Cultivating Psychological Determinants of Flow through Autonomy-Supportive Cognitive-Behavioural Training

by

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Abstract

In educational contexts, the deep and intrinsically rewarding engagement characteristic of being in flow is invaluable to the learning process. In addition to contributing to flourishing, psychological growth and development, flow is directly related to the frequency with which a student will actively vie to continue to use and extend their highest skills. A comprehensive framework delineating how to systematically cultivate flow would prove indispensable to those who aspire to optimise their performance or facilitate this strength in others. Still, little research has examined a systematic means of actively nurturing autonomous forms of motivational regulation to engage and the psychological strengths which underlie and promote flow in academic learning contexts. Therefore, the main objective of this small-scale descriptive pilot study was to ascertain the extent to which student-athletes could learn to wilfully cultivate dispositional flow states. It was presupposed that autonomy-supportive cognitive-behavioural training in a collaborative learning environment could in fact facilitate the process. The endeavour was thus approached by establishing a multimodal cognitive-behavioural training program designed to systematically cultivate the nine dimensions of flow. The study adhered to an explanatory sequential mixed methods research design. Thus, the 13 sport science students (four females and nine males) participating in the 12-week seminar completed pretest/posttest dispositional assessments of their locus of motivational regulation, their use of cognitive-behavioural performance enhancement strategies, and flow. In addition, six months subsequent to the intervention, structured interviews were conducted with a subset of the cohort and a thematic analysis of the resultant data set was conducted in an effort to both further interpret and elucidate the results yielded from the quantitative data set. Although the psychometric test findings did not yield unequivocal results, they demonstrated posttest increases in students' intrinsic motivational regulation as well as their use of self-talk, activation, imagery, and attention control strategies. Finally, while all but two student-athletes reported an increase in their general propensity to experience unidimensional flow, unvarying results were not yielded across the multidimensional measures thereof. However, the thematic analysis provided evidence that the student-athletes believed that if employing performance strategies including a systematic goal setting process, arousal regulation, imagery, and self-talk, one *can* in fact cultivate flow if one *wants* to. Therefore, this study contributes to scholarship pertaining to understanding how to deliberately promote flow in similar higher learning contexts.

Key terms: Cognitive-behavioural training, flow, motivational regulation

Abstract

In akademischen Kontexten ist die intrinsisch lohnende Eigenschaft des Flow-Erlebnisses während des Lernprozesses von unschätzbarem Wert. Es fördert das menschliche Aufblühen, ein optimales psychologisches Wachstum und die Entwicklung. Ferner steht die charakteristische völlige Vertiefung in eine Tätigkeit ebenfalls in direkter Verbindung zur Bereitschaft von Studierenden, sich aktiv zu bemühen, ihre höchsten Leistungen zu erbringen und während des Lernprozesses zu verbessern. Ein umfassender Rahmen zur aktiven Förderung des Flow-Zustandes wäre unerlässlich für Leute, die die eigenen mentalen Leistungen optimieren möchten oder anderen helfen, dies zu tun. Jedoch gibt es bisher wenig veröffentlichte Literatur, die sich mit der Frage beschäftigt, inwiefern das Erleben des Flow-Zustands durch eine Förderung der autonomischen Motivation und der psychologischen Fertigkeiten, die vom Flow-Zustand in akademischen Lernkontexten beeinflusst werden, bewusst kontrollierbar ist. Aus diesem Grund soll es Hauptaufgabe dieser deskriptiven Pilotstudie sein herauszufinden, in welchem Umfang Sport-Studierende erlernen können, dispositionellen Flow aktiv herbeizuführen. Es wurde angenommen, dass individualisiertes, selbst bestimmtes mentales Training in einer Autonomie fördernden Lernumgebung diesen Prozess unterstützen kann. Daher wurde ein multimodales, kognitives sportpsychologisches Trainingsprogramm konzipiert, das die neun Elemente des Flow-Zustands systematisch pflegen soll. Dreizehn Studierende der Sportwissenschaft (vier Frauen und neun Männer) nahmen an der 12-wöchigen Pilotstudie teil, die sich an ein erläuterndes, sequenzielles Untersuchungsdesign mit gemischten Ansätzen hielt. Dabei wurden zuerst der Autonomiegrad der Motivation, die verwendeten psychischen Techniken und die Einschätzung des dispositionellen Flows der jeweiligen Athleten quantitativ erfasst. Zusätzlich wurde sechs Monate nach diesen Maßnahmen ein strukturiertes Leitfadeninterview mit einer Teilgruppe durchgeführt. Es folgte eine thematische Analyse der gewonnenen Daten, um sie dann weiter zu interpretieren und die Resultate auszuwerten. Obwohl die psychometrischen Testresultate keine eindeutigen Ergebnisse hervorbrachten, zeigten sie dennoch, dass eine *Posttest*-Erhöhung der intrinsischen Motivationssteuerung tatsächlich auftrat. Weiterhin wiesen die Ergebnisse darauf hin, dass die Mehrheit der Studierenden in der *Posttestphase* Selbstgespräche sowie Aktivierung, Visualisierung und Aufmerksamkeitskontrolle kognitiver Strategien verstärkt verwendet. Während alle Probanden, bis auf zwei Ausnahmen, von einer Zunahme ihrer generellen Tendenz berichteten, unidimensionalen, oder *globalen*, Flow zu erleben, traten gleichbleibende Ergebnisse in den multidimensionalen Messwerten nicht auf. Dennoch hat die thematische Analyse gezeigt, dass die befragten Studierenden glaubten, dass, wenn sie bestimme kognitive Strategien zur Verbesserung der psychologischen Leistung

anwenden wie systematische Zielsetzung, Regulieren des Aktivierungsniveaus, Visualisierung, und Selbstgespräche, Flow in der Tat kultiviert werden *kann*, wenn man will. Aus diesem Grund trägt die vorliegende Arbeit zu einem besseren Verständnis der aktiven Steuerung von Flow in ähnlichen Lernkontexten bei.

Schlüsselwörter: Kognitives Training, Flow, Motivation

Preface

It occurred during a qualifying triple jump event with one last jump to go. I had trained hard and *this* was the season in which I *knew* I would finally break a key milestone in the triple jump. My focus was on me and my performance as it ought to be. Yet my focus was simultaneously a non-focus and I was uncharacteristically calm. When the official called "...in the hole," I continued to relax and breath steadily. I felt confident and strong as I went through my habitual pre-jump routine. I was solely focused on myself—completely oblivious to the other jumpers. I knew the jump was in me because I could *feel* it; I could *see* it. Upon hearing the announcement that I was "...on deck," I felt energized, strong, and fast. I knew that I had done everything I needed to; I was prepared. I visualised the controlled explosion of my full speed and power and I readied to unleash everything I had in me. I inhaled a long, slow, deep breath of strength, confidence... and *trust*. Exhaling, I allowed complete calm to envelop me. **I was up.** I took to the runway and dedicated my focus towards the far end of the pit. "Treetops," I reminded myself, just as I had rehearsed countless times before with my coach in order to ensure that my gaze was focused where my eyes should remain for as long as possible while in flight. I stood poised and almost certainly appeared motionless to spectators. Yet, *I* could feel the ever so slight forward and upward trajectory path of my hips, with my chest up, and shoulders back in preparation for exactly that elevation which was to come once I exploded from the jump. "Hips," I uttered ever so slightly, as I had done so many times in the past. At that point, an albeit brief yet reassuring film unfolded as I actively *saw* and *felt* myself execute the successful jump. I was *ready*; I let go. I don't remember commencing the approach, per se, yet I know it was ideally executed, just as years of rehearsal had taught me how I ought to do it. I was fast and strong. However, when I hit the **hop** and initiating phase of the actual jump, things morphed into slow motion with my forward momentum. I felt like my body had transformed into an incredibly powerful, well-oiled machine, which knew exactly what to do without overt control. It seemingly took hold of and guided me. Although my focus was down the runway, towards and beyond the pit, as it ought to be, in the most astounding manner, I could nevertheless clearly see and *feel* that my leg had automatically, instinctively formed the most absolutely perfect tabletop—*exactly* as my coach had often described and I had tried to learn to physically emulate and mentally rehearse over and over again. Eventually, I hit the **step** phase of my jump. As I soared forwards and upwards, I was completely *in the zone* yet somehow simultaneously aware that I had already travelled an uncharacteristically far distance. My coach and I had discussed and rehearsed jumping to the rhythm of a slow and even drum beat; I felt that *I was* the strong, slow, steady

cadence—and I was *still in flight*. In retrospect, I suppose I instinctively knew: The slower the even beat, the farther the jump. Yet I was not concerned with that. What mattered was that I was *all there* and in the moment—I *was* the moment and performed exactly the way I was meant to. With unexpected strength and power on the final **JUMP** I elevated into the air, my hips soaring high, and my gaze capturing merely pure sky: I was in true flight and it seemed amazingly unending. I vaguely recall one fleetingly awestruck moment of awareness in which I noticed: "I'm still in the air!?" Yet it was not until after the jump that I was able to express my astonishment at what had just happened. Something had taken over me. *I* had taken over me. I had let go of everything superfluous and allowed myself to simply perform what I knew I was *capable* of. That first fleeting instant in which I recognised that something was very different—when I felt my leg form and hold that perfect tabletop position—is an unrivalled and cherished memory. Because the true *might* I experienced in that moment was new and *empowering*. Never before had I seemingly effortlessly jumped to such *perfection*, or so far. Never before had I been so acutely aware of just how strong and *exceptionally* I could perform—*when it all came together*. Surpassing various performance milestones was certainly important for my confidence as a young track athlete. Yet it was never the milestones which left me in awe and feeling exuberantly *alive* in an unparalleled manner. The sheer magnificence of the miraculous experience of my mind and body becoming one and having my dedication and hard work pay off in such an intrinsically rewarding way transformed me. Medals and records came and went yet, to this day, those memories remain pale in comparison to how it felt when I unleashed that one particularly wondrous jump. It was, however, no wonder. I had simply experienced first-hand what can happen when one has worked toward a clear goal, is optimally prepared, and willing to trust and allow oneself to liberate what patiently lies dormant—yet ready and waiting—within. With that one jump, I unleashed the excellence, beauty, and *possibility* I have learned to associate with performing in an optimal mental performance state. And after years of striving for and relishing in it again and again, I now understand that the phenomenon I experienced that day was *flow*.

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Contents

List of Figures

List of Tables

1. Introduction

What if students could learn to be so intrinsically motivated to engage in the learning process that they willingly dedicate themselves to using their utmost skills in pursuit of an equally challenging goal—so fully engrossed that they in fact lose track of time? And when they emerge from the experience, what if they would perceive themselves as more competent, confident, and eager to continue to hone their skills in an effort to experience such optimal mental performance states again? Were this possible, would it not be an imperative that students are taught how to successfully cultivate these very skills? To achieve this, institutions of higher education ought to broaden their focus and facilitate students' cultivation of skills essential for well-being, psychological growth, and development. Especially for student-athletes, true flourishing in performance realms such as academia and athletics should be more than a matter of winning or failing. Success ought to be the consequence of learning to exercise autonomy whilst meaningfully engaged in the learning process. Moreover, success ought to be seen as a reflection of harnessing and capitalising on one's capabilities of their own volition, having fully internalised the value thereof (Ryan, 1995) and with zest for the intrinsic rewards that developmental process holds. If students are to flourish in every domain of their life, their autonomously regulated forms of motivation (Ryan & Deci, 2000a) to be actively engaged in their pursuits of excellence must be fostered. Attention, therefore, ought to be given to the conative (Huitt & Cain, 2005; Little, 1993; Sheldon & Elliot, 1999) dimension of learning: the "mental process that activates and/or directs behaviour and action" (Huitt & Cain, 2005, p. 1). Ideally, explicit attention ought to be given to fostering what Mihaly Csikszentmihalyi (1990) characterises as intrinsically rewarding moments of *optimal engagement*, or *flow*, a quantifiable element of psychological well-being and flourishing (Csikszentmihalyi, 1988; Seligman, 2011; Seligman & Csikszentmihalyi, 2000). A plethora of terms and descriptions have been used to express what flow (Csikszentmihalyi, 1975, 1990) is: *Ultimate* or optimal experience, *being in the zone*, and either *perfect* or *peak* performance are prevalent. The experience of flow is particularly revered in sport contexts (Jackson & Csikszentmihalyi, 1999) because it so frequently occurs in conjunction with subjectively perceived unparalleled performance excellence (Jackson, 1992, 1995). Irrespective of the formulation used, especially in sport, being in flow leaves one feeling quasi omnipotent, in awe of oneself, and elated due to the unrivalled magnificent experience in which everything comes together perfectly. It is a state of optimal mental performance in which one functions seemingly effortlessly and performs with flawless precision as a result of full immersion in that which one is doing (Csikszentmihalyi, 1990). Furthermore, performance during this state inevitably increases the probability of

exceeding prior peak performance achievements; it is a state which allows one to experience the exultant beauty of subjectively perceived and objectively measurable performance perfection. And it is through such optimal engagement that psychological growth and development—flourishing—ensues (Deci & Vansteenkiste, 2004). Simultaneously, the greater a student's intrinsically rewarding engagement in their endeavours, the greater is the likelihood of their enhanced enjoyment and more effortful involvement with the skills they require, develop, and employ (Reeve, 2004; Vallerand & Bissonnette, 1992) to meet the challenges faced in pursuit of excellence. Yet, students must first be afforded the *opportunity* to systematically develop the requisite skills. Through individualised, autonomy-supportive cognitive-behavioural training, wilfully cultivating the optimal state of flow is in the realm of possibility.

1.1 Subjective States of Optimal Engagement: *Flow*

Csikszentmihalyi (1990) delineated nine factors which describe ones disposition while in flow; they are both requisite for and indicative of the state. The foundational component is a subjectively perceived balance between a high challenge faced and one's equally high skills requisite to meet the challenge. Moreover, when in flow one experiences a merging of action and awareness as a result of clear goals, unambiguous feedback pertaining to one's proximity toward one's goal, and unwavering concentration on the task at hand. One simultaneously experiences a paradoxical sense of control, the loss of debilitative self-consciousness, and, for many, a transformation time, characterised by deceleration or acceleration in how time is experienced (Csikszentmihalyi, 1975; Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). Finally, when the activity one is deeply engaged in also becomes intrinsically rewarding and is done for the sheer sake of engagement and exercising one's skills, the autotelic experience ensues. Csikszentmihalyi (1990) describes the autotelic experience as the cumulative and intrinsically rewarding outcome of having experienced the preceding dimensions of flow and through which profound enjoyment is derived. Flow states are consequently truly matchless mental performance states which reflect unparalleled order in consciousness and lead to improved quality in one's experiences and psychological growth (Csikszentmihalyi, 1990); both of which contribute to lasting well-being (Seligman, 2011) and are indispensable for enhancing learning and flourishing. When one's focus and engagement are purposeful, not only does the *quality* of one's experience reliably improve, it gives rise to positive emotions (Csikszentmihalyi, 1990; Jackson, 2000; Jackson & Csikszentmihalyi, 1999).

Positive affect, autonomous forms of motivational regulation to engage, and the quality of students' engagement are ineluctably related. When students are provided with an autonomy supportive learning environment, it promotes their engagement, which can be defined as "the intensity and emotional quality of students' involvement during learning" (Reeve, 2004, p. 194). The satiation of students' needs for autonomy (Deci & Ryan, 1985a) fosters not only greater attention, effort, participation, and persistence (Reeve, 2004; Ryan & Connell, 1989; Tinto, 1997; Vallerand & Bissonnette, 1992), it simultaneously thwarts the experience of debilitative anxiety often associated with challenges inherent in learning processes whilst enhancing students' interest, enjoyment, and enthusiasm (Reeve, 2004). As elucidated in the broaden-and-build theory of positive emotions (Fredrickson, 1998, 2001), greater well-being and positive affect engender building durable personal resources (Fredrickson, 2004) essential for flourishing and *lifelong* learning—they can be continuously developed and capitalised upon (Fredrickson & Branigan, 2005). This is naturally pertinent to academia. For, the positive affect which ensues as a result of the autotelic experience demonstrably enhances creative thinking (Isen, Daubman, & Nowicki, 1987) and broader attention (Fredrickson & Branigan, 2005) requisite for success in higher learning contexts. Hence, both positive emotional states and the unwavering task-related focus inherent to flow are imperative for learning; they are the gateway to individual growth and conducive to fostering further optimal performances. Through experiencing the positive mental performance state of flow, one becomes stronger—more confident—as an undeniable consequence of employing one's high skills and successfully investing energy in pursuit of a commensurately challenging, self-determined goal; thereafter, one inevitably wishes to vie to do so again (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). Moreover, the aforementioned behaviours, which Reeve (2004) describes as conducive to perseverance and positive emotions, unequivocally foster an optimal *mindset*, which is equally requisite for academic success (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). From a cognitive-behavioural sport psychology perspective (Weinberg & Gould, 2015), one's malleable cognitions and behaviour play a pivotal role in fostering psychological growth and performance excellence. If educators wish to teach student-athletes to flourish and foster deep, meaningful, and intrinsically rewarding engagement in their scholastic and athletic endeavours, it ought to commence by empowering them with cognitive-behavioural strategies to cultivate flow states.

