connectedness is key. A sense of belonging, confidence and ease, a sense that my work is valued – these are all factors which enable emotional balance and mental clarity. When I talk about ease I mean, particularly, that dancing is for joy, that the pressure to perform is reduced, and that the health, care and sustainability of the body in motion is of paramount importance to the teacher/other dancers around me. As mentioned above, I generally experience a positive and supportive culture in the dance environment. The language that is used around taking care of your own needs is more prevalent in some environments than others. The more I have engaged at a professional level, the more I have found this dialogue growing more sensitive and sophisticated between artists. I believe that in a professional environment ways to effectively care for the body are better understood, dancers have more skills as they age and companies may accommodate, resource and support them more. In an undergraduate environment it seems that the timetable is very full, very constant and intense and a lot is expected of the dancers. Sitting out for injury or rest has a bad reputation.

The question of mental/emotional balance is not separate to physical energy and wellness but integral. I have experienced time and time again that the state of my body is manifest in my mind. For example, I had a week where my connective tissue was tight/bound up and highly reactive to touch. (This was caused by hot weather and by being in the week immediately prior to menstruation). I felt, for most of the week, mentally tight/bound up and emotionally highly reactive. It is unclear to me if we can definitively name the physical

discomfort as the cause for the mental discomfort or the mental state as the instigator for physical symptoms. I believe it is simply not a clear-cut binary and further research (for both myself and the field) would be of great interest and importance.

In relation to this complete interconnectedness of the mind-body, and in relation to my ability to be more resilient to challenges when I am not fatigued, this is my single, most notable observation about the mental/emotional elements of my recovery from CFS in the dance environment: *mental/emotional imbalance (including negative self talk and poor cognitive function, are a consequence of my fatigue, not a cause.* Over the last eight years I have accessed numerous mindfulness practices (including Cognitive Behavioural Therapy, other information from clinical psychology, yoga, meditation, Alexander Technique, Feldenkrais, Structural Integration and Sensory Awareness) and as a result of this learning, I am constantly applying and developing a high level of self-awareness (in this case I am referring particularly to mental self awareness). I experience debilitating negative self-talk when I am fatigued. I have repeatedly reflected on my negative thoughts after leaving the dance environment, eating and sleeping well and reconnecting with family/friends. My observation consistently suggests that my values and beliefs are warped toward a heavily negative perspective when I experience fatigue. The onset of negativity has been immediately noticeable to me on a number of occasions. For example, as I begin a 4pm dance class, I make note of my internal dialogue. I find that I am experiencing a variety of thoughts and perspectives. These may range from satisfied to dissatisfied but I can think clearly and constructively about them. Then, after a particularly strenuous exercise or a particular duration of time, that balanced mental dialogue noticeably shifts. Sometimes it only takes a matter of moments to switch from balanced to overwhelmingly negative thinking, where I have little or no clarity for sorting through those thoughts and I do not feel I have the energy to deal constructively with my mental chatter. Different recovery techniques are effective in different ways in this situation, but I usually begin with meeting my physical recovery needs, rather than focusing on the 'truths/untruths' in my mental state.

Prior to commencing this study the level of of social isolation I was experiencing was extremely high. Coming back to the structured and social environment of university, having a variety of classes available to me, old and new friends and colleagues to connect with and etc., significantly shifted my sense of isolation. The effect this had was to lift my mood and spirits, and assist me to generate optimism about the potential for me to fully recover and dance at full capacity again in future. By contrast, I then discovered the significant challenge of working within the dance environment and being unable to participate more than 20 to 50%; this felt very isolating. It was difficult to resolve some of my internal emotional monologue, which included thoughts such as;
"No-one understands, I don't have anyone to talk to about what I am experiencing."
"Why me? Why do I have fatigue?"
"I'm a really good dancer but I am unable to show that."
"I'm missing out. I hate missing out because I am fatigued!"
"It's not fair, I'm trying so hard to look after my body and it is letting me down."
"I want to be all in or all out."
"Being here reminds me of the loss I have experienced due to illness, and the fact that I still can't participate at the level I had imagined for myself."
"Will I ever be 100% recovered?"
"What kind of employment will be available to me? Where will I fit in the professional dance environment?"
"How long is this recovery going to take?"

The most essential response to feeling alone and isolated has been to reach out (remain connected to others even if they cannot fully understand my experience), research (become curious about my experience of illness and investigate my embodied experience closely) and stay in the moment. I can't predict or control the future but I can continually focus on listening to my body in each passing moment. I try not think too far ahead, but trust the process of recovery. I try to access all the information and resources I can, permit myself rest whenever I need it, remain as patient and intelligent within my recovery as I possibly can. This patience and intelligence is still developing within me all the time and the recovery process really is taking longer than I ever could have expected. Timelines and deadlines for wellness are not useful to me.

Discoveries about (and through) rest

The following paragraphs refer primarily to when I take rest in the middle of a dance class, this can be done standing but I usually rest lying supine. The need for me to rest in this way during dance classes has gradually reduced during my research thus far. I am finding it beneficial to apply various somatic skills during rest that make it a gently intentional act. There will be some reference also to rest/my rest-related learning in The Feldenkrais Method, my discoveries of rest in life more generally and the notion of rest in my own creative work.

Any expectation of when I will be adequately rested and thinking too far ahead can be detrimental to my energy even on minute levels. If I take a small rest in the middle of class, and I rest with no intention necessarily to re-join for the next exercise, no expectation of resuming my participation at any pre-determined point in the class, then I find that I can actually rest properly, because I rest in that precise moment. It means that I listen to my body in an entirely present way, and usually, new energy is regenerated of its own accord and more quickly. If I am already thinking and deciding when to get up and what I am going to do next and presuming how quickly the rest will take effect, then the rest is usually less effective and energy is slower to return.

Permission for rest, given to myself by myself, by the teacher and by other students in the room, is essential. I can discuss my needs with the teacher, make other students aware, but in the end it is my maturity that allows me to rest and ensures that I can remain unconcerned about the opinions of others (so my concerns do not inhibit me from rest) and listen to what my body needs. Most of all, I must accept immediately when rest is needed, without excess emotional response. The most common avoidance of rest comes when I feel frustration at missing out and push through fatigue OR I am finding great pleasure in what I am doing and because I want to continue enjoying dancing I do not allow that joy to be interrupted by rest.

This seems to relate to my learning about and practice of rest in Feldenkrais classes. It has taken me some time to really take advantage of my own ability to listen to my body and make choices for myself in Feldenkrais ATMs, but I can honestly say now that I do rest, and enjoy resting, whenever I need to, and resume the movements when I feel ready again. I am wondering how that idea of resting regularly and resting whenever your brain and body tires (as is invited in Feldenkrais ATM lessons) might be applicable in dance classes. Could dancers develop the autonomy to momentarily, intentionally rest, (perhaps when standing on the side and waiting their turn). Is a sense of permission for rest essential to their ability to do so? How might their performance in dance classes improve if they could rest whenever they briefly needed to? Where are there suitable opportunities for rest in a dance class that do not jeopardise the shared learning environment? What might be the ideal quality of

momentary rest – for example, it might or might not mean lying down and would probably not mean checking a phone, stretching distractedly or absent-mindedly fretting about other things (things I do sometimes!) Personally I think that training undergraduate dancers could do with a bit more rest, no matter how tiny. How can dancers manage the inevitable ebb and flow of mental attention and physical energy in the construct of the dance class and in the context of their long and demanding training schedule?

I am quite interested in the state of rest that Feldenkrais seems to invite in the body. There is not a whole lot to be found written on this particular element of The Feldenkrais Method. But I often go to an ATM tired and finish up with more energy. And I find that I feel that way also when I am dancing in a class that is supported by somatic ideology. For example, when I dance in Sue's classes and she invites us at the start of the class to pay attention to ourselves in a detailed, somatic manner, then I find that I can dance for longer and feel overall more relaxed and energised. It has to be something to do with asking the brain, via the movement of the body, to do things in new ways and be paying very delicate attention to that. I would be curious to know if other people are energised (in a physiological way) by the challenge of the movements in Sue's class which feel strange at first but, when you just try them all different ways then your mind and body begin to open up to the infinite options. Then harder work actually seems to become easier. Similar to when you meditate at night when tired, you actually have to focus more attentively in order to completely relax and fall asleep.

I am interpreting rest but also inviting a sense of rest into my body in new ways each day. On any given day, what I might need to do in order to head towards a state of rest will be different to the day before or after. In fact, each moment of a day requires something different. But the key feature of the rest I am practicing is the way that I can quiet my mental and physical activity by directing attention gently but in a very focused way. Often I scan the body systematically and invite a sense of falling, undoing or unwravelling to each area: piece by piece and then all of me, slowly coming to rest. If I can give my whole self over to resting, even only for a few brief moments, my energy is quickly replenished. I am also noticing that I can find restfulness within day-to-day activities, to even make the texture of my thinking restful, or rest with how I feel. Finding rest anywhere and everywhere is becoming the core of my CFS recovery process.

Quality of rest (in this dance environment) is jeopardised by the sound or volume of music in the classroom, by my own mind wandering, by watching the other dancers and/or learning the exercise by visualisation (instead of taking the rest time to attend to myself) or by poor posture. I use the term 'somatic intentional rest' to refer to a mindful and present attention to myself – scanning the body, systematically relaxing, focusing on the breath, reducing thought density etc – often undertaken in a biomechanically restful position ('constructive rest' or 'semi-supine') but also in a mindfully balanced and well aligned standing posture.

Within my own work and my improvisation practice my investigations of intentional rest expand into a variety of physical and creative interpretations. This includes, for example, finding a way to complete any movement or action with 'a sense of rest' and investigating what that attempt feels like and what occurs as a result. I have also developed a number of specific 'rest practices' such as standing resting, walking resting and running resting (among many others). In each of these I use various skills and techniques to increase the sense of comfort and ease in my body. I find I can work on some of these 'rest practices', particularly that occur in functional activities, outside of the dance studio. I enjoy investigating my ability to rest in any moment of daily life and it really seems to assists my health recovery. Much

detail and new learning about the presence and investigation of rest in my creative work/practice was revealed when I taught LINK in March – Aprul 2017 and in my durational performance work *A Resting Mess* (with accompanying written items). In the case of this Journal I will now return to a discussion of the intentional rest that I take during dance classes.

I often observe that after taking rest - supine or standing, using a somatic quality of intention to invite my body to rest - my mood shifts, I will feel more at ease or lighter. On numerous occasions I have found that I still know the exercise reasonably well, even without having paid attention to learning it…OR rest has provided me with renewed mental clarity, so then I can copy or pick up the exercise quickly anyway. It is often much better for me to accept my need to rest, attend entirely to resting before my return to participating in the dance environment, than try to remain mentally engaged and learn the exercise when my body and mind are tired. After taking effective, intentional rest I usually have a sense that my body is functionally integrated and my awareness of space feels clearer. Fatigue manifests in many ways including a feeling of 'foggy thinking' and also finding that my body is moving in a way that is clumsy and precarious. Intentional rest interrupts and counters these effects of CFS.

I am curious about the lack of rest in dance training for other, healthy, training dancers. I have a sense that some dancers are always preserving energy across huge days of work, I observe a lack of fire and hunger for movement. I don't believe this reflects an attitudinal issue so much as being physically overloaded and fatigued. In order to survive their dance training and just keep turning up, I have a sense that the energy of many dancers does not peak and dip but rather seems to take a 'flat lining' trajectory. This suggestion is made based on my observations and experience in dance classes and some research of relevant literature. When I teach dance I often have a similar sense that most dancers remain within a medium energetic bandwidth.