1.2 Theoretical Underpinnings of the Pilot Study

The pillars of well-being should be considered foundational competencies which enable students to thrive. The skills inherent therein are facilitative of and thus relevant for a student-athlete's personal and academic success. Whether one adopts a hedonic perspective of *subjective well-being* or eudaimonic perspective of *psychological well-being* has a direct influence on how the notion of flourishing (and thus engagement) can be understood, however. Whereas the hedonic (positive feeling) perspective of subjective well-being pivots around positive affect, pleasure, and happiness (Kahneman, 1999) or general satisfaction with life (Diener, Eunkook, Lucas, and Smith, 1999), the theoretical foundation of the eudaimonic (positive functioning) perspective of psychological well-being is firmly anchored in the fulfilment of basic needs for self-actualization (Ryan & Deci, 2001). Diener et al. (1999) offer a conceptual definition of subjective well-being as "a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgements of life satisfaction" (p. 277). Adopting merely the hedonic perspective of well-being, operationalised based on the presence of positive affect or absence of unpleasant affect, is an insufficient means of understanding what prompts one to become and remain engaged, however. Moreover, in the current context, the hedonic conceptualisation of well-being inadequately addresses the essential components and determinants of flourishing.

Engagement and flourishing are far more than the result of positive affect; they are the product of optimal psychological *functioning*. In an effort to identify core features of well-being, Ryff (1995) contrasted various formulations of well-being from developmental and clinical psychology perspectives as well as from a mental health vantage point and identified where theoretical conceptions of well-being converge. Integrating the most prevalent features delineated and adopting a eudaimonic perspective, Ryff and Keyes (1995) demonstrated psychological well-being to be a multidimensional construct entailing six core aspects including "positive self-regard, mastery of the surrounding environment, quality relations with others, continued growth and development, purposeful living, and the capacity for self-determination" (p. 724). From a psychological well-being perspective, while understanding the "science of positive subjective experiences" (Seligman & Csikszentmihalyi, 2000, p. 5) and actively applying positive psychology exercises (Peterson, 2006) promotes positive affect (Seligman, 2011), human flourishing ought to be defined in terms of the quality with which one leads one's life rather than overly emphasising *feeling good*.

Vying to develop an operational definition of flourishing, Huppert and So (2009) first utilized a mental health perspective and operational definitions of depression and anxiety, as delineated in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 2013) and *International Classification of Diseases of the World Health Organization* (10th ed.; *ICD-10*; World Health Organisation, 1993), as the diametrically opposed equivalents to flourishing. Based on those efforts, Huppert and So (2009) identified five core features of flourishing as "positive emotions, engagement, interest, meaning, and purpose" (p. 2). For an individual to flourish, however, they discovered that those core features must coincide with any three out of six accompanying features of flourishing including "self-esteem, optimism, resilience, vitality, self-determination, [and] positive relationships" (Huppert & So, 2009, p. 2). Essentially, they deduced that flourishing "refers to the experience of life going well. It is a *combination* [emphasis added] of feeling good and functioning effectively" (Huppert & So, 2011, p. 838).

Later refining the construct, ten features of effective mental functioning, or flourishing, were delineated in a further deductive analysis: "competence, emotional stability, engagement, meaning, optimism, positive emotion, positive relationship, resilience, self-esteem, and vitality" (Huppert & So, 2011, p. 842). What renders this definition beneficial and unique is that the components of flourishing reflected therein successfully amalgamate both distinct perspectives and philosophies underscoring the study of well-being as a distinct construct: It comprises elements of both hedonic *and* eudaimonic perspectives thereof. Although this is an advantageous means of defining flourishing, the definition nevertheless entails a clear shortcoming due to its origin. As conceded by Huppert and So (2011), because the lack of autonomy is not the diametrical opposite, a symptom, of depression or anxiety which could be reflected in the DSM-IV or ICD-10, it was consequently not represented in the final ten delineated constructs of flourishing. Thus, it was discarded as an accompanying feature thereof. Nevertheless, autonomy (Deci & Ryan, 1985a) and intentional activities (Lyubomirsky, Sheldon, & Schkade, 2005) in which one independently chooses to engage and which require one's volitional, self-determined effort *are* indeed essential to psychological well-being (Ryan & Deci, 2001; Ryff, 1995; Ryff & Keyes, 2005). In fact, autonomy-supportive pursuits, which promote the fulfilment of one's basic psychological needs (Ryan, 1995; Deci & Vansteenkiste, 2004; Ryan & Deci, 2000b), demonstrably foster personal growth and eudaimonic well-being (Nix, Ryan, Manly, Deci, 1999; Ryan & Deci, 2000b). Still, Huppert and So's (2011) remaining ten constituent aspects of flourishing also come forth in the five elements of Seligman's (2011) well-being theory.

The science of positive psychology provides an evidence-based framework through which to describe and elucidate how to establish psychological well-being and thereby engender flourishing. Well-being theory consists of five distinct pillars including "positive emotions, engagement, meaning, positive relationships, and accomplishment" (Seligman, 2011, p. 16). Rather than a monolithic entity acting in isolation, the five elements of well-being complement each other; fostering one element is of reciprocal importance for and positively influences the remaining elements of well-being. As a key component of the *engagement* pillar of well-being, experiencing flow ineluctably promotes flourishing. Although easily misinterpretable, a clear goal of positive psychology, as a science, is to increase flourishing (Seligman, 2011) and not happiness, per se, even if *applying* the tenets and experiencing components thereof, such as greater engagement and flow, concomitantly "makes people happier" (p. 2). Whereas psychological well-being theory defines the key *elements* of well-being (measurable by one's engagement, for instance), self-determination theory (Deci & Ryan, 1985a, 2008a; Ryan & Deci, 2000a) elucidates fundamental *determinants* of well-being (in part, quantifiable in terms of one's locus of motivational regulation, for example).

The self-determination theory is based on the premise that humans have three basic human needs: They include the needs for competence, relatedness, and autonomy (Deci &Ryan, 2008a; Ryan & Deci, 2000a). Those basic psychological needs are evidently "essential for facilitating optimal functioning of the natural propensities for growth and integration, as well as for constructive social development and personal well-being" (Ryan & Deci, 2000a, p. 68). Hence, learning environments which promote a self-determined pursuit of subjectively perceived optimally challenging tasks are vital for the facilitation of subjectively perceived optimal performance and thereby flourishing. They denote opportunities to not only feel self-determining but also exert competence; the experience of which is inherently linked to basic feelings of psychological well-being and represent key determinants of intrinsic motivation (Deci & Ryan, 2008b). Adopting the theoretical framework of the self-determination theory, psychological well-being can thus be understood as a reflection of one's optimal functioning and autonomous forms of motivational regulation to engage (Deci & Vansteenkiste, 2004). Satisfying one's basic psychological needs is inherently linked to what Csikszentmihalyi (1990) describes as greater complexity and harmonious integration of the self which results from optimal functioning. If optimal functioning is a *result* of fulfilling one's basic psychological needs, such as that for autonomy, then Deci and Ryan's (1985a; 2008a) macrotheory of motivation

is befitting to explicate the motivational antecedents to the purposeful engagement which leads to flow states.

As described by Csikszentmihalyi (1990), it is the unparalleled *order* in consciousness experienced during flow states which leads to greater sophistication, or complexity therein. The sophisticated consciousness is the product of the further differentiation and integration of the self, which is essential to psychological growth. Csikszentmihalyi (1990) characterises differentiation as the outcome of the greater sense of competence one experiences after overcoming and subsequently reflecting on a challenge. It is through the deep, organised, unwaveringly purposeful concentration unique to flow states that one harmoniously integrates the functioning of previously autonomous components of consciousness. Furthermore:

> It is when we act freely, for the sake of the action itself rather than for ulterior motives, that we learn to become more than what we were. When we choose a goal and invest ourselves in it to the limits of our concentration, whatever we do will be enjoyable. And once we have tasted this joy, we will redouble our efforts to taste it again. This is the way the self grows....Flow is important both because it makes the present more enjoyable, and because it builds the self-confidence that allows us to develop skills. (Csikszentmihalyi, 1990, p. 42)

It is the conveyed developmental process, which leads to greater complexity and growth of the self and underlies optimal order in consciousness, which is unmistakably pertinent in academia. As described by Massimini, Csikszentmihalyi, and Delle Fave (1988), for instance, the positive affect associated with flow in academic settings emanates from the increasing complexity of self. That complexity, in turn, is the result of the awareness that one successfully met a high challenge. In a reciprocal fashion, the awareness of one's feat also reinforces one's confidence in her or his ability to do so again. For the enhanced strength and confidence which develop out of the successful investment of psychic energy in the pursuit of a self-determined goal give rise to the aspiration to achieve the flow state again (Csikszentmihalyi, 1990). These qualities thereby rouse one to further develop and actively employ their greatest capacities in an effort to make that goal a reality (Jackson & Csikszentmihalyi, 1999). Essentially, the opportunity to be self-determining and develop an inhering willingness to engage and persist throughout the learning process is critical to not only students' success, but also their intrinsically rewarding enjoyment of the process (Deci, Vallerand, Pelletier, & Ryan, 1991; Ratelle, Guay, Vallerand, Larose, & Senécal, 2007; Reeve, 2004; Sarrazin, Boiché, & Pelletier, 2007; Vansteenkiste, Lens, & Deci, 2006).

Hence, the aforementioned background, demonstrative of why the experience of flow is imperative for psychological growth and ongoing flourishing, underscores the importance of systematically striving to cultivate flow in higher learning contexts.

1.3 The Underlying Challenge

While Deci and Ryan (2000) specifically described a need for further studies which "facilitate positive social change (i.e., those that promote human growth and well-being)" (p. 258), Seligman and Csikszentmihalyi (2000) similarly envisioned future research which facilitates not only better understanding, but "build[ing] the qualities that help individuals… to flourish" (p. 13). Vying to examine to what extent the optimal psychological functioning state of flow can be wilfully cultivated, heeds these calls. Despite proclamations that achieving flow states is precarious in nature (Aherne, Moran, & Lonsdale, 2011; Jackson & Csikszentmihalyi, 1999), flow ought not be prematurely deemed unequivocally spontaneous or elusive. In a call for pertinent research, Mitchell (1988) describes the elusive nature of flow as something worthy of attention for averting stunted societal growth is contingent upon satisfying people's need for opportunities to experience flow though volitional engagement. The presumed categorical elusiveness of flow was herewith deemed an assumption worthy of contention, however. As, arguably, when deliberately governed to enhance ones performance, mental fortitude, *harnessing* our mental capacities, is an invaluable asset in terms of evoking flow. Naturally, "an individual's ability to restructure consciousness so as to make flow possible" (Csikszentmihalyi, 1990, p. 83) is an ineluctable determinant of whether or not flow states will ensue. The problem is, befitting learning environments and structured activities conducive to flow, mere "opportunities alone, however, are not enough. We also need the skills to make use of them. And we need to know *how* [emphasis added] to control consciousness—a skill that most people have not [yet] learned to cultivate" (Csikszentmihalyi, 1990, p. 83).

It was herewith deduced that the cultivation of flow states must be accessible to those who deliberately set the stage for its occurrence, for as described by Csikszentmihalyi (1990), provided an equilibrium exists between the perceived high challenge one faces and their equally high skills, flow is accessible to anyone. The science of positive psychology tells us *why* cultivating flow is important: Through meaningful engagement in the learning process, one can foster optimal psychological well-being, development, and flourishing (Deci & Vansteenkiste, 2004; Seligman, 2011; Seligman & Csikszentmihalyi, 2000). While the theory of flow tells us *what* needs to be cultivated (the

nine constituent dimensions of optimal psychological performance states; Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999), the self-determination theory informs us of *in what manner* to do so (by facilitating the satisfaction of one's basic psychological needs for autonomy, competence, and relatedness; Deci & Ryan, 1985a; Ryan & Deci, 2000b, 2014). Adopting a cognitive-behavioural sport psychology perspective, in turn, imparts to us *by what means*. Cultivating the prerequisites for flow must be feasible through deliberate psychological skills training (Orlick, 2000; Weinberg & Gould, 2003, 2011, 2015; Weinberg & Williams, 2001), which, in applied sport psychology, denotes the "systematic and consistent practice of mental or psychological skills for the purpose of enhancing performance, increasing enjoyment, or achieving greater sport and physical activity satisfaction" (Weinberg & Gould, 2015). The current pilot study emanated from these logical deductions. However, establishing a psychological skills training program based on the dimensions of flow was intended to go beyond demonstrating a reciprocal relationship between engaging in autonomy-supportive cognitive-behavioural training and the reported occurrence of flow states. Rather, *Flow Psychological Skills Training* (Flow-PST) ought to demonstrate a practical application of the three underlying theories and a resultant systematic approach to wilfully cultivating flow states.

1.4 The Anticipated Contribution to Applied Research

As described by Forgeard, Jayawickreme, Kern, and Seligman (2011), "apart from flow experiences, alternative measures of engagement are lacking" (p. 84). Engagement and flow, however, are not only readily measurable in sport contexts, flow is one of the most sought after experiences an athlete yearns for (Jackson & Csikszentmihalyi, 1999) once one has relished in the experience. Surprisingly, however, few consider, let alone systematically engage in practices conducive to wilfully evoking flow (Jackson, Thomas, Marsh, & Smethurst, 2001). Widely accepted conditions which facilitate and inhibit flow states in sport (Chavez, 2008; Jackson, 1992, 1995; Swann, Keegan, Piggott, & Crust, 2012), the motivational antecedents thereof (Jackson, 1998; Kowal & Fortier, 1999; Stein et al., 1995), and the relationship between employing performance enhancement strategies and dispositional flow (Jackson 1991, 1995; Jackson et al., 2001; Kee & Wang, 2008) have been delineated. Despite the uncontested importance of flow as a precursor to greater complexity in consciousness essential to human growth (Csikszentmihalyi, 1990), reportedly few studies (Swann et al., 2012) explore or demonstrate a systematic and clearly delineated process for rendering flow more accessible—with greater volitional control and consistency—in higher-education contexts. This, however, is an essential endeavour because while student-athletes, for instance, can indisputably *identify* the subjective goal of

achieving and performing in flow, mere recognition thereof provides insufficient specificity and direction in which to mobilise one's efforts (Locke, Shaw, Saari, & Latham, 1981). Yet, experiencing flow need not remain the result of sheer fortuitous circumstance. To influence behavioural change, one must transcend mere awareness of and the *desire* to experience flow; one must receive and have the opportunity to apply guidance as to *how* to wilfully facilitate optimal mental performance states.