In relation to the phenomenon that I am suggesting may be occurring, I wonder about the necessity of rest to the dancer, beyond health and well being but also for the aesthetics and artistry in dance. Learning steps and skills and the shapes and movements of the body could be called the 'architectural' learning of the dancer. But what about the energetic learning? Not *what* the movements are but *how* - the speed, power, dynamics and expression with which any movement is performed. I believe that a dancer's energetic vocabulary could also be trained, and an ability to rest in a deeply embodied way might contribute positively to this. I would like to research, in future, both through literature and practice, the essential nature of stillness to dance, and how intentional rest might act in service to the way that a dance performer must navigate and express peaks and troughs of energy through movement.

Taking classes in somatic practices has provided me with opportunities for rest but also with learned skills that extend beyond the class times. Somatic practices do not always serve the purpose of purely being a recovery activity; they too can be 'rigorous practices' and require mental attention and physical exertion. However, permission for rest exists both explicitly and implicitly in somatic practices and the natural ebb and flow of energy is understood in the manner of these practices. So, in somatic learning environments, I find I can more effectively measure my own energy output, accept my limitations due to CFS and make the technique work for me.

Dance environment unique features – discussion

There are infinite variables in dance classes and every dance teachers has their own unique way of delivering dance material/impetus for movement. Learning set class exercises in technique class takes a different quality of mental attention than the free and unplanned movement of an improvisation class. This is useful to know (and observe myself experiencing) while dancing with the limitation of CFS. I find I can dance more vigorously and for longer in dance improvisation classes than technique, because the mental quality of attention required to learn exercises is removed. I also find it easier to somatically attend to my body using 'body listening' in improvisation classes. All dance classes have different underlying ideologies and influences. The complex nature of these is not always easy to determine and define, and will usually be related to the lineage and interests of the teacher leading the class.

I do have my personal preferences within the dance environment – information that is communicated/movement that is invited in imaginative and sensory ways is pleasing and enjoyable to me. I find somatic centred pedagogy more interesting than dance without a somatic flavour, and through a somatic quality of attention I feel more empowered and connected to my physical, moving body. I like classes that address the structural and functional integrity of the body and/or biomechanical efficiency. When there are clear connections and layers (exercises and ideas which develop and inform the next exercise or idea) I remain more interested and feel the information accumulating in my body. Conversely, at times, I have joined first year classes specifically to provide myself with low complexity in learning exercises. Progressions of repeated movement across the room can reduce the mental complexity of learning and allow me more space to simply attend to the sensation of my body moving. I prefer this. Dance for me is a way to release my cognitive attention and exist in more of an embodied, sensory place. In some cases the second or later exposure to any exercise is more enjoyable to me, for the same reason.

I also enjoy an approach to dance that invites the agency and choice making of the individual dancers. Once again, the movement itself is of less importance than the sense of learning to relate to others and/or the space though my physical body. I like it when part of the dance learning is to remain connected to the internal experience while also honing an ability to see and be present while moving. I understand dance very much as a connective force, and an experience that has the power to brings us more fully into the present moment. Seeing (rather than retreating into the sensation of the body, or the concentration of the dance) is an essential part of this sense of presence that dance brings me.

The factors that I find more challenging in a dance class include; hard exercises (long, complex, rhythmic), high physicality (particularly leaps and kicks), lots of standing (lack of floor work), no clear somatic influence, unclear connections between movements/exercises and I am usually more challenged by less familiar classes/ways of working. Very occasionally I have become bored and disinterested with exercises that are too familiar to me, sequences that I have danced numerous times over the years.

There is a phrase I have heard said many times through my years learning dance and that is: 'do what you need to do'. I am interested in the permission for this versus the reality, in different dance environments. In dance training I think the reality of that permission is very low, and that dancers internalise a disdain for rest and recovery that is perpetuated by the training institution. It seems that beyond the dance training environment, for those who continue to work in companies or independently, the reality of that phrase comes truer by necessity of sustaining a career that is physically, emotionally and financially challenging. I

believe that the skills needed to care for your physical, mental and emotional self, as a dancer, are always accumulating, as a life long process. Also what takes time is to really understand and give permission for yourself to 'do what you need to do' and take care of yourself while remaining responsive to the external environment.

The success of my recovery in the dance environment seems so far to be dependent on my developing ability to accept what I need to do for self-care, and to, correspondingly, practice and implement the most effective skills and resources. My level of self-listening and my commitment to executing whatever is needed for my health is always increasing, through a sense of moment-to-moment attention to (and acceptance of) my CFS experience. In addition to this, I am really navigating and using the dance environment to my own advantage. The most essential feature of my attempted recovery is that I am aware of what I need and use whatever resources exist available to me in the dance environment in the best way that I can. This mixture of resourcefulness, awareness and acceptance is also something I am learning and developing as I go along through this recovery process.

Journal 1 Conclusion: reflecting and compiling key ideas

Undertaking recovery in the dance environment is essentially a process of becoming more aware of my own needs and also of the resources and practices of the dance environment, then intelligently utilising the dance environment to my advantage. Life factors occurring externally to the dance environment have a high impact on my ability to physically exert energy and my overall health and well being, so my ability to prioritise, balance activities and direct myself in all facets of life is also a key part of my recovery process. The various skills I have in attending to my body have accumulated as a result of my unique lineage. This includes learning in dance environments but also somatic practices, having CFS (and any other illness or trauma stored in the body) and the physical information generated by any daily activity. I find that I apply what I learn in my body broadly, that my embodied skills are not compartmentalised into dance and non-dance environments, but rather they pervasively influence my entire lived experience, including dancing. My somatic learning and the somatic elements of my creative practice seem to be in their infancy, but I am very curious and have a suspicion that I will undertake a long and sustained interest in and pursuit of somatic learning.

These are the elements of benefit to my CFS recovery that the dance environment seems able to provide me with:

1. Connection. I have the opportunity to have conversations and support in the dance environment, and enjoy the shared energy that is generated by a group of people dancing.
2. Opportunity to research. Translating my experience to an embodied and artistic project increases my sense of inspiration, also my curiosity and patience with my recovery.
3. Dance classes. As a durational physical activity that I enjoy.
4. Physical strength. This develops inadvertently as a result of my participation in classes. I observe changes in my arms, abdomen, legs and back.
5. Range of movement. Also developing as a by-product of taking dance classes, maintaining a much high mobility and flexibility than when I was very sick and only walking each day. Dance provides my body with a diversity of movement that I can feel has a positive effect.
6. Opportunities to 'body listen'. My arrival in a dance class or any dance environment always invites me into a state of paying attention to my felt experience, to practice attending to my physical needs and developing more understanding of how movement and somatic attention can be beneficial to my illness experience.
7. Resources. I can use dance studies to develop my own technique of listening, resting and GOing (both for solo practice and teaching).

These are the elements essential to my CFS recovery that the dance environment seems unable to provide me with:
1. Opportunities for high intensity physical exertion. I am trying to apply GET recommendations and it is very difficult to even begin to reach the high BPM levels that will gradually increase my tolerance of physical activity.
2. Low arousal practice that induce high quality rest, such as somatic practices.
3. Dedicated rest/recovery activities, such as water immersion as recovery, which I find invaluable.
4. Hands on recovery activities/support, such as massage, Acupuncture TCM, osteopathy, physiotherapy, myofascial release and/or Structural Integration.

These are the elements of the dance environment that notably challenge my recovery:
1. A high amount of computer work required for administrative and academic tasks (I believe the tertiary dance environment provides an overload effect, expecting a high level of academic work on top of an extremely demanding physical schedule. I have found the level of reading required for Honours particularly challenging to manage with my CFS.
2. Dance class times of 1.5hour duration – for my CFS these would be better held for 45-50minutes. For somatic dance pedagogy classes would be better for longer durations to allow time to really immerse deeply in an embodied investigation.
3. Behavioural customs in the dance class that don't align with my natural need for rest.
4. Difficulty establishing consistency. Although there are regular class times and core teachers for certain year groups in the dance course, I seem to find it very difficult to establish a consistent and well-planned routine for my CFS exercise treatment using the dance environment. There are not enough classes available to me between Thursday and Sunday, which means I try to squeeze all my highly active classes in the first three days of the week. Also, core classes usually run for 5-7 week periods then are suspended for 5-6 weeks during performance seasons. This means that learning and strength is established but then deteriorates. Scheduling and timetabling was often released too late for me to plan an effective balance of activity with rest in my week ahead. Occasionally I missed communication about a changed class time, studio or teacher and this was detrimental to my recovery pursuits as it detracted essential time and energy.

My recovery within the dance environment is specific to my purpose of working within it. It is a unique and personal approach that explores both the CFS experience and the dance environment, and the connection between the two reveals interesting insights.

Thesis discussion points to work towards:
Intensity for peak performance and quality rest and recovery: these two 'edges' of the scale do not appear to be present in dance training.
Necessary to my CFS recovery… but how are these 'edges' needed for
a. overall health and well-being of dancers
b. safe dance training practices in which fatigue and overtraining won't occur
c. effective achievement of peak performance
d. the sensory kinaesthetic skills necessary to the dance as a unique, athletic artist.

CORE OF MY THESIS: The outer 'edges' of resting and GOing are what I need for my recovery. They are not present in the dance training environment and therefore not present for training dancers.

Appendix 2

Journal 2 - Phase 1 focused data collection

This journal provides detailed insight into my practice-led research undertaken during three specific time periods - Feb 20th - 25th 2017 (6 day period), February 27th - 6th March (7 day period), 27th March - 9th April (14 day period). I accessed classes within the tertiary dance-training environment and kept daily records in the following categories: frequency, duration and intensity (heart rate BPM) of activity, perceived exertion of activity, type, duration and quality of rest, the presence and/or impact of somatic practices, notes on mental, emotional and dance environment specific factors, notes on other impacting factors. Between each of these periods of focused, closely documented research I would rest and reflect, adapt my plans for action and approach based on the results of the previous research period. The length of each period of focused research changed in response to the resources/dance schedules available to me and to my on-going efforts to maximise positive health outcomes as well as data quality.

WEEK 1. RESULTS

DATE	**TYPE OF CLASS/ACTIVITY**	**TIME**	**ACTUAL DURATION OF EXERTION**	**REST/ BREAKS**	**AVE/PEAK HEART RATE**	**TRAINING ZONE/S INFORMATION**
Mon 20/02/17	Technique (2nd year, Rachel Ogle)	12:30 – 13:55	1hr17min	10-15min obsv total. Out for final 10mins.	106/??? BPM **peak HR lost*	Zone 2 – 18.??
Mon 20/02/17	Improvisation (3rd year, Jo Pollitt)	14:30 – 16:00	1hr30min **record of 46.20 only– low battery*	1/2hr obsv cont.	112/??? BPM	Zone 1 – 23.33
Tues 21/02/17	Technique (3rd year, Sue Peacock)	08:45 – 10:25	1hr37min	<10min obsv total, 1short rest supine	**records lost by watch*	**records lost by watch*
Wed 22/02/17	Technique (3rd year, Justin Rutzou)	12:45 – 14:25	1hr38min **record includes bus trip home (forgot to stop watch)*	*1hr dance class with at least 35mins obsv time (standing)	101/??? BPM	Zone 1 - 31.20

Thur 23/02/17	Technique (2nd year, Natalie Allen)	10:35 – 12:00	1hr24min	<10min obsv total, 3 times supine	112/??? BPM	Zone 2 - 26.47
Fri 24/02/17	Feldenkrais ATM	9:15 – 10:25	1hr33min	90% of class spent supine. Rest breaks regular as needed.	70/???	-
Sat 25/02/17	PIAF Improvisation workshop, led by Eric Beauchaunt of Kid Pivot	11:00 – 12:30	1hr34min	Rested within the dance when possible, including some periods standing/supine.	113/???	Zone 1 - 36.09

DATE (cont)	**RECOVERY (immediate)**	**RECOVERY (later)**	**PHYSIOLOGICAL RESPONSE (immediate)**	**MENTAL/EMOTIONAL RESPONSE**	**DELAYED ONSET RESPONSE**	**INFLUENCING FACTORS/ other notes**
Mon 20/02/17	15mins supine constructive rest	17:25 – 17:55 pool change btw cold + warm	Sweat, back twitches muscular tightness	Disappointment (minor)	Usual muscular discomfort	Low mental exertion – exercises pre-learned. Computer work prior 2.5hrs.
Mon 20/02/17	10 mins supine lying flat		Heat + tightness in neck + upper spine	Invigorated, happy	3-5am mental stimulation	High intensity solo 2mins (after 30min obsv period) This class is highly stimulating and often inactive. Mental element quite fatiguing and physical less so.
Tues 21/02/17	5 mins supine lying flat	Hot shower (2), self directed myofascial release (MFR)	Sweat, usual muscular discomfort, back twitches +tightness in lower back + pelvis	Invigorated, happy	Brain fog (1hr later for 2hrs) Temp imbalance (chills) for 24hrs. Groggy + headache in morning + digestive upset.	Floorwork first 20mins – low BPM. Final 10mins fatigue negatively impacted technique + memory. Class seeks power through structural ease/efficiency. This is a positive way to work. No computer work or other

						activities prior.
Wed 22/02/17	5mins supine constructive rest	25min nap 15:30 – not a positive recovery strategy. Gentle walk in evening.	Fatigue – weary body and behind eyes. Aching shoulders and neck. No sweat.	Poor decision making, resume bad habit of Facebook scrolling. Not thinking clearly.	10hr sleep overnight, groggy in morning.	Did not eat a substantial lunch prior to class. No floorwork = a more taxing class. Medium cognitive strain re-learning exercises. Competition for space a little stressful. Computer work prior 2.5hrs + 1hr meeting. Post-class phone + laptop use = strain.
Thur 23/02/17	20mins supine constructive rest	1hr massage 13:00, hot shower	Sweat. Feeling stronger and stretched out. Some tightness in hamstrings and lower back.	Invigorated and happy. Very relaxed.		Low intensity computer work for 1hr prior. Improvisation = low cognitive strain. Felt fatigue in one moment of new exercise – learning by observation only was successful.
Fri 24/02/17	THIS IS A RECOVERY ACTIVITY		Back pain reduced, softer physicality, ease of motion.	Mental clarity, joy. Connectedness with others.		After the lesson I made a number of clear realisations about academic work that had been perplexing me.
Sat 25/02/17	7mins supine lying flat	Beach swims (multiple) 14:30 for 1hr SUNDAY pool swim 17:05 - 17:30. Change btw cold + warm	Lower back discomfort and tightness.	Inspired, mental clarity.	2hrs later: mild fatigue. Evening: usual muscular discomfort – very low level, mostly felt energised, strong and calm.	Low cognitive strain, highly imaginative improvisation class, following instinct and pleasure. Inspired by international artist and a great group of Perth artists.

WEEK 1. REVIEW AND IMPROVEMENT SUGGESTIONS FOR NEXT RESEARCH PERIOD

Main observations:
Different styles of class fatigue me in different ways. Overall I am feeling significantly stronger, developing stamina and find that I can participate for longer and with more vigour. This is obviously not a result of just this week's work, but an accumulation over the last 12months. Nonetheless, to have actively and fully participated in six classes this week is a notable achievement. Recovery immediately post class and all other recovery activities are essential. Stopping to rest immediately when I feel fatigue (felt in the form of mental/emotional imbalance ie. mood drops, cognitive clarity and focus drops, or physical sensations such as unusually high heartbeat, hot or itchy skin or unusual muscular aches) occur. There is a notable lack of high intensity (high BPM) work. But at the moment the duration and the accumulative work of classes every day is enough to be pushing my physicality. Mental and emotional factors are largely balanced because I have a clear sense of why I am working, I respect and give permission for my own need to rest immediately, and most staff and students have some awareness of why I am working in this way. This settled and mature feeling took the best part of 2016 to establish. Here are my suggestions for more effective recovery in the coming week:

STATISTICS

1. Improve consistency and detail of recording statistics (GET WATCH AND PHONE APP WORKING BETTER)
2. Review 'zones', schedule a meeting with Greer Campbell to review progress and maximise improvement
3. Record peak heart rate as well as average heart rate

RECOVERY

1. Delegate Wednesday, Friday and Sunday as specific rest days OR use dance classes on that day ONLY as 'recovery' eg. an opportunity to stretch deeply and work at 5-10%. Otherwise use these days for gentle activity eg. beach or pool swim (but listen to energy levels and may include some laps), strengthening activities, yoga.
2. Eat a quality and substantial meal immediately prior to every class. And a good snack immediately afterwards.
3. Computer sessions not longer that 2hrs total, must include at least three movement breaks, regular water and snacks.
4. Prepare for computer sessions by organising food, water, toilet trip and SENSITIVE EMBODIED LISTENING.
5. At least 10mins prior to every class must be allocated for QUALITY rest and tuning in to own body. NO PHONE USE.
6. At least 15mins immediately post class must be allocated for QUALITY rest and stretching. NO PHONE USE.
7. Record info from recovery only days?

QUALITATIVE DATA

1. Take note of somatic influence at any part of the class eg. floorwork with sensing based on Feldenkrais (Sue Peacock), sensory information and improvisation (Natalie Allen).

2. More detail on mental/emotional factors and any notable internal dialogue for that day.
3. More details re. rest quality and duration in the dance class.
4. More details re. factors of dance environment (if necessary?).

WEEK 2. RESULTS

DATE	TYPE OF CLASS/ACTIVITY	TIME	ACTUAL DURATION OF EXERTION	REST DURATION AND QUALITY	AVE/PEAK HEART RATE	TRAINING ZONE/S INFORMATION & REVIEW
Mon 27/02/17	Technique (2nd year, Rachel Ogle)	12:30 – 13:55	1hr26mins	Regular supine rests, (5-6) 25min duration total (approx) Extended obsv time. Rest quality: medium.	115/???	Zone 2 - 32.31
Mon 27/02/17	Improvisation (3rd year, Jo Pollitt)	14:30 – 16:00	1hr31mins	Minimum physical work (30mins at start of class only). Easy mental quality. Rest quality (RQ): good.	103/???	Zone 1 – 43.50
Tues 28/02/17	Technique (3rd year, Sue Peacock)	08:45 – 10:25	1hr41mins	First 45-50mins was spent supine. RQ: good.	94/???	Zone 1 - 23.17
Wed 01/03/17 RECOVERY	Technique (3rd year, Justin Rutzou)	12:45 – 14:25	DID NOT ATTEND CLASS. FELT SENSITIVE AND TIRED WITH A SORE BODY. OVERWHELMED WITH UNI ACADEMIC WORK. STAYED IN LIBRARY TO GET SOME WRITTEN WORK DONE.			
Thur 02/03/17	Yoga (Hayley Schmidt, Beyond Being)	10:00– 11.15	1hr18mins	Numerous 'childs pose' or resting lying face down. RQ: poor	79/???	Zone 1 - 10.15
Fri 04/03/17 RECOVERY	Feldenkrais ATM	9:15 – 10:25	1hr 10mins approx	RQ: deep.	**watch on charger*	-
Sat 05/03/17	Technique/warm up (LINK, David Mack)	9:00 - 10:30	1hr04mins ONLY	Resting supine between every exercise. RQ: poor	96/???	Zone 1 – 19.08
Sun 06/03/17 RECOVERY	SUNDAY RECOVERY INCLUDED OCEAN SWIM (medium level exertion), MFR, BREAK FROM ACADEMIC WORK, RECONNECTING TO FAMILY + FRIENDS, 2 HEALTH SUPPORT APPOINTMENTS. MENTAL REFLECTIONS ON ARTS PRACTICE + LONGER TERM GOALS.					

DATE (cont)	PREP + RECOVERY (immediate)	RECOVERY (later)	PHYSIOLOGICAL RESPONSE (immediate)	MENTAL/EMOTIONAL RESPONSE	DELAYED ONSET RESPONSE	NEGATIVE INFLUENCE FACTORS
Mon 27/02/17	NO PREP POST: 5mins supine	-	Heart rate rapid, shaky.	Bored/apathetic at end of class (sign of fatigue?) Lack of concentration.		DID NOT ARRIVE FOR 10min PREP TIME – flustered at start of class. Meal unsubstantial, lacked carbohydrates .
Mon 27/02/17	NO PREP POST: No immediate recovery	-	Tired behind eyes.	Interested but easy. Unsatisfied but patient and curious.	20mins later began to feel hot + slightly sad/isolated (result of fatigue?) Evening: low focus, hot.	Only ate almonds as snack prior, did not rest/prepare prior. Computer work for >1hr immediately after. Late dinner.
Tues 28/02/17	PREP: 40-50 mins Feldenkrais (listening only) + MFR POST: 20mins supine inc. 10mins MFR	40mins MFR at 8pm. LACK OF OTHER RECOVERY ACTIVITY, LONG PUBLIC TRANSPORT COMMUTE.	Sweat, usual muscular discomfort.	Feeling very calm + contemplative, reflecting on learning.	Irritated/angry mood in evening, easily reactive, hot. Foggy (low mental clarity) next morning + highly sensitive and easily upset.	Stressful exchange with another driver on the way to class. Feeling sensitive. Feldenkrais was an essential calming time. NO WATER BASED RECOVERY OR REST PRACTICE.
Wed 01/03/17 RECOVERY	DID NOT ATTEND CLASS. REASONS OUTLINED ABOVE. BEACH SWIM 2.45-3PM AND ACUPUNCTURE 4-5.30PM SERVED AS TODAY'S RECOVERY ACTIVITIES.					
Thur 02/03/17	PREP: bus trip on phone, poor focus, socialising for 40mins POST: 5-10 mins in savasana	Evening swim at the ocean – medium level exertion. MFR 40mins after dinner.	Fatigue. Unusual muscular discomfort. Poor mood. Reactive, sensitive.	Immediately after class I experienced high mental clarity + presence, as the day wore on I became foggy + unfocused.	Body bound up, a sense of winding + tightening.	Reading phone on the bus trip to/from. Slept late + poorly night before. High social exertion for 2.5hrs post class. Sensitive + sad by the evening.
Fri 04/03/17	RECOVERY	Sleep at 14:00	Energised + calm	LATER: Negative self	Low mood, highly	Poor quality breakfast.

	ACTIVITY	for 45mins sign of setback (poor recovery option). MFR 30mins + 10mins.	immediately post class. Easy, relaxed body + mental clarity.	talk. Sense of hopelessness. Extreme difficulty making decisions. Low focus.	reactive. Body bound up, a sense of winding + tightening.	High levels of sensitivity, reactivity + stress have endured since Tuesday. After class worked on computer in poor posture for 2hrs in a noisy space. THEN negative onset of symptoms occurred.
Sat 05/03/17	PREP: None POST: 5mins supine. Thinking + stressed.		Sweat, seeing stars, headache.	Negative mind chatter about others, class material, the future. Distracted, low focus.		Poor dinner + breakfast quality. Stressed, too many activities to achieve.
Sun 06/03/17 RECOVERY	SUNDAY RECOVERY INCLUDED OCEAN SWIM (medium level exertion), MFR, BREAK FROM ACADEMIC WORK, RECONNECTING TO FAMILY + FRIENDS, 2 HEALTH SUPPORT APPOINTMENTS. MENTAL REFLECTIONS ON ARTS PRACTICE + LONGER TERM GOALS.					