1.5 Professional Significance

Particularly in academia, the responsibility ought to lie with those in positions of authority, educators, to introduce, demonstrate, and equip students with a systematic approach and strategies to facilitate both autonomous forms of motivational regulation (Ryan & Deci, 2000a) and optimal psychological engagement (Csikszentmihalyi, 1990; Deci & Vansteenkiste, 2004). Csikszentmihalyi and McCormack (1986) contended: "the teacher's enthusiasm and dedication is the main vehicle for socializing the young into meaningful academic experiences" (p. 418). Moreover, Csikszentmihalyi (1997) later argued:

> Higher education succeeds or fails in terms of motivation, not cognitive transfer of knowledge. It succeeds if it instills in students a willingness to pursue knowledge for its own sake; it fails if students learn simply in order to get a degree. (p. 72)

Nevertheless, 20 years later, the desideratum for educators to demonstrate, determine, and provide relevant direction in an effort to foster this behaviour remains largely unheeded in academia. It is the lack of research pertaining to cultivating flow states in higher education contexts which further warrant this pilot study. As with any educational learning objective, clear, systematic, and purposeful instructional guidance is a logical means of equipping students with strategies conducive to fostering the antecedents of dispositional flow. From a research perspective, examining the controllability of flow could serve to not only corroborate its determinants, it could effectuate change in the prevailing belief that the phenomenon is inherently elusive, fortuitous (Aherne et al., 2011; Jackson & Csikszentmihalyi, 1999). Should the postulated interplay between one's locus of motivational regulation, the individualised (Seabourne, Weinberg, Jackson, & Suinn, 1985), self-directed employment of cognitive-behavioural strategies presumed to be conducive to flow, and increases in the study participants' reported propensity to experience flow be demonstrable, this would provide a greater depth of knowledge with which to embark upon a large-scale study. Moreover, even preliminary evidence-based

insight derived from this research could provide a foundation for guiding principles pertaining to the cultivation of flow in academic contexts. Therein lies the greatest professional significance: The knowledge gained is pertinent to and can inform future educational practice; it is beneficial to practitioners who aspire to foster students' psychological well-being and enable them to flourish by purposefully facilitating their students' optimal engagement. For institutions of higher education have a greater responsibility than merely providing instruction in support of superficial pursuits of excellence in which participation and learning in academia are mere means to an end. Rather, educators must actively pursue the goal of *producing learning* (Barr & Tagg, 1995) and encourage students' participation out of a vested and deep personally rewarding interest.

1.6 Research Purpose, Questions, and Hypotheses

The general purpose of this small-scale pilot study was to plan, develop, implement, and subsequently evaluate the viability and perceived effectiveness of a psychological skills training program designed to fulfil the requirements of and thus promote the occurrence of flow in university-level sport science students. As a foundation, this endeavour implied devotion to three key priorities. First, the endeavour necessitated fostering students' increased awareness and understanding of the key components of the flow construct. Thereafter, it was necessary to enhance students' understanding of the relevance of optimal performance states, such as flow, for both their learning and athletic performance enhancement processes. Furthermore, students required the opportunity to progressively develop, apply, and transfer their refined cognitive-behavioural strategies to their performance domains, whilst recursively reflecting on and evaluating their progress. The objective of this dissertation, therefore, was to report the results of preliminary research, which demonstrated the described means of engendering flow. The goal herein was to initiate the process of determining how to systematically approach the endeavour of learning to wilfully cultivate and exercise control over the experience of flow. Thus, the fundamental question the present study attempted to answer was to what extent individualised autonomy-supportive psychological skills training, conceptually derived from Csikszentmihalyi's (1990) dimensions of flow, is a feasible means of cultivating subjectively perceived optimal mental performance states, or dispositional flow. Contrasting pre- and post-intervention self-reports provided by each respective student-athlete, the central research focus subsumed the following complementary questions:

1. To what extent do the student-athletes report increases in their subjectively perceived autonomous forms of motivational regulation to engage as a consequence of Flow-PST?
2. To what extent do the student-athletes report an increase and/or more proficient employment of performance enhancement strategies to foster optimal performance?
3. To what extent do participants' individual dispositional flow subscale scores reflect an increase in proclivity to experience flow at both the multidimensional and unidimensional levels? And finally;
4. Which components and strategies introduced in the Flow-PST seminar are characterised as most conducive to facilitating subjectively perceived optimal performance states?

It was hypothesised that providing autonomy-supportive instruction and fostering students' use of techniques and strategies conducive to setting the stage for flow will subsequently lead to an increase in their subjectively perceived experience of dispositional flow in their respective sport contexts. As expounded in the *Quantitative Instruments of Measurement* sub-section of the *Methodology and Research Methods* chapter of this dissertation, the aforementioned constructs were assessed employing three psychometric tests: the *Sport Motivation Scale* (SMS-II; Pelletier, Rocchi, Vallerand, Deci, & Ryan, 2013), the *Test of Performance Strategies* (TOPS 2; Hardy, Roberts, Thomas, & Murphy, 2010), and the *LONG Dispositional Flow State Scale (DFS-2)—Physical* (Jackson et al., 2010). Yet, to augment the quantitative data collection and analysis, structured interviews and a subsequent thematic analysis thereof were also conducted six months post-intervention. While the focal points reflected in the complementary research questions certainly converged, logical deductions and specific hypotheses for each of the core constructs were delineated.

1.6.1 Self-determined motivational regulation. As subjectively perceived competence and self-governed goals are presupposed as paramount for evoking flow, students must experience autonomy (Deci & Ryan, 1987; Deci, Ryan, & Williams, 1996) in their pursuit of a challenge-skill balance (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). Individualisation of each athletes' performance enhancement plan is essential for the success of any psychological skills training intervention (Smith, 1988, 2001; Swain & Jones, 1995; Weinberg & Williams, 2001). Thus, the general framework of the Flow-PST seminar was designed to enable students to individually determine which of the cognitive-behavioural strategies and techniques presented they prefer to engage in on a weekly basis. It was precisely the open structure—nonrestrictive

options and individual decision-making power—which ought to foster autonomous forms of motivational regulation (Deci & Ryan, 1987, 2000; Deci et al., 1996; Reeve, 2004). Therefore, it was hypothesised that participants will report increases in intrinsic, integrated, and identified motivational regulation (Ryan & Deci, 2000c, 2007) post-intervention. In addition, it was presumed that introjected and external motivational regulation and amotivation would decrease or remain at lower levels than more autonomous forms of motivational regulation as assessed with the SMS-II (Pelletier et. al, 2013).

1.6.2 Cognitive-behavioural performance strategies. For students to learn how to cultivate dispositional flow, they must first (a) be cognizant of their needs as related to the dimension of flow in question and (b) comprehend the construct at hand and how to foster it. Moreover, they must (c) practice and acquire strategies and techniques to facilitate its occurrence, (d) recursively evaluate their use thereof, and (e) habitually integrate and maintain their chosen performance enhancing strategies and techniques when engaged in their sport. Therefore, as flow-conducive cognitive-behavioural techniques and strategies are ineluctable components of the seminar, it is plausible that subsequent to the intervention, student-athletes will independently report an increased use of cognitive-behavioural strategies for performance enhancement on all eight practice subscales as assessed via the TOPS 2 (Hardy et al., 2010). Moreover, it was hypothesised that the post-intervention structured interviews will demonstrate that student-athletes who describe adopting an actively engaged role in their individualised and self-determined Flow-PST program will also report an increase in feelings of competence. Specifically, Flow-PST will facilitate a self-reported increase in students' subjectively perceived ability to efficiently control overall mental performance states and thereby more effectively manage and minimize both cognitive and behavioural fluctuations in performance.

1.6.3 Dispositional flow. Once the introduced performance enhancement strategies had been acquired and were autonomously implemented in an effort to foster optimal mental performance states, the student-athletes' propensity to experience dispositional flow ought to have increased. Therefore, it was presupposed that active engagement in Flow-PST would inevitably promote an increase in students' subjective reports of dispositional flow as assessed with the LONG DFS-2—Physical (Jackson et al., 2010). For engaged students will have learned to systematically determine and foster their needs as related to satisfying the prerequisites for each dimension of flow. The transformation of time dimension of flow, however, was deemed an exception to the rule. It was hypothesised as less susceptible to purposeful cultivation because, in sport, it is a

less universally experienced characteristic of flow (Chavez, 2008; Jackson & Csikszentmihalyi, 1999; Jackson et al., 2010; Swann et al., 2012; Tenenbaum, Fogarty, & Jackson, 1999) and should thus presumably remain constant. Hence, with the exception of the transformation of time dimension of flow, the hypothesised increases should manifest themselves both from a multidimensional and unidimensional perspective.

1.6.4 Flow-PST constituent elements. It was hypothesised that the student athletes would identify the use of the cognitive-behavioural strategies introduced as conducive to their endeavours to evoke optimal mental performance states. In particular, it was predicted that the student-athletes would cite goal setting and imagery as key performance strategies. Furthermore, it was presupposed that the outcomes of the thematic analysis would essentially dictate which fundamental aspects of Flow-PST facilitated and/or inhibited students' subjectively perceived ability to educe and control optimal mental performance states, or dispositional flow, however. Therefore, it was anticipated that the students' recounts would avail preliminary determination of underlying themes to be cognizant of when crystallising and refining those specific facilitators conducive to learning how to evoke flow in similar contexts. Moreover, it was presumed that the aforementioned data would enable a generalised assessment of students' experiences during the seminar and perceptions of the Flow-PST process itself. The indispensable evaluative information gleaned would be worthy of contemplation and could potentially be heeded when conceptualising a future larger scale study.

1.7 Overview of Methodology, Methods, and Delimitations

As thoroughly detailed in the *Methodology and Research Methods* section of this dissertation, an explanatory sequential (Wisdom & Creswell, 2013) mixed methods research design was employed to assess and examine the efficacy of employing Flow-PST to facilitate students' wilful evocation of dispositional flow states. This small-scale pilot study emphasised explicating the relationship between Flow-PST and the hypothesised subsequent quantitative increases in the participants' autonomous forms of motivational regulation, use of cognitive-behavioural performance strategies and subjectively perceived dispositional flow. The latter three of which, when expressed numerically, became the objective data upon which further analysis was based. Nonetheless, an additional qualitative, phenomenological view of the subjective reality, which inhered in the perception of each individual athlete, facilitated verification of the precursors, occurrence, experience, and social relevance of flow at both the state and dispositional levels.

Out of deference for my vested interest as a researcher and my roles as an educator and cognitive-behavioural sport psychology specialist, this research was conducted as a participative inquiry. For the study ought to produce knowledge pertaining to the controllability of flow states whilst simultaneously educating the target group and encouraging them to become more self-aware, self-reflecting, and self-regulating (Bagozzi, 1992; Kirschenbaum, 1984; Kirschenbaum, Owens, & O'Connor, 1998; Ravizza, 2001; Robazza, Pellizzari, & Hanin, 2004). Adopting a befitting analogy which Barr and Tagg (1995) contend reflects educational contexts in which truly *generating learning* is prioritised, rather than merely providing instruction, it was logical to be an active *member* in this particular research process because:

> If the Instruction Paradigm faculty member is an actor—a sage on a stage—then the Learning Paradigm faculty member is an inter-actor—a coach interacting with a team. A coach not only instructs football players, for example, but also designs football practices and the game plan; he *participates* [emphasis added] in the game itself by sending in plays and making other decisions. The… [Learning Paradigm] faculty role goes a step further, however, in that faculty not only design game plans but create new and better "games," ones that generate more and better learning. Roles under the Learning Paradigm, then, begin to blur. (Barr & Tagg, 1995, p. 24)

Rather than establishing an authoritative hierarchy, the endeavour entailed our simultaneous collaboration as a *team*. Moreover, my active involvement in the social structure of the university classroom contributed to the mastery motivational climate (Ames, 1992; Patrick, 2004; Patrick, Kaplan, & Ryan, 2011), in which the goal was to "emphasise attainment of competence or ability through efforts trying to improve and develop skills according to the students' individual capabilities" (Stornes, Bru, & Idsoe, 2008, p. 316). Establishing such a mastery motivational learning environment is beneficial in sport specific contexts in particular, because it demonstrably has the power to promote students' enhanced intrinsic motivation and self-confidence (Treasure & Roberts, 1995).

Because social climates such as classrooms are dependent upon the actors therein, subjective perceptions unmistakeably played a key role in this participative inquiry. As such, this small-scale pilot study was approached from a critical realist (Bhaskar, 1989) ontological perspective. It was thus presupposed that a *form* of objective reality exists, from which we can glean information, and is accessible via standardised psychometric tests, for instance. Accordingly, quantitative data was collected and analysed pertaining to

the participants' self-reported use of cognitive-behavioural strategies, locus of motivational regulation, and dispositional flow pre- and post-intervention. To further elucidate and interpret the quantitative findings, structured interviews were also conducted six months post-intervention with a subset of the pilot study cohort. A qualitative thematic analysis of that data set served to offer a more in-depth portrayal of students' perceptions concerning the efficacy of engaging in systematic cognitive-behavioural training as a means to wilfully foster flow. While the thematic analysis enabled further substantiation of themes addressed in the psychometric scales, it simultaneously allowed the social relevance of the intervention to be addressed. Moreover, it provided an opportunity for other arguably relevant themes, which may have otherwise gone unnoticed, to have a forum. The final analysis of the students' recounts hence provided a foundation upon which one could base future Flow-PST research. Adopting a contextual constructionist epistemological research perspective (Braun & Clark, 2013; Madill, Jordan, & Shirley, 2000), the findings of this pilot study were, however, deemed a reflection of mere provisional knowledge and clearly contingent upon the research context as well as the understandings and interpretations of the actors therein, for instance. Thus, rather than vying to demonstrate a singular objective truth, this pilot study sought to illustrate the viability and challenges inherent in teaching student-athletes how to wilfully set the stage for flow under similar contextual conditions.

To assess the behavioural change and the effects of the intervention for each respective student-athlete, an athlete-centred idiographic approach (Portney & Watkins, 2000; Hanton & Jones, 1999) was deemed preferential to explicate the individual case (Wollman, 1986). As this permitted a concentrated examination of the hypothesised subjectively perceived performance increments manifested in each student-athlete, even if the increments were only slight. The participants included university-level sport science students simultaneously participating and/or competing in their sport of choice for the duration of the 12-week Flow-PST seminar. This allowed the theoretical information and practical strategies imparted throughout the seminar to be directly applied, refined, and reinforced on an ongoing basis. Adhering to an educational approach (Weinberg & Williams, 2001; Curry & Maniar, 2003), the individualised Flow-PST entailed an initial needs assessment, theoretical instruction accompanied by a simultaneous practice and acquisition phase, as well as an integration and maintenance phase (Taylor & Taylor, 1995) for the cognitive-behavioural strategies taught. Moreover, the present methodology emphasised setting individual and specific goals to foster enhancement of each of the delineated characteristics of flow, in addition to *seeing* and learning to *feel* (Vealey &

Greenleaf, 2001) a belief in ones capability to control optimal performance—each dimension in succession.

Ultimately, experiencing flow is arguably dependent upon satiating an innate need to feel self-determining and competent (Deci & Ryan, 1985a, 2000). The experience of optimal and autotelic mental performance states leads to not only order and greater complexity in consciousness and psychological growth (Csikszentmihalyi, 1990), it also contributes to psychological well-being (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). Moreover, the deep and intrinsically rewarding engagement unique to flow renders our experiences more enjoyable and contributes to flourishing. It is the autotelic experience, however, which gives rise to greater confidence in our abilities and in turn enables us to further develop our skills and competencies. Research has shown that satisfying students' innate needs for autonomy, competence, and relatedness (Deci & Ryan, 1985a; Deci et al, 1996, Deci et al, 1991) promotes greater student effort, engagement, persistence and intrinsic forms of motivational regulation to engage (Carli, Delle Fave, & Massimini, 1988; Reeve, 2004; Ryan & Connell, 1989; Tinto, 1997; Vallerand & Bissonnette, 1992), which naturally facilitates the learning process. Moreover, the intrinsically rewarding experience of flow fosters psychological growth and development (Csikszentmihalyi, 1990), which are equally indispensable for the learning process; thus, how can educators *not* wish to cultivate the occurrence thereof? According to Csikszentmihalyi (1990), the way to attain greater psychological well-being must be through increasing our optimal experiences. Thus, so too must wilfully cultivating and evoking deep and intrinsically rewarding engagement, flow, be possible via "a circuitous path that begins with achieving control over the contents of our consciousness" (Csikszentmihalyi, 1990, p. 2).

This dissertation has been organised in five chapters. The forthcoming *Literature Review* highlights both theory and the results of research pertinent to the current pilot study. Thereafter, the *Methodology and Research Methods* chapter is divided into three parts. Whereas the quantitative and qualitative assessment methods are detailed in entirety in parts one and two respectively, the methodology adhered to and the content of the Flow-PST seminar are precisely delineated in the latter third of the chapter. As a reflection of the sequential approach to the pilot study, chapter four, the *Data Analysis Findings*, presents the results in two distinct sections. First the quantitative data analysis findings are outlined. Thereafter, an analysis, interpretation, and synthesis of the findings of the thematic analysis are presented and discussed whilst simultaneously taking the psychometric tests

results into consideration. In closing, the *Summary and Discussion* chapter of this dissertation further interprets and offers insight pertaining to the most salient findings, indicates both perceived limitations to and implications of the study, as well as draws conclusions for future research.