DATE (cont)	**SOMATIC INFLUENCE**	**MENTAL/EMOTIONAL FACTORS**	**INTERNAL DIALOGUE**	**OTHER FACTORS OF DANCE ENVIRONMENT**	**NOTES**
Mon 27/02/17	None obvious, teaching focuses on biomechanics. Used some personal attention to sensation + breath.	A little stressed + overwhelmed by academic/admin workload.	Positive. Slightly pushy with myself, careless. Tried a few ideas fleetingly. A bit of frustration with balance + extension. Proactive shifts of ideas to improve.	Participated for whole class including small jump + travelling step. Floorwork at start of class was short + moved quickly. Lack of warm up/arrival time provided in class.	Body did not feel grounded, sore muscles. Early week class + lack of personal prep time did not help. Used eyes, music, groundedness + trajectory of hands/arms to actively self improve the exercises. Energy a little sporadic.
Mon 27/02/17	None, obvious, can work with own sensory interests but did not really do so today.	Worked with a humorous + relaxed partner.	Positive. Light touch, not too much care, a sense of accepting things as they are. Was this state evidence of fatigue? Possible but I don't think so.	Solos for all class members requires a lot of observation time aka LOW PHYSICAL EXERTION. I am a guest so there is low pressure on me to perform. Self pressure comes from	We were reminded of having a real response and instinctually following that, despite all the other tools that were offered (which can be cognitively demanding). There was a good sense of humour in the room

				my desire to really work +/or show 3rd yr students the best of my skills.	today + the permission to follow real response meant I was relaxed but still working well.
Tues 28/02/17	Feldenkrais has a clear +integrated influence. Seeking structural efficiency of the body means less physical strain + work.	Stressed prior, also stressed by presence of extra dancer + lack of space for all. Mindful attention to thoughts caused improvement through the lesson.	Negative talk shifted to positive during the class. For second half internal dialogue was positively focused on the dancing + learning.	I have learned this technique over time, the cognitive strain is low because the exercises are not new but also I am more relaxed + able to pick up quickly.	Fatigue = difficulty picking up exercises = tension in body = frustration = giving in to mental/emotional struggles + negative self talk. Morning Tuesday class no strain prior + first thing in the day is best!
Wed 01/03/17	DID NOT ATTEND CLASS. REASONS OUTLINED ABOVE. BEACH SWIM 2.45-3PM AND ACUPUNCTURE 4-5.30PM SERVED AS TODAY'S RECOVERY ACTIVITIES.				
Thur 02/03/17	Strong + effective language about energy lines of body + mindfulness via physicality.	Stressed, impatient, class was late. Feeling overloaded + overwhelmed with other commitments.	Low patience with spiritual suggestions. Cynical, negative.	A professional environment outside of the uni. Did not speak to teacher about my situation. Feeling nervous about working with new LINK students.	45min ocean swim in the evening = medium to high energy exertion.
Fri 04/03/17	Feldenkrais - high somatic influence.	Feeling tired + overcommitted. Feeling sensitive + worried.	Existential, sad, worried. Body uncomfortable + wound up – mind also.		End of a week with consistent high temperatures, very hot. I have pushed through too many warning signs this week. Record keeping has become unclear. Mental clarity is poor. Could not accurately finish the week's results without take a break for two whole days.
Sat 05/03/17	Not clear. Strong sensory language + physical information evident in the body of the teacher.	Feeling tired + overcommitted. Feeling worried about Honours assessment.	Negative. About self + external environment. Foggy + unclear. Highly distracted.	Did not speak to teacher about my situation. Feeling nervous about working with new LINK students.	
Sun 06/03/17 RECOVERY	SUNDAY RECOVERY INCLUDED OCEAN SWIM (medium level exertion), MFR, BREAK FROM ACADEMIC WORK, RECONNECTING TO FAMILY + FRIENDS, 2 HEALTH SUPPORT APPOINTMENTS. MENTAL REFLECTIONS ON ARTS PRACTICE + LONGER TERM GOALS.				

WEEK 2. REVIEW AND IMPROVEMENT SUGGESTIONS FOR NEXT RESEARCH PERIOD

Main observations:
There was a possibility that I was experiencing accumulative fatigue from the work of the week before. Hot temperatures day and night for seven days took a significant toll on my body, as well as approaching menstruation this week. I was over committed in numerous ways, felt social and assessment pressures rising. After the success of the week before I found myself pushing through, trying to stick to the plan/timetable and not responding to the real and immediate needs of my body. The fatigue/setback had a snowballing effect toward the end of the week.

I believe that poor mental/emotional clarity often reflects and is evidence of my fatigue, does not necessarily represent truths or problems that need further analysis. This week I took part in two classes of an unfamiliar style and with a teacher I didn't know prior. I experienced low confidence and was not proactive in discussing my health situation with either teacher. Lack of communication leads me to feel uncomfortable about resting and I then don't give myself full permission to do so when needed. This significantly jeopardises the quality of my rest and thus attention in class.

If I consider my recovery holistically it includes the gradual improvement of my ability to engage socially, complete computer work, travel through the city and other activities in day-to-day life (in *addition* to improved strength and endurance in physical exertion). The improvement of physical stamina is directly responsible for making a number of other activities more manageable – anything that I do in the day that includes moving around or an increase in heart rate. It is difficult to accurately be certain what will assist the gradual increase in my tolerance for mental/cognitive work. It could be ideal to remove as many social and academic pressures as possible and maximise physical training for each alternate week. I will reflect and plan possible recovery layouts (how to maximise my work in the physical recovery elements and reduce stress/setbacks caused by social, academic and other commitments) that I may try out/use in the coming weeks of the semester.

STATISTICS

1. Where Feldenkrais is the first part of the lesson only start heart rate monitor when dancing begins.
2. Need to reduce this week's table of results/notes. Ask: what do I want to focus my analysis around and what is therefore the most important information to record?

RECOVERY

1. Immediately after class I must prioritise recovery over collecting data. The information will still be there in my mind an hour or a day later. Remember that seated computer work is the single most taxing external activity.
2. Be less ambitious with what might be achieved each day, attend to one thing at a time in order of priority and trust they will get done. Other tasks and trying to be extra organised/prepared are inhibiting a deep state of rest and recovery.
3. Is it possible to allocate a physical research week in which all/most academic responsibilities are put on hold?
4. Schedule dedicated recovery activities each evening, these were neglected Monday and Tuesday and the results were keenly felt. Then I neglected recovery throughout the week due to loss of focus.

5. How to mentally switch off for long enough to really rest and get a new perspective? Are Wed/Fri/Sun rest days enough or do I need to ensure that I get two successive rest days with no uni (particularly academic work) and an opportunity to rest from focus/thinking at all?

QUALITATIVE DATA

1. Possibly record more accurately the cognitive vs physical strain of each class.
2. My preferences in ways of working and the impact that has on my mental/emotional balance and physical energy.
3. Perhaps include a written segment of the NOTABLE qualitative factors each day, or any relevant new discoveries but NOT ALL.

WEEK 3. PLANNING

1. Meet with Luke to discuss data collection.
2. Seek contacts verbal and via email to discuss qualitative discussions and form possible directions for thesis (try Peta Blevins, Sue Peacock, Molly Tipping, Helen Herbertson, Paea Leach, Alexandra Harrison).
3. Rest and recover/respond to immediate needs and PRIORITISE GOOD HEALTH HABITS.
4. Design new research scaffold and plan appropriate time for its implementation.

INTERIM DATA OF INTEREST

1. Wednesday 8th March 4-5.30pm teaching with LINK. I was nervous and felt already fatigued (by computer work and stress) on arrival. Ave HR was 133, 45.09 duration (recorded on watch before it ran out of battery power, full duration was 1.5hrs and intensity remained consistent), Zone 3 for 17.43mins. This intensity is significant and not replicated anywhere else in 1.5hr class blocks. Possibly caused by a mixture of already begin fatigued, a class full of constant movement and coupling my own body working/moving with also verbally teaching a group?
2. Thursday 9th March 10.30-12noon class (Bernadette Lewis) HR 108, 1 hr.41mins, Zone 1 32.15. Perceived exertion was medium - high, but the quality of this exertion did not feel like illness and/or a struggle. I felt powerful, strong and energised within working hard. The sweat was not feverish. The class Bernie had designed and led us through had very clear and well-integrated sensory information. We started at low energy exertion and worked upwards until really getting moving in the final 15-20minutes only. Is it possible to clarify and replicate all of the factors that made this class so good?
3. Tuesday 14th March 8.45-10.30am class. Ave HR was recorded as 100 (48min20 participation, Zone 1 24.14). These are low exertion stats but my perceived exertion was very high. I experienced fever-like sweat, low emotional and cognitive clarity. This class is often ideal because of its style and time of day, I usually find I can work with emotional and cognitive balance and enjoy dancing with biomechanical efficiency. The likely cause of discomfort was my lack of recovery post 2.30pm Monday class (116ave HR, 1hr23min participation, Zone 1 27.27, in which perceived exertion was very high - constant movement, running, walking and improvisation), poor sleep and too much energy exertion in other activities (social, domestic).

WEEK 3 AND 4. SECOND DATA PHASE, ATTEMPTED IMPROVEMENT ON METHOD.
(See below: a. INTENTIONAL SCHEDULE, b. RESULTS, c. REFLECTIONS and TRAINING PLAN and d. THESIS DIRECTIONS)

a. INTENTIONAL SCHEDULE

Red text and/or ? denotes unconfirmed activities due to scheduling or practicalities and on Sundays to allow appropriate response to health levels.

DAY/DATE	ACTIVE 1	ACTIVE 2	RECOVERY	COMPUTER 2hrs PREF	OTHER	REST BREAKS
Mon 27/3	RO 12.30-2	JP 2.30-4	4.30 POOL/MED	10-12		12-12.30/2-2.30
Tues 28/3	SP 9-10.30	KH 4-5.30 optional	1.30 POOL 6-7 STR/MFR	11-1 and 2.30-3.30		10.30-11/1-2.30(pool)/3.30-4
Wed 29/3	-	TEACH 4-5.30	1 STR 1.45 POOL	10.30-12.30	9-10 SKYPE	12.30-2.45
Thurs 30/3	NA 10.30-12	TEACH 4-4.30	3 MED/OCEAN?	8-10 APP 1-3?	1-3 rehearsal BL?	12-1/3-3.30/4.30?
Fri 31/3	-	-	8.30/9.15 MFR/FELDI 1 ?	11-1 APP?	CITY TRAVEL 2.30-4 SOCIAL 5-7.30 APPLICATION DUE	1-2.30
Sat 1/4	DM 9-10.30	-	11 POOL/MED	-	DOMESTIC 8-9 WORK 6.15-10.15	11-12 and to 6.15
Sun 2/4	-	-	MED/OCEAN? STR uni?	1 HOUR uni?	WORK RECOVERY	DAY REST
Mon 3/4	AW 9-10.30	BL?	POOL/MED/MFR	11-1 APP 2.30-4.30	Daytime rehearsals BL?	10.30-11/1-2.30
Tues 4/4	JR 9-10.30	-	1.30 TCM acup & sleep 3.00 OCEAN	11-1 APP	APPLICATION DUE	10.30-11
Wed 5/4	-	TEACH 4-5.30	RECOVERY? NO DANCING TODAY	None today – phone admin only	SOCIAL 9-11am WORK 12-3	11.30-12

Thurs 6/4	NA/SE 9-10.30	TEACH 4-4.30 & BL?	POOL/MED	2/4hrs work? 11-1 & 1.30-3.30	WORK 6.15-10.15 Daytime rehearsals BL?	10.30-11 1-1.30
Fri 7/4	-	BL?	8.30/9.15 MFR/FELDI	2/4hrs work? 11-1 & 1.30-3.30	WORK 6.30-9.45 Daytime rehearsals BL?	10.30-11 1-1.30 3.30-4
Sat 8/4	9-10.30	-	11 POOL/MED	-		AFTER 11
Sun 9/4		-	MED/OCEAN? STR uni?	1 HOUR uni?	WORK 4-9pm	DAY REST

b. RESULTS

DAY/DATE	ACTIVE 1/2 description	HR/DUR/ZONE	PERCIEVED EXERTION	PHYSIOLOGICAL RESPONSE (im)	DELAYED ONSET RESPONSE
Mon 27/3	RO technique (fast progression through standing exercises, no floorwork)	103/ 57.39/ Zone 2 16.36	Borg 15	Hot, poor mental focus, some negative mental dialogue, fatigue/sleepiness	
Mon 27/3	JP improvisation	104/1.25.56/ Zone 1 31.06	Borg 12	Strong, calm, positive adrenaline, energised	Tight lower back and upper leg muscles
Tues 28/3	SP technique (fast progression, floorwork mixed in with exercises, Feldenkrais influence)	102/55.59/ Zone 1 21.12	Borg 13	Sweat, tightness through legs and lower back, relaxed/calm, mental clarity, body felt slightly loosened up	Whole body muscular tightness & fatigue (8pm), feeling irritated and 'wound up' before bed
Tues 28/3	*Did not participate in KH class due to academic work, due readings & poor health*				
Wed 29/3	SP warm up only, floor progressions	100/19/07/ Zone 2 5.45	Borg 16	Hot fevered, tightness around hips, difficulty making decisions	
Wed 29/3	TEACHING OWN PRACTICE: vocal work, occasional low physical	No stats – watch battery low	Borg 9	Body felt integrated, warm, balanced. Inspired, mental stimulation (medium clarity).	Wound up mind before bed, with some remaining muscular tightness and winding.

	engagement.				
Thurs 30/3	NA improvisation class *anatomical & sensory ongoing investigation*	107/1.26/ Zone 1 34.32	Borg 14	Inspired, calm, body feeling strong & connected, sweat (not feverish).	Headaches evening, tightness in lower back.
Thurs 30/3	TEACHING *30mins continuous gentle whole body stretching*	No stats – watch battery low	Borg 12	Heat, warm & stretched muscles, light sweat, satisfied, mental clarity.	1hr later onset of cold symptoms (runny nose, headache, sore throat & cough was noticeable).
Fri 31/3	*Recovery only day*				
Sat 1/4	*Did not participate due to fatigue, having a cold and a pervasive negative mental dialogue*				
Sun 2/4	*Recovery only day*				
Mon 3/4	AW ballet. *Barre and ten-lie centre exercise*	102/1.06/ Zone 1 26.47	Borg 13	Invigorated, feeling strong, quite tight muscles	Poor mental clarity, tightening muscles
Tues 4/4	JR contemporary. *Floor exercise to begin, standing sequences.*	112/1.12/ Zone 1 28.18	Borg 10	Invigorated, feeling strong, some tightness in legs but mostly balanced & energetic. Mental clarity.	NEXT DAY EFFECTS: Wednesday morning groggy. Mid-morning headache & mental fogginess.
Wed 5/4	TEACHING OWN PRACTICE. *High mental & physical exertion.*	112/1.44/ Zone 2 47.18	Borg 13	Felt brain-dead after class, no physical fatigue, but could not think straight & had a headache.	High body temperature through evening, extreme difficulty winding down mentally.
Thurs 6/4	TEACHING OWN PRACTICE to 3rd years (30mins) then SE class.	114/1.19/ Zone 2 27.15	Borg 12	Sweat, feeling strong & invigorated, medium - high mental clarity.	
Thurs 6/4	TEACHING OWN PRACTICE to LINK	No stats – watch battery low	Borg 10	Feeling of joy, mental clarity, connectedness, body relaxed	Some muscular fatigue (normal) next day
Fri 7/4	*Recovery only day*				
Sat 8/4	Ocean swim as activity today, low - moderate exertion		Borg 8	Muscular tightness/physical discomfort was eased.	
Sun 9/4	Moving furniture &			High stimulation, unable to calm	Sore back, arms, shoulders and

	domestic tasks (cleaning) – unplanned but these tasks ended up being high exertion activity for today			down.	neck. Ongoing feeling of being wired and overwhelmed with tasks.

DATE (cont)	RECOVERY (desc.)	DURATION	PERCIEVED QUALITY	PRE/POST ACTIVITY REST	MID ACTIVITY REST	NOTES
Mon 27/3	a. 8.45am warm water swimming b. 8.30pm MFR	a. ½ hour b. 10mins	Low - Medium	RO: immediate start & 1.30-2pm slow stretching JP 4-4.10 constructive rest	RO: supine power nap AFTER 57min participation. JP obsv 20% of class time for this lesson.	Increased comfort & length through spine (pool)
Tues 28/3	a. Hot drink, food, shower & sleep b. Massage	a. 11.45am-12.45 1 hr b. 25mins	a. High b. Low	8.50-9.30am MFR/stretching 10.30-11am MFR/stretching	None	Morning MFR unravelled hip & back discomfort. Felt stiff & slow to warm up in morning
Wed 29/3	a. extra sleep 8.30am b. MFR 12.30	a. 2hrs (add to 9.5 over night) b. 30mins	a. High b. Low - Medium	MFR immediately pre-activity, help to unwind musculature but fatigue was high due to illness Short rest & meditation pre-teaching	None in SP or teaching, but both have restfulness welcome & built into their structure	Started Sue's class with good warm up & physical balance, fatigued quickly due to illness & distraction of academic workload
Thurs 30/3	a. rest & swim at pool 1pm b. shower & MFR	a. 40mins b. 20mins	b. High b. Low	After NA class lying down supine/sitting resting for 15mins	Occasional supine rests in NA class, mostly engaged & working high physical exertion throughout	Great mental release came from giving self permission to rest & swim during the day, let go of academic concerns
Fri 31/3	a. Feldenkrais b. Supine/ mediation/	a. 1hr 15mins b. 20mins	a. High a. High		Feldenkrais lesson spent entirely supine, occasional sitting.	Travel through city okay.

	Alexander tech					
Sat 1/4	a. Ocean swim b. Sleep	a. 30mins b. 1hour	a. Low b. High			Ocean swim was active, cold water difficult to tolerate. Sleep permitted pre-work shift.
Sun 2/4	a. Ocean surf & swim (moderate activity) b. Sleep	a. 1hour b. 2.5hrs	a. Medium b. Poor	a. Lay down immediately after surf/swim		Afternoon sleep interrupted evening – trouble falling asleep at night
Mon 3/4	a. Pool	a. 10mins active, 30mins passive	a. High	a. Neglected pre class warm up, 15mins stretching & MFR post ballet class	Lying supine once, obsv two other groups in centre practice	Long computer hours significant contributor to loss of mental focus
Tues 4/4	a. TCM acupuncture/rest b. Ocean	a. 1hr b. 40mins	a. High b. Low rest quality (felt notably energised & was thus very active in the water)	Post class supine 5mins only, then computer work	Did not feel the need to rest supine until conclusion	Accumulative fatigue: class & two afternoon recovery activities were good, evening social & domestic duties pushed me over
Wed 5/4	Neglected recovery until 9.45pm			Neglected rest pre/post activity	Neglected rest during activity – teaching LINK high energy exertion	Morning social commitment, work shift & afternoon meeting = overload
Thurs 6/4	No dedicated recovery activity			15mins rest/stretching pre & post class, medium quality.	One supine rest at 1hr (with 19mins left)	Noticed HR at 68 when sweating & really working. Correlation between sense of exertion & HR not precise.
Fri 7/4	a. Feldenkrais b. Pool swim (cold water only)	a. 1hr 15mins b. 15mins	a. Medium (lots of conversation compromised rest quality)		Feldenkrais lesson spent entirely supine, occasional sitting.	Evening outing Thursday, busy day Friday – tiring domestic &

			b. Low - medium			administrative tasks.
Sat 8/4	a. Sleep 1.30pm b. Bath	a. 50mins b. 15mins	a. High – but not an ideal choice for recovery b. Low – did reading in the bath so mental strain continued despite physical rest			Beach swim difficult to assess as active or recovery, low level exertion, cold water.
Sun 9/4	Sleep 11.30am-12.20noon	50mins	a. High – but not an ideal choice for recovery	None – neglected effective physical or mental prep or recovery for domestic tasks (cleaning & moving furniture)	None – neglected effective physical or mental breaks during domestic tasks (cleaning & moving furniture)	House work all day combined with employment work shift 4-7pm. Feeling stressed.

DATE (cont)	**MENTAL/EMOTIONAL (overall)**	**POSITIVE INFLUENCE FACTORS (overall)**	**NEGATIVE INFLUENCE FACTORS (overall)**	**NOTES (including computer work)**
Mon 27/3	Disappointed with short participation in first class. Clarity & calmness is generally high. Low arousal/steady work ethic.	Swimming in the morning helped to loosen body. Lowered computer hours helps reduce fatigue and physical discomfort.	Significant lower back discomfort/tightness. Due to weakness in legs & back. Strength development lacking. MFR & stretching assists management of this.	Familiar technique class can be haven/I can also become disinterested. Improvisation is always invigorating for me.
Tues 28/3	Patient, clear headed, accepting. Vague concern about academic workload. Became frustrated with tight body in evening.	Slow morning arrival time & long post-class recovery was essential. Evening massage didn't relieve muscle tightness, sleeping 8.30-6am & 8.30-10.30am did!	Itchy throat & slight fever; oncoming cold due to change of weather? 2hrs computer work contributed to tightness & discomfort in body.	Gave permission for day time sleep (Tuesday mid morning & Wednesday after breakfast) because of cold coming on.
Wed 29/3	Impatience with academic work (lack of clarity & progress), patience with illness, desire to dance	Extra sleep in the morning. Being well organised & prepared for teaching reduced stress & increased presence.	Illness; fever, cough, sneezes and runny nose. Difficult to tolerate 2hrs computer work - tightness & discomfort in back & mental fatigue.	Reduced effort today due to illness. Giving myself permission for rest as much as possible.
Thurs 30/3	Stressed by academic workload &	Recognised stress, reduced	Illness; in the morning I just had a small	Dancing helped to reduce my

	unclear on how to progress. Feeling unsupported & tired of self motivating. Frustrated by niggles in my back & unsure how to treat those areas effectively.	activity, activated support network, took time to rest & recover, ate well. Computer work in supine position significantly reduces physical discomfort.	cough, but by the evening fever, bad cough, sneezes & runny nose had returned.	feeling of isolation today. I was more fatigued before dancing than after.
Fri 31/3	Sad/tired, cold still bothering me. Reasonable mental clarity.	Took public transport in afternoon instead of driving. Lay supine for 25mins in afternoon; highly rejuvenate.	Cold still includes cough and some fever. Academic and administrative load high, mind races trying to prioritise.	Computer work 11-1 extended to 2pm with poor posture & stimulating conversation.
Sat 1/4	Extremely upset, anxious, easily irritated.	Permission to rest at home and take afternoon sleep as recovery.	Osteopath's work on Friday afternoon seems to have irritated my nervous system.	Late Saturday night work shift included brisk walk & going to sleep late.
Sun 2/4	Unfocused, slow to make decisions, mentally foggy.	Taking a break from academic thinking and workload gave mental relief. Reconnecting to social network. Ocean water had positive impact on body.	Tired from work shift night before. Beach trip sun & active surf/swim also made me tired. Big sleep in afternoon was hard to wake up from & interrupted my sleep in the evening.	Poor application to all weekend recovery.
Mon 3/4	Frustrated that I can't physically be involved with dancing as much as I would like to be & that academic work takes time away from physical research/learning.	Ballet teacher gave positive response to my presence, ballet class was mainly a strength activity (for me). Pool visit included some cardio then high quality recovery.	Did not have the timetable prior to arriving. Unplanned day & unknown teacher/class styles jeopardised my ability to maximise resources & recovery.	Poor posture on morning computer work, afternoon supine.
Tues 4/4	Focused, driven, mentally clear. Strong reserve of physical energy: I felt annoyed with lack of opportunity for cardio & high intensity in the dance class.	Slept & ate well over last 24hrs & cold has improved. Resultant physiological improvement is noticeable.	Feeling isolated in solo research & pursuits, high academic workload inhibited full use of physical potential today.	Students were reviewing their assessment exercises. I participated as best I could but found myself either bored with known exercise or unclear & copying. Still managed to get physically working.
Wed 5/4	Medium – poor level of mental	NO POSITIVE INFLUENCE	Poor breakfast, missed lunch. Over	This was an allocated rest