Preamble to the Literature Review

The forthcoming *Literature Review* first details and highlights the relevance of two core theories underlying this pilot study: The self-determination theory (Deci & Ryan, 1985a) and the theory of flow (Csikszentmihalyi, 1990). The review of literature specifically highlights scholarly work conducted thus far pertaining to the study of flow in both educational as well as physical activity and sport related contexts in particular, as, that best reflects the setting in which the current pilot study took place. Furthermore, attempts were made to clearly indicate how existing scholarly work could be augmented by supplementary research. Based on the most salient findings, conclusions were drawn which informed key considerations to bear in mind when establishing the Flow-PST program, what to include, and how best to impart cognitive-behavioural skills deemed essential for cultivating flow. The chapter concludes with a brief compendium whilst simultaneously setting the stage for the *Methodology and Research Methods* chapter.

2. Literature Review

Investigating factors which plausibly facilitate setting the stage for flow in academic settings was of importance for understanding to what extent the optimal mental state can be actively cultivated. The current research premise was that flow is a by-product of volitional behaviour; the optimal psychological state conceptually represents not only optimal psychological functioning (Csikszentmihalyi, 1990; Deci & Ryan, 2008b; Deci & Vansteenkiste, 2004; Seligman & Csikszentmihalyi, 2000), it is the manifestation of the satiation of one's innate needs to be self-determining, to seek, and engage in situations through which one can demonstrate their subjectively perceived competence (Deci & Ryan, 2000; Ryan & Deci 2000b, 2004). Thus, it was herewith postulated that a reciprocal relationship exists: Under optimal psychological conditions, purposeful volitional engagement begets flow, which, in turn, engenders increased psychological well-being and flourishing. To foster students' volitional, intrinsically rewarding engagement in their endeavours, it was of pivotal importance to consider and understand what prompts and propels them to act and remain engaged— their motivation. As described by Ryan and Deci (2000a):

> Motivation concerns energy, direction, persistence and equifinality—all aspects of activation and intention. Motivation has been a central and perennial issue in the field of psychology, for it is at the core of biological, cognitive, and social regulation. Perhaps more important, in the real world, motivation is highly valued because of its consequences: *Motivation produces* [emphasis added]. It is therefore of preeminent concern to those in roles such as manager, teacher, religious leader, coach, health care provider, and parent that involve mobilizing others to act. (Ryan & Deci, 2000a, p. 69)

Arguably, fostering students' flow-conducive forms of motivational regulation to engage implies ensuring that the determinants thereof are satisfied. The self-determination theory facilitates understanding both the determinants and consequences of various forms of one's motivational regulation to engage.

2.1 The Self-Determination Theory

The self-determination theory (Deci & Ryan, 1985a; Deci & Ryan, 2000; Ryan & Deci, 2000a) is a macrotheory which distinguishes types of motivational regulation as a reflection of one's degree of subjectively perceived autonomy as well as the prevailing social

conditions and environment. At its foundation, two core types of motivation exist: autonomous and thus complete volitional motivation or independent choice pertaining to one's engagement (de Charms, 1968) and the diametrically opposed controlled motivation to engage, which is driven by external pressure, demands, or incentives (Deci & Ryan, 2000; Deci, Koestner, & Ryan, 1999; Ryan & Deci, 2000c). The self-determination theory emanated out of the effectance motivational construct (Harter, 1978; White, 1959), which posited that, rather than being controlled by mere drives (biological needs), humans have an innate inclination towards satisfying psychological needs (Ryan & Deci, 2007) by seeking situations in which one may develop and demonstrate their perceived competence. Moreover, individuals innately seek opportunities to effectively interact with and master their environment and desire feeling integrated in the given social context (Ryan & Deci, 2000b). The satisfaction of those needs leaves one with greater feelings of self-efficacy (Bandura, 1997) and is inherently linked to one's basic feelings of psychological well-being (Ryan & Deci, 2000). It is the innate drive to seek opportunities to optimally engage and thus develop and grow which is the intrinsic motivational regulation conceptually related to flow states. Albeit not exclusively yet in terms of the wilful cultivation thereof, the state of flow must thus be considered a motivational outcome of more autonomous forms of regulation. The macrotheory of self-determination theory entails six mini-theories of varying consequence to the current study. They are relevant because they pivot on the central tenet that in order to foster students' ability to flourish, one must facilitate the satisfaction of their needs to feel competent, autonomous, and experience a sense of relatedness (Deci & Ryan, 2008a; Deci & Vansteenkiste, 2004; Ryan, 2009).

2.1.1 Basic psychological needs theory. The self-determination theory infers that intrinsic motivational regulation is fostered by three key universal needs, which are distinct from "goals, desires, and other motivationally relevant forces in human behaviour and development" (Ryan & Deci, 2000b, p. 326). The universal psychological needs include our innate need to feel competent, autonomous, and experience a sense of relatedness to those with whom we interact (Deci & Ryan, 1985a, 2000; Ryan, 1995; Ryan & Deci, 2000b, 2007). The *basic psychological needs theory* is of integral importance for the self-determination theory and the current research. For the theory clearly associates the underlying concept of basic needs with the concept of psychological well-being (Deci & Ryan, 2008a; Deci & Vansteenkiste, 2004; Ryan, 2009) and delineates *what* promotes optimal functioning, psychological growth, and well-being: the satisfaction of the aforementioned universal psychological needs.

2.1.2 Cognitive evaluation theory. The *cognitive evaluation theory* (Ryan, 1982; Ryan & Deci, 2004, 2007; Vansteenkiste, Niemiec, & Soenens, 2010) emphasises the role of competence and autonomy in facilitating intrinsic motivation. Whereas intrinsic motivation involves self-initiated engagement in an activity—for its own sake—in which one feels competent and autonomous, extrinsic motivation refers to action taken out of a perceived need to fulfil an externally regulated goal. The theory was initially conceptualised to further develop de Charm's (1968) notion of personal causation, which equated intrinsic and extrinsic motivation as demonstrative of one's perception of themselves as origins of their behaviour or pawns of external forces. In a rudimentary form, the aim of the cognitive evaluation theory was to better identify the consequences of rewards (Deci et al., Ryan, 1999; Deci, Nezlek, & Sheinman, 1981) and competition (Reeve & Deci, 1996) on intrinsic motivation, for example. The cognitive evaluation theory specifically defines the influence of one's *perceived locus of causality* and *perceived competence* on intrinsic motivation; they are the two cognitive processes by which a given context can affect intrinsic motivation. Essentially, intrinsic motivation is enhanced when one perceives an internal locus of control and the possibility to exert one's perceived competence. Under the opposite conditions, intrinsic motivation decreases. Thus, the environment is a key facilitator or inhibitor of intrinsic motivation: Social contexts in which one's needs for competence and autonomy are fulfilled facilitate intrinsic motivation (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006; Ryan & Deci, 2004). Conversely, environments and situations which emphasise engagement in pursuit of externally regulated goals or incentives undermine one's ability to experience competence and autonomy and thus thwart intrinsic motivation (Ryan, 1982; Ryan & Deci, 2000c). Therefore, to wilfully cultivate flow in an academic setting, it is of importance to provide an autonomy-supportive environment (Reeve, 2004, 2009; Reeve & Jang, 2006) which emphasises the mobilisation and further development of one's skills, whilst fostering opportunities for self-initiated engagement and deliberate social integration.

2.1.3 Organismic integration theory. As a complement to the cognitive evaluation theory, the *organismic integration theory* (Deci & Ryan, 1985a, 2000; Ryan & Deci, 2004, 2007; Vansteenkiste et al., 2010) facilitates distinguishing between three varying degrees of volitional behavioural regulation, or autonomy, which underlie externally regulated behaviour: *introjected*, *identified*, and *integrated* motivation. The organismic integration theory thus delineates a conceptual continuum along which the quality and locus of one's motivation can be described as a consequence of how internalised (Ryan, 1995) the perceived value of one's action is. Through the process of internalisation (Deci, Eghrari,

Patrick, & Leone, 1994; Ryan, 1995; Ryan & Connell, 1989), extrinsically regulated behaviour can be perceived by the actor as increasingly autonomous in nature. Still, although the highest form of internalisation, integrated motivational regulation, is perceived as highly self-determined, it is nonetheless extrinsically regulated in its origin. The *Sport Motivation Scale* (SMS; Pelletier et al., 1995), the revised version of which was employed in the Flow-PST pilot study, was developed in direct application of the self-determination theory (and organismic integration theory in particular). Both the SMS and its successor, the SMS-II (Pelletier et al., 2013), provide a reliable means of assessing the degree of internalisation of the value of one's actions and thus one's distinct form of motivational regulation in athletic contexts. In an examination of competitive swimmers' motivational regulation along the self-determined continuum, for example, Pelletier, Fortier, Vallerand, and Brière (2001) used structural equation modelling and demonstrated that greater perceived autonomy support is positively correlated with the degree of internalisation of the value of an action and an athlete's persistence over time. This is relevant for the pilot study because in educational contexts it is of utmost importance to understand what makes the varying forms of extrinsic motivational regulation distinct so that greater internalisation, in particular, can be promoted and thereby ensured. For an educator cannot coerce or elicit students' *intrinsic* motivation to engage in or persist during the learning process, per se. As called for by Ryan and Deci (2000c), educators can, however, facilitate student's agentic action (Bandura, 2001). This can be achieved by strategically manipulating the learning environment and tasks to ensure that both foster the greatest possibility for volitional behaviour and more complete internalisation of the personally relevant value inherent in engagement (Deci et al., 1991; Ratelle, Guay, Vallerand, Larose, & Senécal, 2007; Standage, Duda, and Ntoumanis, 2005). Thus, ensuring that student-athletes perceive choice, little if any external pressure, and have been provided with a rationale which explicates the value in becoming and remaining engaged (Assor, Kaplan & Roth, 2002; Deci et al., 1994; Ratelle et al., 2007; Reeve, 2004, 2009; Reeve & Jang, 2006; Ryan, Koestner, & Deci, 1991; Vansteenkiste et al., 2006) will foster the Flow-PST process.

2.1.4 Causality orientations theory. The *causality orientations theory* (Deci & Ryan, 1985a, 1985b, 2000; Ryan & Deci, 2004; Vansteenkiste et al., 2010), albeit of peripheral importance and not expressly examined in the current pilot study, delineates a means of understanding three types of individual differences people have in terms of how they characterise the origin of their impetus to act. Those with an *autonomy orientation* have a propensity for self-initiated engagement as a reflection of their interest, the personal value attributed to action, as well as the subjectively optimal challenge they perceive therein.

Moreover, an autonomy orientation can be ascribed to people who tend to seek environments in which they are optimally challenged (Carli et al. 1988; Ryan & Deci, 2004; Vansteenkiste et al., 2010). Conversely, those who primarily engage in order to fulfil self-imposed or perceived external demands are best described as having a *controlled orientation*. They tend to seek situations in which external controls prevail; their engagement is contingent upon the receipt of tangible and intangible external rewards (Ryan & Deci, 2004; Vansteenkiste et al., 2010). Finally, an *intrapersonal orientation* describes those who are inclined to be amotivated and generally believe they can exert little control over their environment; they perceive fate or luck as dictating outcomes rather than seeing potential in one's actions. For instance, because high school educational contexts are generally more controlling than university contexts, they offer fewer opportunities for students to fully manifest their individual differences (Carli et al, 1988; Guay, Ratelle, & Chanal, 2008; Massimini, et al., 1988). In contrast, both Guay et al. (2008) and Ratelle et al. (2007) have demonstrated that an autonomy orientation develops and manifests itself more clearly when students are in higher learning environments, such as in the current pilot study, in which greater opportunity for autonomous behavioural regulation is in fact possible. The educational climate, therefore, has the power to either thwart or foster the development of one's individual motivational orientation.

2.1.5 Goal contents theory. The self-determination theory also includes the more recently developed *goal contents theory* (Kasser & Ryan, 1996; Niemiec, Ryan, & Deci, 2009; Ryan, 2009; Vansteenkiste et al., 2006; Vansteenkiste et al., 2010). Kasser and Ryan (1996) demonstrated that goals can be classified as either intrinsic or extrinsic aspirations. The goal contents theory, therefore, differentiates to what extent extrinsic aspirations such as fame, which inherently forestall the satisfaction of one's basic needs, are associated with lower well-being, or ill-being, as compared to intrinsic aspirations related to one's growth which promote psychological health (Niemiec et al., 2009). Vansteenkiste et al. (2010) suggest that when a given context supports the satisfaction of one's basic psychological needs for competence, autonomy, and relatedness (Ryan & Deci, 2000a), the person will follow a natural tendency to gravitate towards the fulfilment of intrinsic goals. For instance, Sheldon, Ryan, Deci, and Kasser (2004) conducted a series of three studies across which they demonstrated that the pursuit of intrinsic goals for autonomous reasons was positively associated with higher well-being than was the pursuit of extrinsic goals based on external controls. Goal contents and one's interpretations of the underlying control mechanism, therefore, influence well-being as a reflection of the extent to which they satisfy one's basic needs. The pursuit of intrinsically framed goal contents, moreover, appears to promote greater engagement in the learning process, persistence, and overall

better conceptual learning in academic contexts (Vansteenkiste et al., 2006). In a study of college graduates, Niemiec et al. (2009) similarly demonstrated that the attainment of one's intrinsic aspirations is also associated with increased psychological well-being as a reflection of the satisfaction of the three basic psychological needs. Therefore, in the current pilot study it was essential to ensure that the pursuit of intrinsic aspirations was emphasised so that students' goals were more conducive to fostering the deep and self-determined engagement envisioned as requisite for flow.

2.1.6 Relationships motivation theory. The *relationships motivation theory* (Deci & Ryan, 2014) pertains specifically to our basic psychological need for a sense of relatedness to others. Whether in terms of immediate social contexts such as friendship, romantic relationships, or the sense of belonging to a group, the need for interaction and interconnection with others as well as the development and maintenance of close relationships is essential for well-being (Deci et al., 2006; Deci & Ryan, 2014; Ryan & Deci, 2000a, 2000b). To experience a greater sense of security (La Guardia, Ryan, Couchman, & Deci, 2000) and flourish in a social context or high-quality relationship, however, the basic psychological needs for competence and autonomy must also be met in that relationship (Deci & Ryan, 2014). Deci et al. (2006) demonstrated the importance of forging truly reciprocal relationships; when one perceives an opportunity as conducive to both giving and receiving autonomy support from friends (or in the given context, from arguably well-intentioned peers and an instructor), it contributes to needs satisfaction. Thus, as applied to the current endeavour, a clear social connection between all participants in the process must be promoted to satisfy the need for relatedness. It was imperative to establish a learning environment in which students could feel personally accepted by their peers and that their presence and active contribution was significant to the group (Deci & Ryan, 2000, 2014). The prevailing social climate of the classroom is also of importance because it is an environment through which the basic need for a sense of connectedness can be fostered between students and their instructors. For instance, Ryan and Grolnick (1986) demonstrated that students, who perceive their teacher as engaged and having a vested interest in them as individuals and devoted to supporting their autonomy, were more likely to report higher degrees of intrinsic motivation to engage, more competence, and higher self-esteem. Even though the study was conducted with adolescents, the results nonetheless attest to the fact that the relationship between the students and teachers is one which can be purposefully used to further promote students' perceived autonomy. The sense of relatedness one establishes with their teacher as well as the extent to which students perceive their teacher as both empathetic to their needs and an effective communicator (Deci et al., 1994; Grolnick & Ryan, 1987; Petitpas, Giges, & Danish, 1999),

yet also someone they believe they can rely on, demonstrably predicts one's positive attitude towards, ability to function in, and motivation for academe (Ryan, Stiller, & Lynch, 1994).

2.1.7 The prevailing commonality between the mini-theories. On the grounds that the basic premise of the psychological needs theory pervades each other mini-theory inherent in the self-determination theory, it ought to be considered a unifying concept (Ryan & Deci, 2000b) therein. The cognitive evaluation theory, for instance, demonstrates how external factors can influence intrinsic motivation (Deci et al., 1999) and that fulfilling one's needs for competence and autonomy are fundamental for promoting intrinsic motivation (Reeve & Jang, 2006). The organismic integration theory, in turn, specifies how extrinsic motivational forces can be progressively internalised so that they may become more autonomous in nature (Ryan, 1995). It also demonstrates how the given social context can either support or thwart the process of internalisation and thus plays a central role in satisfying one's needs for autonomy and relatedness. As a further supplement, the relationship motivations theory more explicitly identifies the importance of establishing a sense of interconnectedness between actors in a given social context (La Guardia et al., 2000); this need can be satisfied by adopting and fostering relatedness-supportive behaviours (Deci et al., 2006; Deci & Ryan, 2000; Reeve, 2004). Finally, whereas the causality orientations theory facilitates understanding general intrapersonal motivational orientations (Ratelle et al., 2007) in terms of the perceived degree of autonomy which underlies the initiation and regulation of one's behaviour, the goal contents theory elucidates the importance of attending to how goals are framed. Clear individualised goals which delineate the student-athletes' pursuit of intrinsic aspirations and inherently pertain to personal growth are those which will foster psychological well-being (Guay et al., 2008; Niemiec et al., 2009; Vansteenkiste et al, 2006). Deci and Ryan (2014) demonstrate that a high correlation exists between the satisfaction of each basic psychological need and psychological well-being. Moreover, sufficiently fostering the satisfaction of even one need, such as that for autonomy, for example, reciprocally facilitates the likelihood that a person (in the current study, the student-athletes) will satisfy the remaining needs (Deci & Ryan, 2014). Thus, combined, each unique component of the self-determination theory unequivocally converges towards understanding how to promote optimal functioning and psychological well-being. Therefore, although the objective of the pilot study was to teach students how to foster their deep and intrinsically rewarding engagement (flow), it was essential to vie to simultaneously ensure that the student-athletes' basic psychological needs were met. It was clear that for Flow-PST to be most effective, students must first understand and internalise the value of their actions

(Ryan, 1995). Furthermore, the endeavour required a context in which the participants had an opportunity for autonomous action (or, individualised decisional control; Ryan, 2009; Vansteenkiste et al., 2010) and to experience a sense of competence (use their highest skills to meet equally high demands; Ryan & Deci, 2004, 2007), and the student-athletes must perceive an inherent sense of connectedness to those with whom they were interacting in the given environment (Deci & Ryan, 2014; Ryan & Deci, 2000a, 2000b). That mutual connection could be promoted by actively conveying the necessity and significance of each student's role and contributions within the group.

Extensive research has demonstrated that the three basic psychological needs are not only cross-cultural (Deci & Ryan, 2000; Hagger, & Chatzisarantis, 2007; Iyengar & Lepper, 1999), the fulfilment thereof predicts intentional behaviour (Hagger, Chatzisarantis, & Harris, 2006), psychological well-being (Kasser & Ryan, 1999; Ryan & Deci, 2000a), and simultaneously fosters the processes of psychological differentiation and integration (Ryan, 1995) which are key outcomes of the flow experience (Csikszentmihalyi, 1990). *Limiting* students during the learning process, and thus forestalling fulfilment of their basic psychological needs, undermines and is detrimental to their intrinsic forms of motivational regulation, interest to engage in the activity at hand, and yields negative affect (Koestner, Ryan, Bernieri, & Holt, 1984); it is thus counterproductive for persistence and psychological functioning in sport-related contexts in particular (Pelletier et al., 2001). Conversely, educational environments which satiate students' underlying needs to feel autonomous, competent, and connected to those with whom they are engaging, foster both optimal, intrinsically regulated motivation to engage and the psychological development sought (Ryan & Deci, 2000).

To foster students' optimal engagement, the structure of Flow-PST must pivot around satisfying student's basic psychological needs. Ntoumanis (2001) examined the psychological needs for competence, autonomy, and relatedness as they pertain to predicting motivational outcomes and well-being in physical education, for instance. Based on the results of 424 self-report questionnaires completed by 14 to 16- year-olds, the study demonstrated that fostering cooperative learning environments in which each individual can autonomously choose between tasks whilst focusing on their individual performance increments does in fact promote increased intrinsic forms of motivational regulation. Although the study included adolescents rather than young adults, as in the current pilot study, Ntoumanis (2001) nonetheless demonstrated that, if the aim is to foster subjectively perceived dispositional flow, it is essential that students perceive a clear focus on self-determined goals based on individualised criteria. Moreover, the pursuit

must take place in a learning environment which considers the social context and the importance of *cooperative* engagement in the learning process. Similarly, in a further investigation of the importance of autonomy-supportive environments for basic needs satisfaction in physical education settings, Standage, Duda, and Ntoumanis (2005) demonstrated that students' perceptions of the learning environment as providing them opportunity for autonomy, to exert their competence, and as fostering their sense of relatedness did in fact predict the fulfilment of their needs satisfaction and facilitated intrinsic motivation. Furthermore, the study demonstrated that, for the 950 students who completed their questionnaire, intrinsic motivational regulation was positively associated with increased concentration, willingness to engage in challenging tasks, and positive affect—all of which are essential aspects of what will be necessary to cultivate flow.

In a theoretical approach to understanding classroom learning environments, Ames (1992) distinguished three salient classroom structures which can be designed to foster mastery goal orientations, ongoing engagement, and persistence. Students ought to be (a) incorporated into the decision-making process, (b) offered a variety of commensurately valuable and relevant tasks to choose from, and (c) students should have the opportunity to learn to set and measure, vie for, and evaluate the effort put forth towards the fulfilment of their self-determined goals using self-referenced standards. Ames (1992) determined that adherence to these basic structures leads to the fulfilment of the basic psychological needs and promotes more intrinsic forms of motivational regulation; thus, they are directly related to the quality of one's engagement in the learning process and essential to consider within the current pilot study. Vying to satisfy students' basic psychological needs and the aforementioned findings are relevant for the current line of enquiry because they dictate the necessity of conforming to clear facilitative structures. The approach to Flow-PST must be individualised (Seabourne et al, 1985); students must have an opportunity to autonomously determine their unique focus within the frameworks of the seminar. In addition, it will be necessary to ensure that students both recognise their skills and how to set goals which foster the recruitment of those skills and thus incite them to push themselves, further develop, and grow (Sheldon et al., 2004). Here, however, it becomes clear that intrinsic motivation is truly at the heart of the study. For pushing, in this context, denotes the recruitment of intrinsic motivational regulation.

2.1.8 Assessing one's locus of motivational regulation. The self-determination theory allows us to consider one's impetus to act in terms of how autonomously regulated one's behaviour is from three perspectives: intrinsic motivational regulation, extrinsic motivational regulation, and amotivation (Deci & Ryan, 2000, 2008a; Ryan & Deci, 2000c,

2004). In sport, for example, an athlete's perceived autonomy can be measured on a continuum of self-determined motivational regulation to engage, which is anchored by amotivation and intrinsic motivational regulation (Pelletier, Rocchi, Vallerand, Deci, & Ryan, 2013; Ryan & Deci, 2007). It is when the basic psychological needs are met that intrinsic forms of motivational regulation to act ensue (Deci & Ryan, 2000; Ryan, 1995; Ryan & Deci, 2007).

At one end of the spectrum, as demonstrated in Figure 1, *amotivation* denotes the complete lack of motivation to engage; one inherently perceives no value in taking action (Deci & Ryan, 1985a; 2000a; Pelletier et al, 2013; Pelletier & Sarrazin, 2007; Ryan & Deci, 2007) and is thus not likely to engage or persist in an endeavour. Understanding amotivation is essential in order to determine strategies which promote the prevention thereof. As described by Pelletier, Dion, Tuson, and Green-Demers (1999), amotivation is the result of core beliefs delineated from the assumption that action is futile because one is essentially helpless, or lacking the necessary competence and control over one's behaviour in order to succeed. Further prevailing beliefs underlying amotivation include the notion that the strategies one has at one's disposal will not facilitate achieving the desired outcomes, that one is incapable of successfully executing the desired behaviour, and that one will neither be able to remain engaged over time nor truly integrate the desired changes in behaviour among their existing repertoires (Pelletier et al., 1999). Essentially, amotivation is associated with negative affect and the learned helplessness phenomenon (Peterson & Seligman, 1984), which has consequences for one's attributional, or explanatory style, and underscores one's belief in the lack of control over one's actions. To circumvent or counteract amotivation, it is thus of clear importance to foster greater internalisation of not only the importance of one's actions, but of one's competencies.

The self-determination theory posits that behaviour which is externally, or extrinsically, regulated ought to be considered on a conceptual continuum of perceived autonomy based on to what extent one's engagement is volitional (Deci & Ryan, 1985a). When externally motivated, although one may act out of free will, engagement is contingent upon external factors separate from oneself such as the expectation of a reward, or reinforcement (Deci et al., 1981), for instance. The more one experiences the fulfilment of one's basic psychological needs, the more one will adopt, or integrate and internalise (Deci et al., 1994; Deci & Ryan, 2000a; Pelletier et al., 1995; Pelletier et al, 2013; Pelletier & Sarrazin, 2007; Ryan, 1995; Ryan & Deci, 2007) the value of an (initially) extrinsically motivated behaviour. Integration and internalisation of the value of an action is facilitated when one is provided with an explanatory rational for why one ought to engage, when

one's feelings towards engagement are legitimised, and when one perceives elements of choice pertaining to one's engagement (Assor, Kaplan, & Roth, 2002; Deci et al., 1994; Reeve, 2009; Ryan, 1995). As a result, one progressively identifies engagement as personally relevant and important. Three forms of extrinsic motivational regulation exist; each reflects a varying degree of internalisation and integration of the perceived value of one's engagement in an activity.

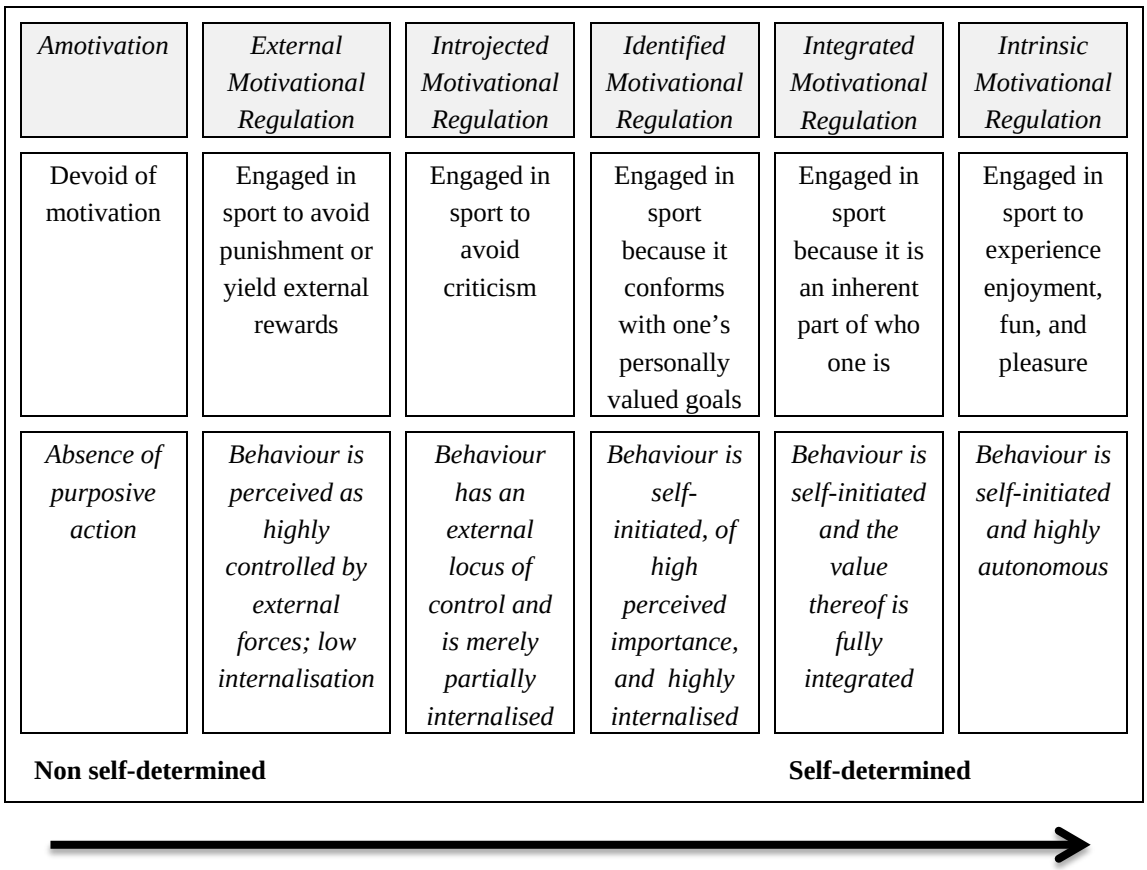

Figure 1. Continuum of self-determined motivational regulation to engage in sport. Adapted from Rocchi, M., Pelletier, L.G., Vallerand, R.J., Deci, E.L., & Ryan, R,M. (2010). *Validation of the Revised Sport Motivation Scale* [PowerPoint Slides].

Introjected motivational regulation refers to the least internalised form of motivational regulation to engage. While one can accept the ostensible value of being engaged, one does not yet identify with or accept the action as integral to oneself. Control comes from within as a reflection of the demands one places upon oneself. Those demands, however, initiate externally and thus one's engagement is out of a desire to avoid shame and gain either approval or something which is contingent upon one's compliant behaviour (Deci et al., 1994; Deci & Ryan, 2000a; Pelletier et al., 1995; Pelletier et al, 2013; Pelletier & Sarrazin, 2007; Ryan & Deci, 2007). Whereas more intrinsically motivated behaviour is a reflection of one's engagement in a task based on engagement and perceived choice, introjected motivational regulation is a reflection of a desire to engage as a means to demonstrate self-worth (Ryan & Deci, 2000a; Ryan et al., 1991). In contrast, as one's basic

psychological needs are met and one begins to personally identify with the value of engagement, one shifts toward greater autonomy.

Identified motivational regulation can be described as the result of an internal process whereby one not only recognises the value of action, but also progressively internalises and begins to personally identify with the action (Deci et al., 1994; Deci & Ryan, 2000a; Pelletier et al, 1995; Pelletier et al, 2013; Pelletier & Sarrazin, 2007; Ryan, 1995; Ryan & Deci, 2007). In comparison to introjected motivational regulation, identified regulation of behaviour can be characterised as more volitional—one's greater sense of conviction in the inherent value and purpose of one's engagement is the impetus for action. One's behaviour is nonetheless extrinsically motivated in part because engagement is not yet a reflection of the sheer desire to engage for the sake of the intrinsic reward engagement brings, however. Still, in an attempt to assess college students' motivational regulation pertaining to education, Vallerand et al., (1992) employed the *Academic Motivation Scale* to successfully demonstrate that identified motivational regulation is nonetheless associated with persistent engagement with required course material. Yet, in a later study, Vallerand, Fortier, and Guay (1997) demonstrated that whereas intrinsically motivated engagement led to more committed engagement, the less autonomy supportive a student perceived their educational environment, the more likely they were to drop out. Thus, to ensure that students *remain* in a seminar such as Flow-PST, their identification with the value of their engagement must be fostered accordingly. Ideally, *if* externally regulated, students ought to be encouraged to engage by demonstrating to them how the choice to do so could nevertheless endorse their personal values.

Integrated motivational regulation is the most autonomous form of extrinsically regulated behaviour; it reflects complete internalisation of extrinsic motivational factors (Deci et al., 1994; Deci & Ryan, 2000a; Pelletier et al, 2013; Pelletier & Sarrazin, 2007; Ryan & Deci, 2007). In contrast to identified motivational regulation, integrated motivational regulation reflects complete volitional action, one's engagement is simultaneously consistent with one's values and identity (Ryan, 1995). Furthermore, engagement is perceived as contributing to one's growth and development as an individual and as an athlete (Mallett & Hanrahan, 2004; Pelletier et al., 2013). Although integrated regulation is relatively autonomous and free, it differs from intrinsic motivational regulation in that, despite how internalised the value of one's actions is, one nevertheless engages as a means to fulfil a goal beyond sheer personal enjoyment and intrinsic reward. As surmised by Pelletier & Sarrazin (2007), integrated motivational regulation is presumably more internalised than identified motivational regulation. Yet, a more refined measurement and

distinction of the nuanced degrees of autonomy inherent within sport specific integrated regulation still requires further study (Mallett, Kawabata, Newcombe, Otero-Forero, Jackson, 2007; Pelletier & Sarrazin, 2007; Pelletier, Vallerand, & Sarrazin, 2007).