	clarity. Mood generally positive & patient with occasional dips of negative mental dialogue.	FACTORS. Recognised this by 9.45pm, took 1 hour to actively wind down – shower, meditation, MFR. Expecting a backlash/setback Thurs 6/4 (?)	committed, neglected all rest breaks during the day, neglected dedicated recovery activity. Evening computer work. TEACHING: my focus was on giving the dancers what they needed (more intensity & pushing). This compromised by ability to listen to myself & I was not particularly restful within teaching the practice.	day that was quickly filled with money earning, connecting socially, and a meeting re. thesis. This was driven by my high energy level Tuesday but also by financial pressure, desire to reduce feeling of isolation & frustration with academic pressures.
Thurs 6/4	Happy, calm, energetic with a desire to move & work with body. Listening well to physical sensations.	Good breakfast, slept well. Felt welcomed & connected to 3rd year dance class & teacher Scott Ewen.	No dedicated evening recovery activity. Posture & physical comfort was challenged by long hours of computer work.	Long hours of computer work necessary for academic load. 11.45am – 2.30pm with 2 rest breaks 12.45 & 1.45pm. Evening computer work 7.30-8.15pm.
Fri 7/4	As the day passed my fatigue & mental fogginess increased. Physical discomfort from sitting position. I found it difficult to be productive with all/any computer tasks, but tried to persevere.	Afternoon swim as recovery – a welcome relief which interrupted the pervasive fatigue due to extended computer work session. Positive influence factors were Insufficient today.	Lack of rest between domestic, administrative activities and computer work during the day. Poor lunch and evening meal.	Computer work 12.30-3pm with no breaks. Swim (cold water) afterwards brought notable mental and physical relief.
Sat 8/4	Morning fatigue, sleep helped, physical discomfort, which is structural/reveals weakness and/or imbalance but is also evidence of fatigue.	Good rest breaks and movement during afternoon study session, applying all care techniques. Focus and patience.	Daytime driving/domestic tasks resulted in poor cognitive quality. Thus slow progress (with unexpected necessary administrative tasks) extended computer hours.	Computer work 3-5pm with effective movement breaks. Daytime sleep reveals significant fatigue & imbalance. It mends the immediate situation but can negatively impact overall recovery.
Sun 9/4	Stressed, tired, frustrated with fatigue. Not thinking clearly so		Moving a wardrobe was a highly physical task. I became stressed during the day	Computer work 8.30-9.30pm. The necessity of a

	unable to get academic work done or plan effective time management. Became busy for an extended time with domestic chores due to poor planning, low self awareness and difficulty making decisions.		about domestic & academic pressures. Active housework lasted for duration of <3hours. Evening activities Friday, Saturday & Sunday had an accumulative effect on fatigue & my lack of attention to self-care.	daytime sleep reveals significant fatigue & imbalance. Sleep mends the immediate situation but can negatively impact overall recovery.

c. REFLECTIONS and TRAINING PLAN

Main observation: *External life factors have a impact on success or poor results in recovery*
It is impossible to isolate the physical activity or recovery items recorded here as the specific cause or improvement of my fatigue levels, because energy exertion occurs continuously and unpredictably in aspects of life external to the research. As an Honours student using this recovery as research, there are significant academic requirements besides the physical. All of this combined means that I am undertaking a continual balancing act which includes managing computer work, social activities, the necessity to earn money and attend to domestic duties and etc. and my tolerance in all of these areas are (overall) improving simultaneously. What might this say about dancers in an undergraduate or Honours environment, in regards to their academic and external commitments impacting their training demands?

RECOVERY OPTIONS GOING FORWARD

If I were to continue my recovery process in the dance environment, I would make the following adaptations in an effort to see greater improvement in physical outcomes (increased strength, endurance and tolerance for physical engagement in dance classes).

Plan for continued recovery in the dance environment

1. Completely remove academic pressures and deadlines wherever possible.
2. Maintain reading for pleasure and interest - keep cognitive interests and action invigorated but ensure that time spent reading is not taxing physically or mentally (1-2hour daily maximum and listen to signs of fatigue)
1. Limit any computer work to 2 maximum hours on any given day, must take 1-2 movement breaks in that time and must not be after dark. Work in supine position not seated.
3. Limit mobile phone use as much as possible, use talk-to-text on phone wherever possible, don't use phone at all on public transport or after dark.
4. Participate in somatic based and/or improvisation dance classes up to 4 per week.
5. Ensure 30min preparation prior to every class including meditation and appropriate strengthening activities

6. Dedicated 1hr recovery after every dance class – gentle stretch, mediation (or other intentional rest practice), pool
7. Allocate studio time for personal dance practice up to 1hr, twice per week.
8. Take one short bike ride commute per week. Begin with 15mins maximum duration each way (increase this gradually later on), don't carry any backpack.
9. Continue external recovery and support activities at a balanced level including; high quality and consistent diet, good sleep habits, mindfulness of taxing travel times or long social activities, minimise evening work hours, include somatic practice, massage, gentle walking, ocean swims when possible/necessary.
10. Collect rolling results in a simple way for evidence of progress, on-going clarification and personal motivation.
11. Never exercise through a fatigue setback – instead increase recovery activities and mental relaxation. Take extra rest around cold/other illness and menstruation. Reduce physical workload if social, emotional or other stressors emerge.

I believe that my health condition will continue to improve with these efforts above. If I isolate my recovery to the dance environment however, there remains a significant lack of intensity activity. I will need to improve my awareness and efforts in increasing my body's tolerance of high intensity activity.

A more optimal recovery plan is listed below. It utilises the dance environment while also accessing other resources as necessary for improving my physical capacity.

Optimal recovery plan - utilisation of dance environment with additional resources

1. Completely remove academic pressures and deadlines wherever possible.
2. Maintain reading for pleasure and interest - keep cognitive interests and action invigorated but ensure that time spent reading is not taxing physically or mentally (1-2hour daily maximum and listen to signs of fatigue)
3. Limit any computer work to 2 maximum hours on any given day, must take 1-2 movement breaks in that time and must not be after dark. Work in supine position not seated.
4. Limit mobile phone use as much as possible, use talk-to-text on phone wherever possible, don't use phone at all on public transport or after dark.
5. Participate in somatic based and/or improvisation dance classes 2 only per week.
6. Ensure 30min preparation prior to each dance class including meditation and appropriate strengthening activities
7. Dedicated 1hr recovery after each dance class – gentle stretch, mediation (or other intentional rest practice), pool
8. Allocate studio time for personal dance practice up to 1.5hrs, once per week only.
9. Two high intensity activities per week, 30-45mins maximum duration, monitoring heart rate through higher zones. Swimming or running alone would be ideal for this. 15minute minimum preparation time, include appropriate strengthening exercises. 20minute minimum recovery time, include stretching and meditation.
10. At least one somatic practice session per week, ideally 2 (Alexander Technique and Feldenkrais)

11. Yoga class or personal yoga session up to 1hour, once during the week. Begin with yoga style of a low workload (eg. yin, hatha) and later increase to higher workload yoga (iyengar, ashtanga).
12. Take one short bike ride commute per week. Begin with 15mins maximum duration each way (increase this gradually later on), don't carry any backpack.
13. Continue external recovery and support activities at a balanced level including; high quality and consistent diet, good sleep habits, mindfulness of taxing travel times or long social activities, minimise evening work hours, include somatic practice, massage, gentle walking, ocean swims when possible/necessary.
14. Collect rolling results in a simple way for evidence of progress, on-going clarification and personal motivation.
15. Never exercise through a fatigue setback – instead increase recovery activities and mental relaxation. Take extra rest around cold/other illness and menstruation. Reduce physical workload if social, emotional or other stressors emerge.

Appendix 3

LINK teaching journal

Excerpts of personal reflections and dancer surveys

This appendix item provides a sample of journal entries and reflections recorded while teaching my personal dance methodology to the LINK Dance Company. A substantial amount of my planning and reflection is not included – the selected excerpts are specific to the notions of 'GO', 'antiGO' and *REST*, which I integrated within the dance improvisation framework to form the foundation of my teaching pedagogy. I taught eight 90-minute warm-up classes over a six-week period in March and April 2017. There were eleven company dancers and eight sample feedback surveys (four taken halfway through the teaching period and four taken at the conclusion) are included as part of this Appendix Item.

Excerpts of personal reflections

Excerpt 1: Planned outcomes for the LINK dancers

Increased agency
Achieved via a class paradigm shift. In this work, what matters is not what I see but what they feel, what they need and their developing awareness and autonomy. I hope the practice encourages the dancers to become truly responsible for their own preparation, and for their own moment-to-moment curiosity and attention. By working within the structure but utilising the freedom that is offered, they may develop and follow new, personal and more substantial interests in working with their own individual body. Possible outcomes; more self-understanding of/information about their own optimum working state (physical, performative). Collecting new ideas, personal tools and motivation in achieving that.

Increased internal sensitivity
The scope and detail of what the dancers can feel expands what they can therefore choose to move and access in dance/creation/performance, on minute through to macro levels. The possible outcomes of honing and increasing internal sensitivity are: increased movement scale (quiet, pedestrian, loose, intricate, powerful, virtuosic etc. among many), greater sense of the whole body, more pieces of the body that can mobilise and express, more movement qualities, more ability to choose/awareness of choice.

Awakened external sensitivity
I will encourage the dancers to attend to and develop their presence; ask them to really see and listen to each other and the space. I invite them to a process of working in a deepening internal way that simultaneously opens externally and remains present, attentive, receptive and real. We will attend to the texture of seeing/the different ways to see. We will generate and shift the energetic charge in our bodies and the space as part of this pursuit. Possible

outcomes; improved performance presence. Improved cognitive and receptive qualities that may be useful in creative process and other company work. Possible increase in ecology of the group/company cohesion (connectedness, joy, support).

Key outcomes*:*
Increased mindfulness and self-awareness; underpinning the whole practice. I continually offer my ideas without expectation (but with irreverence and space for choice), give absolute permission for rest, and invite an ongoing practice of *noticing*.

Expansion of sensory access; as part of and as a result of both internal and external listening.

Expansion of imaginative space; as part of and as a result of increased agency – particularly if imagination is a tool that excites and enriches their personal ability to work). Possible opening and increase of confidence for the dancers into other physical/theatrical realms for example, voice, humour, irreverence, playful interactions.

Expansion of energetic scale: as part of and as a result of both internal and external listening, and utilised within 'rest practices and permission for rest'. Within this notion I hope to encourage the dancers to begin establishing an understanding of their natural (personal) swell and retreat of energy. Through this they may begin to consider the potential of embodied attunement as a way of generating great power, deeper rest, and more sustainable, attentive ways of working.