There is a need to clearly identify what underlies integrated behavioural regulation because, in athletic contexts in particular, integrated yet volitional action can reflect nuanced degrees of autonomy and enjoyment in one's endeavour. As an illustration, in a qualitative study, Mallett and Hanrahan (2004) demonstrated that integrated motivational regulation was a clear source of motivation for elite track and field athletes. Yet one must recognise, however, that a track and field athlete may independently decide to engage in weight training because they perceive the action as of value and conducive to success in their sport, or a means to fulfil her or his goal—sheer joy is not the impetus for action. Thus, the volitional action differs from intrinsically regulated behaviour in that those track athletes who love weight training do so for the intrinsic rewards—how remarkably good it feels (physically and emotionally) to use and develop their strength. That their engagement in weight training simultaneously fosters the fulfilment of their goal to run faster and jump farther, is of little immediate importance per se. Although the willingness to engage in order to foster valued goal attainment reflects absolute internalisation (Deci et al., 1994; Ryan, 1995), it is only intrinsic motivational regulation which is associated with truly optimal experiences which result in psychological growth. While Ryan and Deci (2007) clearly identify the various forms of motivational regulation as a conceptual continuum of varying degrees of perceived autonomy, it is important to note that a linear progression along the continuum is not presumed. Yet, the extent to which a learning environment is perceived as autonomy supportive, however, does in fact promote greater internalisation.

When intrinsically motivated, one's engagement is the reflection of the joy, pleasure, and reward of engagement in and of itself; it is the quintessential expression of perceived autonomy (Deci et al., 1994; Deci & Ryan, 1985a, 2000a; Pelletier et al, 1995; Pelletier et al, 2013; Pelletier & Sarrazin, 2007; Ryan & Deci, 2000c, 2007). Intrinsically motivated behavioural regulation is the result of the fulfilment of the basic psychological needs to exert autonomous control over action and express one's competence while feeling a sense of connection within one's social environment (Ryan & Deci, 2000a). Whereas increases in perceived competence, autonomy, and relatedness are determinants of intrinsic motivation, decreases produce the opposite effect (Deci & Ryan, 1985a). Grolnick and Ryan (1987) have demonstrated that greater perceived autonomy is associated with greater conceptual learning. While Deci et al. (1991) yielded corresponding results, they also

reported that intrinsic and integrated forms of motivational regulation clearly lead to students' increased interest in and higher quality learning and greater confidence. Moreover, autonomous forms of motivational regulation are also a predictor of behavioural persistence in academic contexts; external and introjected forms of motivational regulation are demonstrably not, however (Ryan & Connell, 1989; Vallerand & Bissonnette, 1992). These results were evidence that it is of utmost importance that students perceive and internalise the inherent value of engagement as indispensable for the fulfilment of their personal goals. Of central importance to the current study was that intrinsic forms of motivational regulation are also recurrently positively associated with the experience of flow states in educational realms (Carli et al., 1988; Massimini et al, 1988) and in both recreational and competitive sport (Jackson, 1992, 1995, 1998; Kowal & Fortier, 1999; Stein, Kimiecik, Daniels, & Jackson, 1995)—as will be described in greater depth in short. Yet, from a self-determination theory perspective (Ryan & Deci, 2007), only when our basic psychological needs are met can we experience flow. One must perceive not only an optimal challenge but also the opportunity for autonomous engagement as well as a sense of connection in order to foster such *optimal* experience.

2.2 Unearthing Flow

Out of a desire to comprehensively understand the unique experience of complete engrossment in an activity, which yields deep enjoyment, Mihaly Csikszentmihalyi (1975) pioneered research pertaining to what constitutes positive individual experiences. He unearthed what he identified as flow: The "process of total involvement with life" (Csikszentmihalyi, 1990, p.xi). Flow, synonymously referred to as optimal experience in Csikszentmihalyi's (1975, 1990) research, is characterised by an experience of such intense positively focused involvement in one's actions that it enables a transcendence of experience from mere deliberate action to complete sensory absorption in the activity. Akin to the conceptualisation of intrinsic motivation (Deci & Ryan, 1985a; Ryan, 1995; Ryan & Deci's, 2000a, 2000c), Csikszentmihalyi (1990) further defines flow as "the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it" (p. 4).

The optimal psychological state of flow transpires at micro and macro levels (Csikszentmihalyi, 1975). Micro flow ensues during mundane and idiosyncratic patterns of behaviour, daydreaming, or whilst engaging in slightly more purposeful behaviours such as listening to music or partaking of a film, for example. In contrast, macro flow pertains to

those necessary behavioural patterns which are of greater complexity and present a person with higher cognitive demands. Csikszentmihalyi (1990) discovered that what is common to both levels of flow, however, is that having experienced this unique state of deep engagement in an activity reportedly always:

> provided a sense of discovery, a creative feeling of transporting the person into a new reality. It pushed the person to higher levels of performance, and led to previously undreamed-of states of consciousness. In short, it transformed the self by making it more complex. (Csikszentmihalyi, 1990, p. 74)

The experience of flow thus results in psychological growth, which is what helps individuals flourish (Seligman & Csikszentmihalyi, 2000).

2.3 Defining Characteristics of Flow

Nine factors, which describe ones disposition while in flow, have been determined as both requisite for and indicative of the state (Csikszentmihalyi, 1975, 1990). The essential components include a challenge-skill balance, the merging of action and awareness, clear goals, unambiguous feedback, concentration on the task at hand, a paradoxical sense of control, loss of self-consciousness, a transformation of time, and the autotelic experience.

2.3.1 Commensurately high challenges and skills. The experience of flow ensues only when a harmonious balance exists between the subjectively perceived challenge presented and the equally high calibre skills one possesses and employs to meet the challenge (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini, Csikszentmihalyi, & Carli, 1987). The performer's *perception* is of key importance. Tangible challenges and skills are less relevant determinants of flow compared to the challenge and skills one perceives oneself as facing and possessing, respectively. When the perceived demands and one's perceived skills as related to the challenge are in equilibrium, and require one's utmost proficient abilities, an essential aspect of and precursor to flow is established. The concept of a challenge essentially implies an opportunity to take action or pursue a personal goal. The inherent characteristics of sport, therefore, arguably provide limitless opportunity for flow to ensue. As, regardless of one's experience or proficiency, myriad possibilities exist to determine and strive towards personal challenges related to the improvement of various aspects of one's athletic performance.

In athletic learning contexts (Jackson & Csikszentmihalyi, 1999) as well as during academic learning processes (Larson, 1988), should an imbalance between one's perceived challenge and skills exist, flow cannot eventuate. As depicted in Figure 2, in the subjectively perceived absence of commensurate skills to meet a challenge, suboptimal cognitive states, detrimental to flourishing, prevail (Csikszentmihalyi, 1990). When one deems oneself highly skilled yet faced with an insignificant challenge, one becomes less attentive and boredom results. Similarly, Csikszentmihalyi's (1990) flow theory states that apathy is the result of engagement in an activity which presents a low challenge, yet, for which one perceives their skills as equally low. In contrast, anxiety eventuates in the face of a high challenge which one feels ill-equipped to meet. It is when confidently vying to meet a challenge under recruitment of one's greatest skills that requisite psychic energy is invested; this is essential to not only setting the stage for flow but for diversification and growth of the self (Csikszentmihalyi, 1990). Only with self-trust, and when one is optimally focused and engaging within the challenge-skill balance, does one's action and awareness merge.

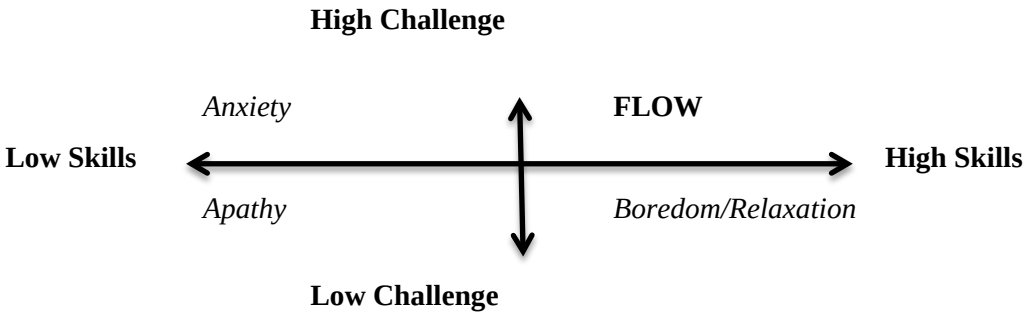

Figure 2. Model of the challenge-skill balance requisite for the flow state to ensue. Adapted from *Flow in sports: The keys to optimal experiences and performances* (p. 37), by S.A. Jackson and M. Csikszentmihalyi, 1999, Champaign, IL: Human Kinetics. Copyright 1999 by Susan Jackson and Mihaly Csikszentmihalyi.

2.3.2 Action and awareness merging. The moment in which one ceases to discern oneself as separate from one's actions denotes the onset of the second dimension of flow: the merging of action and awareness (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). The coalescence of mind and body is characterised by an effortless unification and sense of oneness that ensues when one performs with their utmost ability in the face of a high demand, which pushes and extends one's existing performance limits. This level of performance requires optimal focus, the consequence of which is undivided absorption in the task. Unwavering focus and exclusive cognitive involvement in performance ultimately precedes an elegant and tranquil evolution; the actor and his actions transcend and amalgamate as one entity. Physical and mental

components of performance—action and awareness—coalesce and intentional action concerns only pursuing one's goal, step by step.

2.3.3 Clearly defined goals. The third stipulated prerequisite to and dimension of flow is the presence of clear goals (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999), which provide clarity of intention and hence direct focus. They thereby reduce or eventually eliminate the potential for distractions to divert focus from one's intent. The existence of a unique, task-relevant focus is an elemental component flow. To facilitate flow, an unambiguous intention, coupled with an intuitive conviction in ones capability to fulfil the established goal, is of essence. Commensurate with those requirements, sports are governed by clear rules; establishing a plan and vying for those clear objectives offers structure and necessitates a clearly defined, task-relevant focus on the actions one needs to take in order to attain the desired level of performance. One's clear and strong sense of intention must nonetheless be susceptible to ongoing evaluation by internalised, personally relevant criteria or guidelines which indicate the degree of success towards goal achievement.

2.3.4 Unambiguous feedback. Receiving and interpreting ongoing knowledge of progress made towards one's goal is of reciprocal importance to clearly defined goals (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). The nature of the feedback is irrelevant; of essence is its subjectively experienced relevance as an indicator of the proximity towards achievement of the goal pursued. For flow to ensue, clear and instantaneous feedback from all relevant internal and external sources must be present. This automatically transpired information requires and encourages acute involvement with one's goal. One's sources of feedback hence present an immediate means of assessment essential to dictating how one must progress. It advocates adherence to one's premeditated course, and/or, demonstrates the necessity of slight adjustment to the predetermined series of successive required steps towards the attainment of one's goal. When in flow, an athlete need not mull over kinaesthetic feedback in order to optimise performance, for example. Rather, feedback is attended to and necessary adjustments are made instantaneously, without interrupting one's optimal, task-specific performance focus.

2.3.5 Concentration on the imminent task. Unwavering concentration on the task in question denotes the fifth dimension of flow. One's range of awareness is primarily dependent upon the task demands. For instance, an athlete involved in a team sport must maintain a different level of external awareness than an athlete performing in an individual

event. Yet, the commonality remains; the exclusion of superfluous thoughts and distractions from consciousness is consistent with the experience of flow (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). This clarity and order in consciousness (Csikszentmihalyi, 1990) is what leads to greater differentiation and complexity of the self. When in flow, all thoughts and energy effortlessly forge towards a sole purpose, the consequence of which is complete unification of experience. Body, mind, intent, and equipment—everything associated with performance—is focused on the imminent task and functions with simultaneous harmony, as an amalgamated, automatically performing whole. Everything prior and subsequent to the immediate instance is irrelevant; while in flow, awareness must restrict itself to the present moment and performing accordingly. The optimal focus characteristic to flow ensues naturally and with great ease.

2.3.6 The paradox of control. The presence of the aforementioned dimensions of flow enables a paradoxical sense of control to develop. The term paradox reflects the acknowledgement that while in flow, exercising control stems from an actual lack or relinquishment thereof. Through controlling one's performance by means of goals and directed focus, one initially exerts overt control. With experience, however, the aforementioned overt control becomes progressively less necessary due to increased automaticity of performance. As conscious processes progressively give way to automatic well-rehearsed subconscious processes (which emerge and autonomously control performance), control is *sensed* yet not truly *exercised*. Hence, the notion of control pertaining to flow denotes a subconscious regulation of performance which stems from well-rehearsed processes as opposed to overtly exerted control. The paradoxical sense of control is recurrently equated to feelings of confidence and empowerment as well as a general lack of concern regarding ones performance abilities (Csikszentmihalyi & Jackson, 1999; Jackson, 1992, 1996). Self-trust, composure and a sense of inner strength are abundant as a consequence of performing whilst experiencing and functioning within the aforementioned paradoxical sense of control. Csikszentmihalyi (1990) argues that a great desire to *exert* control shall likely result in a transcendence away from flow and towards rigidity, which is detrimental to performance. Conversely, attempted avoidance thereof shall likely render one inconsequent and unable to attain the experience of flow. Hence, akin to the challenge-skill dimension, one must pursue a harmonious balance between the two. *Knowing* and *trusting* that one is *in* control renders anxiety, self-conscious thought, and the temptation to purposefully exert control superfluous. The paradoxical experience of control thus facilitates a loss of self-consciousness behavioural regulation.

2.3.7 The loss of self-consciousness. Knowing and trusting that one can, will, or is performing optimally renders insufficient opportunity for negative concern and or doubt to arise (Csikszentmihalyi, 1990). For, when in flow, our attentional capacity (Abernethy, 2001) is selectively limited and allocated to only relevant stimuli. Ultimately, an inherent relationship must exist between the amalgamation of action and awareness, concentration on the task at hand, and the loss of evaluative self-consciousness dimensions of flow in sport in particular. The reciprocal nature of the dimensions is unmistakeable: Merely by directing one's focus does one reduce and eliminate the potential debilitating effects of self-defeating thought. The prophylactic renouncement of self-doubt concomitantly liberates one to simply *perform* and allow well-rehearsed optimal performance patterns to unfold. While in flow, one is essentially a unified entity and inseparable from the essence of what one is doing for the duration (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). Only positive, performance-enhancing thoughts permeate consciousness (Orlick, 2000). And when meaningfully engaged and optimally focused, one often loses track of time.

2.3.8 The transformation of time. Albeit a non-universal experience (Jackson et al., 2010; Swann et al., 2012; Tenenbaum et al., 1999), and often ephemeral, reports of altered perceptions of time during flow are prevalent (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). It is possible to perceive the transformation of time as either accelerating or decelerating while in flow. When later reflecting upon performance, however, milliseconds feel as though they were in fact seconds and the perception of hours can actually reflect mere minutes. Even if time is perceived as fleeting, it is often concurrently perceived as standing still; time and space cease to exist as such. Although perhaps eerie in retrospect, it is simultaneously characterised as exhilarating to experience such a paradoxical passage of time (Jackson 1992, 1995). It is postulated that an altered perception of the passage of time is a consequence of having utmost involvement in or concentration on an undertaking (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). When completely focused, there is no remnant cognitive energy to attend to or acknowledge the passage of time; it is not forgotten per se, it is perhaps simply not rendered relevant stimuli (Abernethy, 2001). In athletic contexts, it is conceivable that the inconsistency in the experience of the transformation of time dimension of flow correlates to the varying demands of given tasks. As described by Csikszentmihalyi and Jackson (1999), sports in which actively attending to the passage of time is of essence may be exempt from the generalisation proposed in this dimension. Both Chavez (2008) and Tenenbaum et al. (1999), in contrast, suggest that the transformation of time likely only ensues in the midst of a deep flow experience, when one's concentration is most intense. The awareness of an altered perception of time generally becomes apparent subsequent to

performing in a state of flow (the moment in which one actively reflects upon what occurred). In contrast to the non-universal altered perception of time, however, the most frequently reported experience subsequent to flow is a deep sense of joy and satisfaction (Csikszentmihalyi, 1975, 1990; Jackson, 1992; Jackson & Roberts, 1992).

2.3.9 The autotelic experience. Csikszentmihalyi (1990) denoted the final dimension of flow *autotelic*, as a reflection of the Greek words "*auto* meaning self, and *telos* meaning goal. It refers to a self-contained activity, one that is done not with the expectation of some future benefit, but simply because the doing itself is the reward" (p. 67). Characterised by moments of complete involvement, which are universally positive and undertaken for the sole purpose of relishing in full immersion in the process, the autotelic experience represents an incredible intrinsically rewarding occurrence. They represent the culmination of the previously delineated prerequisite dimensions of flow (Csikszentmihalyi, 1990). The exceptional experience of flow grants one exposure to subjectively perceived excellence, or *perfection*. As a result, one commonly describes a sense of strength and an abundance of channelled energy within (Jackson 1992, 1995; Jackson & Csikszentmihalyi, 1999). Particularly in sport, this exhilarating feeling of being great and powerful—performing the absolute best one can—is described as one of extreme pleasure (Jackson, 1996, 2000; Jackson & Roberts, 1992). It is the desire for further enjoyment, fulfilment, and invigoration, which is uplifting and enticing; it serves to inspire those who have had an autotelic experience and performed in the state of flow to seek its attainment recurrently (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). Fundamentally, being in flow denotes overall functioning at a personally high calibre in a state of awareness, which is simultaneously a state of non-awareness. The state of optimal psychological functioning is as desirable and revered as the myriad domains in which it can be experienced.

2.4 Studies of the Quality of Experience

The optimal mental performance state of flow has been examined extensively from multiple perspectives. Research has been conducted to better understand the theoretical nature of flow (Csikszentmihalyi, 1975, 1990; Csikszentmihalyi & LeFevre, 1989; Jackson, 1996, 2000; Jackson, Kimiecik, Ford & Marsh, 1998; Moneta & Csikszentmihalyi, 1996) as well as the diverse fields and cohorts in which it comes forth (Csikszentmihalyi & Csikszentmihalyi, 1988). Furthermore, the construct of flow has been examined in terms of its biocultural evolution (Massimini et al., 1988), its sociological implications (Mitchell, 1988), its natural occurrence as a reflection of a given lifestyle (I. Csikszentmihalyi, 1988),

and its psychometric accessibility (Jackson & Marsh, 1996; Jackson & Roberts, 1992), for instance. Without fail, the aforementioned prior research recurrently demonstrated the underlying premise of this pilot study: The opportunity for flow always exists when a structured activity allows room for one to experience a sense of autonomy (Csikszentmihalyi, 1990; Deci & Ryan, 1987).

2.5 The Study of Flow in Structured Activities

Structured activities, in particular, provide the opportunity to determine clear challenges and skills to vie for; thus, they have the potential to promote both intrinsic motivation to engage and flow. In an early examination of a diverse sample of 107 workers aged 19 to 63 (63% female and 37% male) representing three occupational groups, Csikszentmihalyi and LeFevre (1989) provided evidence that high intrinsic motivation is in fact clearly associated with the experience of flow. In particular, flow was demonstrated as occurring with greater frequency when one is engaged in work related tasks (such as writing a report, doing paperwork, or participating in meetings) as compared to when one was engaging in leisure activities (such as watching television, socialising, or reading). Interestingly, contrary to what is predicted in Csikszentmihalyi's (1990) model of the challenge-skill balance (previously depicted in Figure 2; Jackson & Csikszentmihalyi, 1999), Csikszentmihalyi and LeFevre (1989) also found that while some workers experienced flow when performing within the high skills and high challenge quadrant, others reported feeling motivated when both their skills and challenges faced were low (in the apathy quadrant; Jackson & Csikszentmihalyi, 1999). Nevertheless, the latter workers experienced less overall satisfaction and positive affect in comparison to those who perceived they were vying towards a high challenge and recruiting equally high skills. Hence, transferring that knowledge to the current setting, even if not performing within the high-skill/high-challenge quadrant of flow (Jackson & Csikszentmihalyi, 1999), it is possible that one experiences a sense of optimal experience and motivation to remain engaged as a result of the rewarding opportunity to exert their competence.

Mannell, Zuzanek, and Larson (1988) embarked upon an investigation of Canadian retirees' motivation to engage in physical fitness activities. In their study, they specifically wished to examine the relationship between the perception of autonomous freedom to engage in a leisure activity, intrinsic motivational regulation, and the experience of flow. Mannell et al. (1988) hypothesised that those participants who perceived greater freedom and reported intrinsic rather than extrinsic motivation to engage would be more likely to experience flow during their leisure activities. Over the course of one week, 92 retirees (52 females and 40 males aged 55 to 88) kept track of their leisure activities and the quality of

their experiences therein using the *Experience Sampling Method* (Massimini et al., 1987) at seven random times each day. In total, respondents provided 3,412 recounts of the quality of their experiences. To assess the retirees' motivational regulation, respondents were asked to indicate whether their engagement was "for others, for your immediate enjoyment (also described as 'for its own sake'), or for your long-term benefit?" (Mannell et al., 1988, p. 294). Only when a retiree cited their engagement as a reflection of their own enjoyment was it considered demonstrative of intrinsic motivational regulation. The remaining two responses were deemed examples of extrinsic motivational regulation. What makes the study of interest for the current research is twofold. Mannell et al. (1988) demonstrated that perceived autonomy was positively related to one's high concentration on the task at hand. Contrary to their hypothesis, however, the greatest levels of concentration were reportedly experienced by those who cited *external* forms of motivational regulation to engage in the given activity. In addition, in contrast to their expectations, the retirees also reported a more frequent experience of a balance between the perceived challenge faced and their equally high skills when their motivation to engage was externally regulated. Of importance is that, while Mannell et al. (1988) considered the findings paradoxical at the time, they recognised that it was the ambiguity in the distinction between their dyad of intrinsic and extrinsic motivational regulation to engage which was problematic. The simple dichotomy employed neglected to take the internalisation process (Deci et al., 1994; Ryan, 1995) into take into account—the autonomous forms of extrinsically motivated behavioural regulation.

Haworth and Hill (1992) also investigated the relationship between one's situational intrinsic motivation to engage and the experience of flow. However, they did so by contrasting the quality of experiences reported by white-collar professionals while engaged in work related tasks as compared to during moments of leisure. The quantitative study included 20 young white-collar professionals (13 females and seven males aged 20 to 30). When compared to Mannell et al. (1988), the means of assessing intrinsic and extrinsic motivational regulation Haworth and Hill (1992) employed were equally problematic. For Haworth and Hill (1992) operationalised intrinsic motivation as when one expressed desire to engage in an activity and did not indicate a wish to do something else, whereas extrinsic motivation was presumed when one indicated both that they (a) had no choice but to engage in the activity and (b) would have preferred to be engaged in a different activity. Here, they neglected to account for the fact that while one can be intrinsically motivated to engage, it is still possible to wish to engage in something else—to thoroughly enjoy, yet nonetheless looking forward to the end of an activity and spending time with one's friends or family, for instance. Nonetheless, the results indicated that

while the participants' intrinsic motivation for leisure activities was positively associated with their happiness, it was their intrinsic motivation for work which was positively associated with their general satisfaction with life (Haworth & Hill, 1992). Moreover, the respondents reported that enjoyment and interest increased proportionately with their perceived challenges and commensurate competence exercised. While the participants reportedly experienced flow 14% of the time while engaged in leisure activities, an optimal challenge-skill balance and thus flow was experienced in 86% of the recorded experiences while at work. In addition, Haworth and Hill (1992) demonstrated that extrinsic motivation at work was associated with perceived competence when the participants perceived the sense of purpose provided by the extrinsic motivational regulation as positive—arguably, this was the case when the extrinsic motivational regulation was internalised. As work contexts reportedly allowed one to satiate the need to exert their perceived competence, the study further demonstrated that structured activities which require the active recruitment of one's skills are important because they are more conducive to flow. What renders this particular investigation of work-related situational flow of importance is, naturally, such structure can similarly be found in educational contexts. Although Csikszentmihalyi (1975) anticipated his research would bear fruit in educational contexts in particular, the application of the flow theory has yet to have widespread impact in higher education. The quality of experience has, however, been studied in educational contexts with children and adolescents; that research thus further informed how to approach the Flow-PST pilot study.

2.6 The Study of Flow in Academic Contexts

Academic contexts, in particular, entail structured activities which are conducive to experiencing flow. Over the course of three years, Massimini et al. (1988) conducted a series of 12 studies in which 636 participants completed both a *Flow Questionnaire* and participated in an interview. The aim of the studies was to gain insight into potential cultural differences in how flow is experienced, the described antecedents, or what is characterised as sustaining the optimal mental state. In a study of 107 teacher's education students, aged 18 to 55 (including 85% female and 15% male respondents), Massimini et al. (1988) discovered that 104 (97%) of their respondents frequently experienced flow while engaged in flow conducive activities such as reading, sports, and studying. As described by Massimini et al. (1988), this finding was unique because:

> the frequency with which reading and studying were mentioned reflects the process of cultural replication that is a specific function of this group. Given the fact that

> these students are preparing themselves for a teaching career, their ability to experience flow in such activities facilitates their learning cultural instructions, which later they will have the task of transmitting to their own students. (Massimini et al., 1988, p. 76)

Thus, seeking opportunities to engage in flow conducive activities could be a reflection of those with a vested interest in intellectual activities, for example. Still, learning to cultivate flow ought to be considered an important cultural meme which should be handed down between generations by teacher's education students in particular; yet, for *any* student, the skill would represent valuable cultural currency. A further important finding of this study, however, was that this particular cohort placed great emphasis on concentration, employing their highest skills, and intrinsic motivation as antecedents to experiencing flow. In fact, across the entire series of studies conducted by Massimini et al. (1988) and across the wide range of participants, clear commonalities existed in what the respondents characterised as antecedents to the experience. Unsurprisingly, the key antecedents students perceived and mentioned reflected dimensions of Csikszentmihalyi's (1990) model of flow: The activity itself played a role, concentration on the task, experiencing an optimal balance between one's skills and the challenges faced, which led to a deeper sense of complexity of the self, unambiguous feedback about one's actions, and intrinsic motivation (Massimini et al., 1988). Therefore, the structures already inherent in academia offer fertile ground for the cultivation of the described antecedents to flow.

In academic contexts, ensuring an optimal challenge-skill balance is fundamental. In a cross-cultural exploration of 14 to 18-year-old Italian and U.S. high school students' experience of flow, Carli et al. (1988) used the experience sampling method (Csikszentmihalyi & LeFevre, 1989; Massimini et al., 1987), whereby respondents complete self-reports of their experiences randomly throughout the day, and demonstrated that experiencing flow was an inherently positive experience across cultures. Yet, when asked to identify their perceived precursors to flow, Italian students conveyed that they experienced flow when a challenge-skill balance existed. In contrast, U.S. students reportedly preferred and deemed a slightly greater sense of control over their actions as conducive to flow. Essentially, they desired learning under conditions in which they perceived their skills to be slightly higher than the challenges faced. That condition, however, is indicative of the boredom quadrant of the challenge-skill model (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini et al., 1987). Thus, in outcome-oriented situations such as those presented in educational learning contexts, U.S. high school students desired and enjoyed learning conditions which reliably offered

them an opportunity to succeed. This finding is important because while the social structure of schools ought to reflect students' needs, Carli et al. (1988) demonstrated that they evidently did not. For, in contrast, although engaging in schoolwork was a similarly positive experience for the Italian high school students involved in the study, to experience flow, they, conversely, desired exercising less control during their time spent in the classroom. Essentially, they wished to experience equilibrium between their challenges and skills. Hence, Carli et al. (1988) clearly identified that in both cultures, the school systems provided the opportunity to fulfil the diametrically opposed need. Unfortunately, should students prefer to avoid challenging situations during the learning process, it simultaneously implies that that they will not engage in ways which are conducive to optimal psychological growth (Deci et al., 1991; Deci & Vansteenkiste, 2002; Carli et al., 1988). If vying to cultivate flow, however, this would naturally prove problematic. To achieve and remain in flow, one must progressively vie for greater challenges as one's perceived competence increases (Csikszentmihalyi, 1990). While the cross-cultural comparison clearly could not reflect either culture in its entirety, it did emphasise the importance of recognising and vying to optimise students' needs during the learning process. And the Flow-PST pilot study did in fact represent the union of two potentially divergent cultural perspectives—both literally and figuratively—on how best to foster the learning process (governed by authoritative control or rife with opportunities for freedom, and from European and North American perspectives on the learning process). Consequently, it was important to ensure that students had both opportunities for autonomy yet also explicit guidance as required.

Whereas Carli et al. (1988) employed the situational experience sampling method to examine potential cultural variances in students' experiences, Nakamura (1988) conducted a longitudinal study to examine the long-term effects of flow on the quality of high school students' experience. In particular, Nakamura (1988) vied to elucidate what role the relationship between the individual and their environment plays in order to understand why, in a cohort of adolescents with similar latent aptitude, some students develop their talent while it remains dormant in others. Nakamura (1988) offered preliminary evidence which suggested that high achievers actively seek academic challenges and are thus more frequently required to recruit their highest skills. Essentially, high achievers perform within the challenge-skill balance and thereby experience flow with greater frequency—that was the key to the difference in their level of engagement. Their low achieving counterparts, in contrast, were less successful because they avoided structured academic challenges and invested more energy in socialising (Nakamura, 1988). This finding similarly highlights the importance of ensuring that when teaching student-

athletes how to cultivate flow, students' challenges must be self-determined. For if vying for *personally* relevant goals, it is more likely that a student will optimally engage than if structured activities are imposed upon them (Kasser & Ryan, 1996; Sheldon et al., 2004; Vansteenkiste et al., 2006; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). Helping students find equilibrium in their challenge-skill balance is thus of utmost importance. Moreover, if the learning environment also fosters students' needs for social interaction (relatedness; Deci et al., 2006; Deci & Ryan, 2000, 2014), that could prove conducive to capturing and maintaining the interest of students less inclined to invest energy in the learning process. Sport not only offers contexts in which such camaraderie can readily be fostered, the nature of sports also presents clear challenges which require commensurate skills. Through sport, therefore, one can easily promote the satiation of one's basic psychological needs; it is also a context in which flow frequently occurs and is deemed a highly desirable outcome of one's prior preparation and deep engagement (Jackson & Csikszentmihalyi, 1999). Before delving into sport-specific factors associated with experiencing flow, however, it is beneficial to first understand how the situational and dispositional experience thereof is most commonly measured in sport contexts.

2.7 Measuring Flow in Sport

Csikszentmihalyi's (1990) delineated nine dimensions of flow have been studied through systematic review of the extant literature (Swann et al., 2012) and corroborated in both qualitative (Chavez, 2008; Jackson, 1992, 1995, 1996) and quantitative research (Jackson & Eklund, 2002, 2004; Jackson et al., 1998; Jackson & Marsh, 1996; Jackson, Martin, & Eklund, 2008; Kimiecik & Jackson, 2002) with specific reference to exercise, physical activity and sport realms. Out of a desire to adequately assess the occurrence of flow in sport and psychical activity contexts, Jackson and Marsh (1996) further developed and then established the construct validity and reliability of the preliminary *Flow Scale* (Jackson & Roberts, 1992). The *Flow State Scale* (Jackson & Marsh, 1996) provided a multidimensional, self-report assessment of flow based on a respondent's retrospective recount of their recently completed physical activity. The revised 36-item instrument was administered to 394 U.S. and Australian athletes; the cohort included 130 females and 264 males between the ages of 14 and 50. In addition to comprising multiple age groups, the athletes included in the study represented both 41 different sports and physical activities as well as varying levels of participation ranging from recreational to national levels. The confirmatory factor analysis of the participants' responses was among the first to reveal that the transformation of time and loss of self-consciousness dimensions of flow are not universally experienced and are thus potentially of lesser importance for an athlete's

experience of flow. Of most importance, however, is that the assessment tool provided a viable means of indicating and measuring an athlete's experience of situational flow at both unidimensional and global levels.