Excerpt 2: Basic structure of ideas for each teaching session (90 minute class)

1.	Noticing	*(internal/external listening)*
2.	Comfort	*(shake it off – if necessary. Must introduce REST PRACTICES here.)*
3.	Softness *imagination/texture*	*(ease)*
4.	Thickness *texture/imagination*	*(warming, strengthening)*
5.	Form	*(potential, power)*
6.	Clarified/codified effort	*(action, build)*
7.	Breath/voice	*(block/allow/create)*
8.	Interrupt/trip	*(multiplicity, snap, internal/external listening - REVISIT*)
9.	R . E .	*(release, expand, repeat, enter. Rest practices - REVISIT)*
10.	*i. f.*	*(any word starting with 'i' or 'f' or follow instinct here based on what is needed)*

The practice progresses in layers, each idea remaining as a new idea is introduced. I will be present and working in the practice as well as guiding the dancers with my voice and movement. The choices I make that move the practice forward come from a combination of observation (the dancers' response and what I predict may evolve their engagement) and an internal attention (listening to and progressing my own embodied information).

Excerpt 3: Selected reflective journal excerpts

The 'Basic structure for each teaching session', that I outlined above, consists of a series of key words, which read simply, but when I speak to myself in the practice, these simple key words allow me immediate access to my entire body of knowledge. This 'body of knowledge'

refers to the body I have been living in for 26 years. This 'body of knowledge' refers also to the collected information I have been attentively developing over five years as a professional independent dance artist, including the learning and practice of a range of somatic, sensory and mindfulness techniques. My question to myself after the first session working with the LINK dancers was; should I persevere with using these key words and allow the dancers to make choices and work with whatever skills they have at their disposal, or should I flesh out some singular somatic, sensory and/or mindfulness notions, and then lead corresponding exercises for specific skill development in these areas? I decided to do a little of both. I intend to simplify ideas, stay with concepts for longer, at times lead clear activities and give more directives to the dancers in an effort to assist their somatic/sensory/mindful development.

At the same time, inviting the dancers to operate with choice, autonomy, curiosity and permission to rest at any time, is essential to this practice. I don't expect to see anything in particular and I am excited by new interpretations of my offers. I believe these pre-professional dancers should be able to attend to their own needs as necessary and without explanation. I do hope that these dancers can begin to discover what genuinely interests and excites them in the process of working with their individual moving body. When I see someone engaged in a way that reveals curiosity, vitality and a deepening connection of body - mind, then I feel my practice is making an impact. The action the dancer is performing is unimportant, but the quality of their thinking, sensing and noticing (really attending to the work), is evident to me within their physicality.

On noticing: noticing is key to this practice. It is not merely the arrival act. It is an undercurrent that runs throughout the work. Self-observation without judgment assists with undoing inhibitions and allows space for curiosity. Noticing natural tendencies creates an opportunity to make choices and challenge personal boundaries/expectations. Verbalising my own noticing (during my commentary/guidance through the work) removes assumption that any person's experience is the same as another's. It makes way for irreverence, humour, playfulness, and through it I experience a continually expanding presence - I find myself genuinely discovering and responding to the practice as it unfolds.

I am asking these dancers to listen to themselves in the way that I listen to myself. I am offering tools, but I am suggesting that they find their own way, follow their own instincts in response to my attempts to articulate my listening process. I am learning more about how I can make this suggestion (and absolute permission for rest) both explicit and implicit within the practice. This practice is not something to be achieved, it is a process through which we can meet with ourselves, and that is of greater importance than any codified outcomes.

The idea of the 'personal energetic landscape' encompasses listening to and respecting individual desire to GO or rest, to notice habit, make new choices and also to consider the concepts in more complex and less binary ways. Just some of the dancers' observations around this notion include that; rest does not necessarily mean inactivity, GO is not always manifest in high energy exertion, a sense of rest or GO may occur in different ways/at different times cognitively, creatively and physically, sources or shifts of energy are generated both internally and externally.

I wholeheartedly believe that an embodied attunement to (and an intelligent navigation of) personal energetic peaks and troughs has empowered me to effectively recover from illness and return to dance. I also believe that it could provide vital tools for these dancers, (whether just briefly engaging with the ideas or exploring and mastering it in their own way),

both in navigating a demanding training environment and also in honing their greatest possible physical power combined with a deep embodied sensitivity. These are qualities that can make a dancer a truly expressive and athletic performing artist.

'Rest' as a dominant concept and the challenges of rest in this environment
It seems to me that the modern environments in which we live and work do not promote or allow for adequate rest, and that the dance environment, far from being an exception, propagates a culture of overwork. In relation to working with LINK, I realised I would need to be specific and directive with the parameters for rest that I offered in my teaching. My efforts around this included:

- allowing adequate time for somatic investigation but not so long that the dancers might lose interest and take 'rest' as an easy way out
- offering specific tools for use in the 'active' rest practices while also inviting personal application/interpretation
- balancing opportunity for rest with opportunity for GO, providing moments for the dancers to channel and make use of their powerful energy
- transitioning gradually from prescribing times of focused rest or intense activity toward allowing the dancers to choose
- designing group improvisation scores which effectively facilitated this process of choice

It was fascinating to observe the extended time it took some dancers to move towards a quiet, still, listening place within the work, as if they habitually exist in a state of high arousal. I believe that in some cases, the true depth of rest was also compromised due to the actual fatigue of the dancers; they could not permit themselves to deeply rest for fear that they would not be able to begin again. Within the scope of this short teaching period, I have witnessed the mere initiation of rest (as a concept and practice, as an attentive process and as a possibility within action), as an effectual experience for most of the dancers. Those possessing a genuine curiosity and more sophisticated sensitivity gave insightful written reflections on both of the surveys, and may in future independently pursue the notion of rest for themselves.

Finally, the listed outcomes for my own learning were all successful. I will now conclude with a verbal journal entry that describes my most notable personal learning outcome.

"I became more accomplished in stepping out to observe the dancers at work while still remaining deeply attentive within myself. I repeatedly and successfully used evidence of the dancer's engagement as the springboard for an evolution in my offers, but I always listened to myself inside that process, asking my own physical experience for information and drawing the language I would use from within that embodiment. I thus became newly aware of conserving and channeling my personal swell of rest and GO. This is something I do when working for myself within the practice, but I have now learned to employ it within the role of teacher/guide. When I give myself even momentary permission to rest, my mind often clears and I realise the best way to continue the practice. Just as I ask the dancers to pay moment to moment attention, to make independent choices, to permit rest, to listen internally as much as see externally, these are the things that I must do to ensure that I am successful in leading and enriching the practice for us all."

Dancer surveys – see following

-Four surveys taken halfway through the teaching period
-Four surveys taken at the conclusion of the teaching period

HALFWAY SURVEY SAMPLES 1 & 2

THESE QUESTIONS RELATE TO EMBODIED PRACTICE (class time) with Daisy. Please circle *one or multiple* answers to each question.

1. I get a heightened sense of my whole body
Definitely - Often - Sometimes - A little - Not at all

2. I notice things about myself/my body that I haven't noticed before
Definitely - Often - Sometimes - A little - Not at all

3. Imagining sensations then experiencing it physically is
easy pleasurable takes time uninteresting
fascinating curious difficult dependent on my mood
other _____

4. I am finding more comfort and ease in movement
Definitely - Often - Sometimes - A little - Not at all

5. I realise new understandings about rest
Many - Some - None at all If many or some, what are they?:
The fact that you can be moving while at rest – its a different feeling/sensation to putting in 100% effort

6. I feel permission (during the practice) to
rest look after myself accept my thoughts do what my body needs
have fun move how I want speak laugh follow my own interests

***THESE QUESTIONS RELATE TO OUTSIDE OF THE PRACTICE (rehearsal or daily activity). Circle *one* answer to each question.**

1. I notice things about myself/my body that I haven't noticed before
Definitely - Often - Sometimes - A little - Not at all
2. I am finding more comfort and ease in movement
Definitely - Often - Sometimes - A little - Not at all
3. I reflect on how I might actively develop my performance presence
Definitely - Often - Sometimes - A little - Not at all
4. I reflect on how I might expand my energetic scale (as a dancer)
Definitely - Often - Sometimes - A little - Not at all
5. I reflect on how I might generate new textural qualities (as a dancer)
Definitely - Often - Sometimes - A little - Not at all
6. I have noticed (and/or actively changed) the quality of my seeing
Definitely - Often - Sometimes - A little - Not at all

THESE QUESTIONS RELATE TO EMBODIED PRACTICE (class time) with Daisy. Please circle *one or multiple* answers to each question.

1. I get a heightened sense of my whole body
Definitely - Often - Sometimes - A little - Not at all

2. I notice things about myself/my body that I haven't noticed before
Definitely - Often - Sometimes - A little - Not at all

3. Imagining sensations then experiencing it physically is
easy pleasurable takes time uninteresting
fascinating curious difficult dependent on my mood
other _____

4. I am finding more comfort and ease in movement
Definitely - Often - Sometimes - A little - Not at all

5. I realise new understandings about rest
Many - Some - None at all If many or some, what are they?:
That you can make difficult things/task easier.

6. I feel permission (during the practice) to
rest look after myself accept my thoughts do what my body needs
have fun move how I want speak laugh follow my own interests

THESE QUESTIONS RELATE TO OUTSIDE OF THE PRACTICE (rehearsal or daily activity). Circle *one* answer to each question.

1. I notice things about myself/my body that I haven't noticed before
Definitely - Often - Sometimes - A little - Not at all
2. I am finding more comfort and ease in movement
Definitely - Often - Sometimes - A little - Not at all
3. I reflect on how I might actively develop my performance presence
Definitely - Often - Sometimes - A little - Not at all
4. I reflect on how I might expand my energetic scale (as a dancer)
Definitely - Often - Sometimes - A little - Not at all
5. I reflect on how I might generate new textural qualities (as a dancer)
Definitely - Often - Sometimes - A little - Not at all
6. I have noticed (and/or actively changed) the quality of my seeing
Definitely - Often - Sometimes - A little - Not at all

HALFWAY SURVEY SAMPLES 1 & 2 (side b)

Thursday 16/3/17 at 4 - 4.30pm

What you do...

- Standing - checking in with body
- Shaking parts of body, gradually whole body shaking.
- Stopping still feeling resonance of shaking - use this to begin movement.
- Moving through resting states and high/full energy states
  - following my own intuit, responding to how my body feels/ what it needs.

Noticings...

- Internal/external focus:
  I was trying to consider being externally focussed throughout the warm-up as it is something I generally ~~don't~~ do. As soon as I start sensing inside my body this instantly drops away though.
- Resting state of movement was the soft feeling of oil in joints - very easy and could do it for a long time.

Thursday 16/3/17 at 4 - 4.30pm

What you do...

Constructive rest - Body Scan.
Massage, whole body (focus feet)
Small stretches in tight area's.
Repetitive releases

Noticings...

I listen to what my body needs
I am focused on myself and do not let others distract me.
I feel disconnected from others - yet they are on there own journey of warming up. - I accept that.
My breath is a part of my warm up.

HALFWAY SURVEY SAMPLES 3

THESE QUESTIONS RELATE TO EMBODIED PRACTICE (class time) with Daisy. Please circle *one or multiple* answers to each question.

1. I get a heightened sense of my whole body
Definitely - Often - [Sometimes] - A little - Not at all

2. I notice things about myself/my body that I haven't noticed before
Definitely - Often - Sometimes - [A little] - Not at all

3. Imagining sensations then experiencing it physically is
easy pleasurable [takes time] uninteresting
fascinating curious difficult dependent on my mood
other _____

4. I am finding more comfort and ease in movement
Definitely - Often - [Sometimes] - A little - Not at all

5. I realise new understandings about rest
Many - [Some] - None at all If many or some, what are they?:
THAT A REST IS AN ACTIVE REST, NOT COMPLETELY SHUTTING OFF.

6. I feel permission (during the practice) to
[rest] look after myself [accept my thoughts] do what my body needs
have fun [move how I want] speak laugh follow my own interests

THESE QUESTIONS RELATE TO OUTSIDE OF THE PRACTICE (rehearsal or daily activity). Circle *one* answer to each question.

1. I notice things about myself/my body that I haven't noticed before
Definitely - Often - [Sometimes] - A little - Not at all
2. I am finding more comfort and ease in movement
Definitely - Often - Sometimes - [A little] - Not at all
3. I reflect on how I might actively develop my performance presence
Definitely - [Often] - Sometimes - A little - Not at all
4. I reflect on how I might expand my energetic scale (as a dancer)
Definitely - Often - [Sometimes] - A little - Not at all
5. I reflect on how I might generate new textural qualities (as a dancer)
Definitely - Often - [Sometimes] - A little - Not at all
6. I have noticed (and/or actively changed) the quality of my seeing
Definitely - Often - Sometimes - [A little] - Not at all

4

THESE QUESTIONS RELATE TO EMBODIED PRACTICE (class time) with Daisy. Please circle *one or multiple* answers to each question.

1. I get a heightened sense of my whole body
Definitely - Often - (Sometimes) - A little - Not at all

2. I notice things about myself/my body that I haven't noticed before
Definitely - Often - Sometimes - A little - (Not at all)

3. Imagining sensations then experiencing it physically is
easy (pleasurable) takes time uninteresting
fascinating (curious) difficult dependent on my mood
other _____

4. I am finding more comfort and ease in movement
Definitely - Often - (Sometimes) - A little - Not at all

5. I realise new understandings about rest
Many - (Some) - None at all If many or some, what are they?:
I can rest while running if I pay attention to my body

6. I feel permission (during the practice) to
rest (look after myself) (accept my thoughts) (do what my body needs)
have fun move how I want speak laugh follow my own interests

THESE QUESTIONS RELATE TO OUTSIDE OF THE PRACTICE (rehearsal or daily activity). Circle *one* answer to each question.

1. I notice things about myself/my body that I haven't noticed before
Definitely - Often - (Sometimes) - A little - Not at all
2. I am finding more comfort and ease in movement
Definitely - Often - Sometimes - (A little) - Not at all
3. I reflect on how I might actively develop my performance presence
Definitely - Often - Sometimes - A little - (Not at all)
4. I reflect on how I might expand my energetic scale (as a dancer)
Definitely - Often - Sometimes - A little - (Not at all)
5. I reflect on how I might generate new textural qualities (as a dancer)
Definitely - Often - Sometimes - A little - (Not at all)
6. I have noticed (and/or actively changed) the quality of my seeing
Definitely - Often - Sometimes - (A little) - Not at all

HALFWAY SURVEY SAMPLES 3 & 4

Thursday 16/3/17 at 4 - 4.30pm

What you do...

I WENT THROUGH FAMILIAR MOVEMENTS & PHRASES THAT MY BODIES USED TO DUE TO SORENESS & TIREDNESS. FOCUSED ON FINDING THE 'REST' MOMENTS.

Noticings...

I FOUND MY MUSCLES WERE THAT LITTLE BIT TIGHT, SORE & FATIGUED SO IT WAS HARDER TO REALLY CENTRE MYSELF AND MOVE AROUND. I NEEDED TO TAKE IT SLOW AND EXPLORE THINGS ONE @ A TIME AS WELL AS DO BASIC COMBINATIONS TO HELP ASSIST WARMING UP.

(side b)

Thursday 16/3/17 at 4 - 4.30pm

What you do...

* Moved how I felt like moving to feel ~~my~~ where my body was at and what it needed

Did some leg swings

Did some pushups

Felt my weight in my hands feet arms legs

Massaged self

Noticings...

* I don't usually warm up with 'dancey' things but for some reason I automatically did that and then was like hey this is not normal

I got warmer than usual

Noticed soreness, tightness, tiredness

CONCLUSION OF TEACHING SERIES SURVEY

1. I am genuinely interested in the IDEAS in this practice:
Definitely - Most - Many - Some - A few - None at all
Always - At times - Rarely - Never

2. I find myself genuinely absorbed by the DELIVERY (manner) of this practice: Definitely - Usually - Sometimes - Rarely - Not at all
It find it: interesting challenging confusing invigorating insightful
liberating really warms me up my curiosity comes and goes boring
connects me to myself connects me to others restful fun

3. I would like to engage with the ideas/manner of this practice (or simila styles of practice) in the future of my dance pursuits:
Definitely - Probably - Perhaps - I'll just see what happens - Unlikely - No

4. I have/am developing my own practice/ this work has impacted it:
Yes/huge impact Yes/small impact Yes/impact unclear as yet
Yes /no impact Practice very new No practice

5. Circle areas in which this practice has *initiated* ideas/skills for you:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environmen
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

6. Circle areas in which this practice has *developed* your ideas/skills:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environmen
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

7. Ways in which the practice has already/might impact my work in LINK:
going into rehearsals after taking part in this practice, helps me feel quite ready creatively. When we are looking I find I have access to more textures and diverse ways of moving.

SAMPLES 1 & 2

1. I am genuinely interested in the IDEAS in this practice:
Definitely - Most - Many - Some - A few - None at all
Always - At times - Rarely - Never

2. I find myself genuinely absorbed by the DELIVERY (manner) of this practice: Definitely - Usually - Sometimes - Rarely - Not at all
It find it: interesting challenging confusing invigorating insightful
liberating really warms me up my curiosity comes and goes boring
connects me to myself connects me to others restful fun

3. I would like to engage with the ideas/manner of this practice (or similar styles of practice) in the future of my dance pursuits:
Definitely - Probably - Perhaps - I'll just see what happens - Unlikely - No

4. I have/am developing my own practice/ this work has impacted it:
Yes/huge impact Yes/small impact Yes/impact unclear as yet
Yes /no impact Practice very new No practice

5. Circle areas in which this practice has *initiated* ideas/skills for you:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environment
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

6. Circle areas in which this practice has *developed* your ideas/skills:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environment
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

7. Ways in which the practice has already/might impact my work in LINK:
Using improvisation & energetic /awareness scales as part of my warm up or choreographic tasks.

CONCLUSION SAMPLE 1

8. Other impacts I feel this practice may have on me (further dance pursuits, day to day activities, any other impacts):

→ a great way to warm up, after the taking a set class, has helped me notice in ~~my feet~~ when my body is warm and ready to move.

9. The most enjoyable and/or interesting aspect of the practice. Why?

→ Noticing the difference between go and anti-go. I find that if I begin with anti-go I easily transition into go.

→ Working with different textures.

10. The most challenging and/or confusing aspect of the practice. Why?

→ Most challenging for me is working with external awareness while also being focussed on what is happening in my body.

Any other thoughts / your overall response to this experience.

& 2 (side b)

8. Other impacts I feel this practice may have on me (further dance pursuits, day to day activities, any other impacts):

Further investigations in dance textures, falling in and out of my habits.

9. The most enjoyable and/or interesting aspect of the practice. Why?

Most enjoyable was finding rest in different movements as I realised rest was not necessarily zero movement and engagement.

10. The most challenging and/or confusing aspect of the practice. Why?

The most challenging is staying engaged with the power as there is so much information and instigation coming from both myself and ~~the~~ Daisy (the teacher).

Any other thoughts / your overall response to this experience.

After a few sessions it became easier to engage with as I developed my own interest within the structure or exercises set.

CONCLUSION OF TEACHING SERIES SURVEY

SAMPLES 3 9 14

1. I am genuinely interested in the IDEAS in this practice:
Definitely - Most - Many - Some - A few - None at all
Always - At times - Rarely - Never

2. I find myself genuinely absorbed by the DELIVERY (manner) of this practice: Definitely - Usually - Sometimes - Rarely - Not at all
It find it: interesting challenging confusing invigorating insightful
liberating really warms me up my curiosity comes and goes boring
connects me to myself connects me to others restful fun

3. I would like to engage with the ideas/manner of this practice (or similar styles of practice) in the future of my dance pursuits:
Definitely - Probably - Perhaps - I'll just see what happens - Unlikely - No

4. I have/am developing my own practice/ this work has impacted it:
Yes/huge impact Yes/small impact Yes/impact unclear as yet
Yes /no impact Practice very new No practice

5. Circle areas in which this practice has *initiated* ideas/skills for you:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environment
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

6. Circle areas in which this practice has *developed* your ideas/skills:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environment
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

7. Ways in which the practice has already/might impact my work in LINK:
Improvisational techniques which may help with creativity in tasking.

1. I am genuinely interested in the IDEAS in this practice:
Definitely - Most - Many - Some - A few - None at all
Always - At times - Rarely - Never

2. I find myself genuinely absorbed by the DELIVERY (manner) of this practice: Definitely - Usually - Sometimes - Rarely - Not at all
It find it: interesting challenging confusing invigorating insightful
liberating really warms me up my curiosity comes and goes boring
connects me to myself connects me to others restful fun

3. I would like to engage with the ideas/manner of this practice (or similar styles of practice) in the future of my dance pursuits:
Definitely - Probably - Perhaps - I'll just see what happens - Unlikely - No

4. I have/am developing my own practice/ this work has impacted it:
Yes/huge impact Yes/small impact Yes/impact unclear as yet
Yes /no impact Practice very new No practice

5. Circle areas in which this practice has *initiated* ideas/skills for you:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environment
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

6. Circle areas in which this practice has *developed* your ideas/skills:
responsibility for being warm responsibility for my mental engagement
sensitivity to internal environment sensitivity to external environment
awareness of my thoughts awareness of my habits/tendencies in dancing
access to working with sensations access to working with imagination
shifting textural scale shifting energetic scale awareness of ensemble

7. Ways in which the practice has already/might impact my work in LINK:
In difficult moments of rehearsals, I am more aware that I have a choice for active rest.

CONCLUSION SURVEY 3

8. Other impacts I feel this practice may have on me (further dance pursuits, day to day activities, any other impacts):

Awareness of energy & my own responsibility for my energy level.

9. The most enjoyable and/or interesting aspect of the practice. Why?

Following my interest with layers of stimuli & an awareness of energy.

10. The most challenging and/or confusing aspect of the practice. Why?

Reducing my energy really low & then having to reenergise.

Any other thoughts / your overall response to this experience.

& 4 (side b)

8. Other impacts I feel this practice may have on me (further dance pursuits, day to day activities, any other impacts):

There was something significant about the attension drawn to textures, epecially when we walked outside.

9. The most enjoyable and/or interesting aspect of the practice. Why?

— Textures

— Internal/external; closing eyes & blocking ears.

10. The most challenging and/or confusing aspect of the practice. Why?

— Dance the dance you don't know or haven't done.

— This practise made me overthink what I was doing, and I felt like I second guessed my practise.

Any other thoughts / your overall response to this experience.

- From my experience in this practice, I will continue to develop the textural sensation in my warm up, it helps awaken my senses and warms my body.

Appendix 4

Borg scale – ratings of perceived exertion (RPE)

This basic Borg scale was provided to me prior to the research project, when I first commenced Graded Exercise Therapy under the guidance of a qualified exercise physiologist. The ratings classified as moderate effort range from 10 - 14 and these were the ratings most frequently recorded during my research. In the two instances that I recorded a higher RPE, CFS symptoms were present thus my higher perception of exertion was likely to be due to my experiencing post-exertional malaise (PEM).

Rating	Perceived Exertion
6	No exertion
7	Extremely light
8	
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard
16	
17	Very hard
18	
19	Extremely hard
20	Maximal exertion