To complement the approach to assessing flow at the state level, a dispositional measure of flow experiences in sport contexts was developed by Jackson et al. (1998) and validated in a study by Marsh and Jackson (1999). The dispositional measure of flow was primarily developed to better identify individual differences in athletes' propensity to experience flow because the existence of an autotelic personality is assumed (Csikszentmihalyi, 1988a, 1988b, 1990). Jackson et al.'s (1998) study included 398 athletes of varying athletic ability who respectively competed in disciplines including swimming, triathlon, cycling, and track and field at the *World Masters Games* (the results of merely a subsample of 213 athletes who successfully completed all assessments were reported in the study, however). The participants ranged in age from 26 to 85 years old and included 36% females, 61% males, and 3% were athletes who reportedly did not designate a gender marker (Jackson et al., 1998). Beyond the development and validation of the *Trait Flow Scale* (Jackson et al., 1998), the findings lent support to the supposition that an autotelic personality, or at least individual differences, may exist in one's general propensity to experience flow in sport (Csikszentmihalyi, 1990; Grove & Lewis, 1996; Nakamura, 1988).

In an effort to improve the conceptual coherence of the original flow scales, Jackson and Eklund (2002) conducted both a confirmatory factor analysis and a cross validation study to verify the reliability of two revised psychometric tests designed to assess flow in sport at the state and dispositional levels, respectively: the *Flow State Scale-2* and the *Dispositional Flow Scale-2*. This was done, in particular, because the previous transformation of time subscale and the loss of self-consciousness subscale had initially yielded satisfactory yet nonetheless lower factor loadings than the remaining seven subscales. Thus, the aim was to improve the subscales. First, the loss of self-consciousness items were slightly rephrased so that they more clearly referred to a loss of concern with evaluation by others. Furthermore, additional transformation of time subscale items were included in the hope that they would yield improvements. The cross validation study included 897 respondents representing 27 types of physical activity ranging from competitive sport to recreational exercise participation; 449 participants completed the *Flow State Scale-2* and 584 completed the *Dispositional Flow Scale-2*. Although the original measures demonstrated satisfactory reliability and validity, the cross-validation of the revised measures proved to be superior to the original scales from conceptual and

statistical perspectives and were furthermore applicable across a multitude of sport contexts. Abbreviated versions of the 36-item multidimensional long flow scales have now been developed (Jackson et al., 2008; Martin & Jackson, 2008) to assess the experience of flow at both the state and dispositional level as well as for use in physical and general contexts. The nine-item unidimensional *SHORT Flow* scales (Jackson et al., 2010) assess flow as a global construct and the *CORE Flow* scales (Jackson et al., 2010) assess the pure essence of being in flow from a subjective phenomenological perspective. The 36-item assessments of the individual dimensions of flow nevertheless offer the most detailed insight and were therefore employed in the pilot study.

2.8 Factors Associated with Experiencing Flow in Sport Contexts

As applied to athletic contexts, Jackson (2000) describes flow as a multidimensional state of complete optimality in which "mind and body are in harmony, negative thinking and self-doubts are absent, and functioning is enhanced" (p. 141). The sport-specific antecedents to the optimal performance state, however, were first determined through substantial qualitative research. Susan Jackson (1992, 1995, 1996) primarily paved the way in extending Csikszentmihalyi's (1990) flow research by examining and applying it in athletic contexts. In an effort to understand the factors associated with optimal experiences and flow in sport, Jackson (1992) embarked upon an interpretative qualitative study with 16 U.S. National Champion figure skaters. The participants included nine females and seven males ranging in age from 18 to 33. The interviews conducted revealed that the elite athletes' descriptions of their experiences during their optimal performances provided support for the described existence and subjective importance of flow outlined by Csikszentmihalyi (1975, 1990). Specifically, with the exception of the loss of self-consciousness, the athletes' characterisations of their optimal experiences mirrored the remaining eight characteristics of flow.

Jackson and Roberts (1992) went one step further. In an effort to determine distinctions and inherent associations between perceived peak performance, perceived experience of the optimal mental performance state of flow, and the types of goal orientation (or, motivation to act), they examined the constructs in recreational sport. Jackson and Roberts (1992) examined 200 collegiate athletes (including 90 females and 110 males between the ages of 17 and 25), who were participating in a variety of individual sports such as tennis, swimming, and distance running. The study entailed employing both quantitative and qualitative methods; the instruments of measurement included the first *Flow Scale* and a *Goal Orientation Scale*, which Jackson and Roberts (1992) had developed

for the study. The outcomes of their research successfully demonstrated that situational flow states underlie what collegiate athletes described as peak performance. In addition, the research findings provided evidence that athletes who perform with a high mastery or process goal orientation and focus prior to performing (those who strive to execute a task with competence and are thus task-goal focused) report experiencing flow with greater frequency than did those who adopted a competitive or outcome goal orientation (those for whom the primary goal and measure of success was winning). Jackson and Robert's (1992) findings were hence conformant with leading literature which conveys the importance of adhering to process or task-focused versus outcome goals in sport (Burton & Naylor, 2002; Burton, Naylor, & Holliday, 2001; Burton, Weinberg, Yukelson, & Weigand, 1998; Gould, 2001; Locke & Latham, 1990, 2002). Moreover, participants who reported trust in their abilities also reported experiencing flow with greater frequency; during peak performances, those athletes perceived their skills to be commensurate with the challenge faced. This evidence thus further demonstrates the importance of promoting a task-goal focus approach to cultivating flow, whilst simultaneously ensuring that the student-athletes learn to further develop and maintain a sense of self-trust and belief in both their skills and ability to master the challenges they wish to meet (Moore & Stevenson, 1991, 1994). Yet, a task-oriented focus, trust in and the employment of one's high skills are not the sole components of peak performance. Optimal performances in sport are simultaneously characterised as highly enjoyable (Jackson, 1992; Jackson & Roberts, 1992).

Enjoyment is described as an ineluctable component of descriptions of both peak performance states and flow states in sport (Jackson, 2000). In an in-depth qualitative study of sources of enjoyment experienced by former elite figure skaters in their sport, Scanlan, Stein, and Ravizza (1989) discovered that enjoyment was primarily derived from five sources. Those included (a) the social recognition one receives from peers both in and outside of one's sport domain, as a result of one's achievements, (b) one's achievements in competition, (c) the positive relationships with one's family members and coaches, (d) friendships which developed through sport, and (e) one's feelings of mastery of their skills. Scanlan et al. (1989) contributed to the understanding of enjoyment in sport by clearly demonstrating that athletes also derive enjoyment from both the *process* oriented pursuit of mastery of one's skills as well as the *outcome* thereof—when one can satisfy the need to demonstrate their competence. Kimiecik and Harris (1996), however, later grappled with defining enjoyment in sport contexts and urged for its distinction as an optimal psychological experience and process as opposed to an affective outcome. They concluded by defining enjoyment *as* flow and deemed enjoyment as a foundation for intrinsic

motivation. Csikszentmihalyi (1975, 1990), in contrast, referred to enjoyment as an inherent *characteristic* of flow; he deems it an optimal psychological state which requires one's prior effort and optimal focus *in order to* experience enjoyment. Notably, as indicated in an earlier context, Csikszentmihalyi (1975, 1990) does, however, tend to reference flow, optimal experience, and enjoyment synonymously. Although the concept of enjoyment may be worthy of further research and distinction, it is clear that the inherently positive psychological experience of flow and the accompanying enjoyment are what Csikszentmihalyi (1990) argues leads to greater psychological growth. Whereas enjoyment is a distinguishing feature of flow, the antecedents to the optimal psychological state must be understood if one wishes to cultivate it.

2.9 Facilitators and Inhibitors of Flow States

Progressively, key antecedents to flow have been delineated. Jackson's (1992) inductive analysis revealed five key factors essential for setting the stage for flow. The study provided evidence that one must have (a) a positive mental attitude (further defined as consisting of confidence, positive thinking, motivation, and determination to perform well), (b) experience positive affect (consisting of feeling relaxed, keeping anxiety at bay, and enjoying performing), and also (c) a perception of both optimal physical readiness and feeling aptly prepared prior to performing. Especially during performance, (d) having a clear task-specific focus for the duration of the performance was additionally conveyed as essential. Finally, a few of the ice skaters interviewed expressed the importance of having (e) a sense of unity with one's partner for optimal performance to ensue. Most importantly, the study revealed that the athletes did not equivocally perceive flow as something controllable; however, they believed that they could facilitate the likelihood thereof if "well-trained, maintaining appropriate focus, channelling energies/staying relaxed, confidence/positive thinking, enjoying what one was doing, and surrender (not actively trying to control)" (Jackson, 1992, p. 174).

The elite athletes in Jackson's (1992) qualitative investigation also indicated four general categories of debilitative factors which impede the occurrence of flow including: physical and technical execution problems or mistakes, the lack of ability to maintain optimal focus, doubt, self-criticism, and a negative mental attitude. Finally, a lack of connectedness with the environment—in this case, spectators in the arena—were also cited as preventing the athletes from achieving flow states (Jackson, 1992). Once fundamental antecedents and hindrances to flow were clear, Jackson (1995) built upon her

initial qualitative analysis and conducted a further series of interviews with the aim of delving deeper into athletes' perceived controllability of flow.

In an effort to better understand what promotes, prevents, and disrupts the experience of flow, Jackson (1995) conducted an additional qualitative investigation. The study included 14 female and 14 male elite athletes ranging in age from 18 to 35 and representing a variety of sports rather than merely figure skaters. The cohort reportedly perceived 12 factors as influencing flow. The factors also included confidence and positive attitude, optimal physical preparation and readiness, focus, optimal arousal level prior to performing, positive team play and interaction. Yet, additional factors were also determined including the use of pre-competitive and competitive preparatory plans, high motivation to perform, the performance feeling good, optimal environmental and situational conditions, the role of one's experience in their sport, as well as having experienced flow previously (Jackson, 1995). The last of which suggested that experiencing flow is potentially related to individual differences.

In a quantitative study of individual factors which influence one's propensity to experience flow, Grove and Lewis (1996) demonstrated that prior experience is significantly related to flow states. In their study of 96 participants in a university circuit training class (including 66 women and 30 men with an average age of 25), those participants with more than six months of prior experience reported experiencing flow with greater frequency during circuit training than those with less experience. Although experience is a malleable personal factor related to the experience of flow at the state level, it is possible that an athlete's prolonged engagement in their sport is demonstrative of more intrinsically regulated motivation to engage. As described by Csikszentmihalyi (1988a, 1988b), those with an autotelic personality have the innate ability to recognise and autonomously pursue challenges as a means to use and extend their skills. Similarly, Jackson and Eklund (2004) also found that having experienced flow in the past led athletes to vie to similarly challenge—push themselves—again. Because those with a potentially autotelic personality are plausibly more intrinsically motivated to engage, it is they who most frequently report great focus, perceived autonomy when engaging, trust in their abilities, adopt a process or task-related goal focus, and are not ego-involved; therefore, they experience a loss of self-consciousness (Csikszentmihalyi, 1988b).

Continuing her line of questioning, in addition to delineating key antecedents to flow, Jackson (1995) also further determined nine factors which prevented flow from occurring. Those included: non-optimal physical preparation and readiness, non-optimal

environment and or situational conditions, a negative mental state or inadequate confidence, non-optimal focus, problems with one's pre-performance preparation, inadequate motivation to perform, non-optimal arousal level prior to performance, negative team play and interaction, and when performance transpires negatively (Jackson, 1995). Therefore, although experience was no longer cited, great overlap existed between what facilitates, prevents, and disrupts flow (Jackson, 1995). Simply put, the evidence demonstrated that the *non-optimal* experience of the previously delineated facilitators of flow are simultaneously what prevent or disrupted the optimal performance state.

In a series of three studies similarly investigating the antecedents of flow in sport contexts, Stein et al. (1995) studied to what extent goals, perceived competence, and confidence could predict flow at the situational level in both a learning environment and in a competitive environment. The second of those studies, for instance, was somewhat similar to the context of the current pilot study. The cohort included 25 student-athletes (six females and 19 males aged 21 on average) who were participating in a university basketball class. Over the course of the nine-week lecture period, each student completed between eight and 12 *Experience Sampling Forms* (Stein et al., 1995) subsequent to each class. In addition, they all participated in a follow-up debriefing interview. While the results of the study did not yield indications of a clear relationship between situational goals, competence, confidence, or the experience of situational flow, it did indicate that performing in flow during class was slightly more enjoyable for students than when they experienced the boredom, apathy, or anxiety quadrants of the challenge-skill model (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini et al., 1987). Moreover, students associated greater concentration, a sense of control, and successful performance outcomes with situational flow states. Interesting findings, however, were that although there were no differences in how often students vied for and achieved task-oriented (mastery) goals and ego-oriented (competitive) goals (Burton & Naylor, 2002; Burton et al., 2001; Burton et al., 1998; Burton & Weiss, 2008), those who reported the pursuit of ego-oriented goals also reported greater enjoyment than those who worked towards task-goal attainment.

Surprisingly, Stein et al. (1995) found that students did not deem anxiety and boredom as debilitative or inhibitors of enjoyment when in the class setting. It was thus speculated that those students who reported feelings of anxiety as something somewhat enjoyable did so because the students perceived the process of learning—a situation of growth in which their skills were logically lower than the challenge posed—as a non-threatening situation. Participants in the study also reported perceptions of success which

ensued despite performing in the boredom quadrant of the challenge-skill model (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini et al., 1987). Stein et al. (1995) maintained that even if bored, students nevertheless fulfilled the requirements of the given task and thus experienced a sense of success. This is pertinent to the current pilot study in two key ways. During the learning process, it is thus conceivably undramatic should students experience anxiety; it is potentially a natural part of the developmental process that one's skills will initially lie below the challenge faced. That is, only until one learns how to set challenging yet attainable goals which encourage them to use their best skills and thus facilitate performing within the flow channel. Moreover, while boredom evidently did not lead to dropout or lesser engagement in Stein et al.'s (1995) study, it is important to recognise that boredom can be circumvented if students are taught and encouraged to adopt and vie for self-determined goals rather than enduring boredom due to the eventual lack of challenge presented in externally regulated goals (Sarrazin et al., 2007). Stein et al. (1995) also highlighted the importance of distinguishing between dispositional and situational goal orientations as they are likely to differ across competitive and learning contexts. Similar to the findings of Carli et al. (1988), Stein et al. (1995) thus suggested that some students may actually prefer learning situations which allow them to remain in the boredom quadrant of the challenge-skill model (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini et al., 1987), in which their skills are greater than the challenges faced because that state is perceived as more enjoyable. Nevertheless, it remains clear that to elicit optimal experiences and promote psychological growth and development, both relatively high skills and challenges are necessary (Csikszentmihalyi, 1990).

Further antecedents to flow have nevertheless been distinguished with relative plausibility. For example, in an exploratory qualitative study, Chavez (2008) examined factors which NCAA Division 1 athletes cite as facilitating and preventing flow. After having 164 athletes complete demographic questionnaires, specific athletes were selected from the original cohort based on the fact that they had reportedly experienced flow at least once before. Consequently, the study participants included 16 athletes representing soccer, volleyball, tennis, skiing, golf, and swimming; they ranged in age from 18 to 24 and, interestingly, represented six nationalities. While the results of the interviews conducted largely mirrored the findings of Jackson (1992, 1995), the respondents in Chavez's (2008) study additionally expressed that feeling relaxed, a sense of clam, and having a heightened kinaesthetic and spatial awareness were clear antecedents to flow. In all of the studies encountered in the review of literature for the current pilot study, Chavez (2008) conducted the sole investigation in which the factors which contribute to *restoring* flow

were also considered. Reportedly, in Chavez's (2008) study, 69% of the athletes interviewed believed that flow is in fact controllable; 81%, in fact, believed that the optimal mental performance state can be restored if the need arises. The respondents maintained that to reinstate flow the following factors, for instance, play a clear role: positive thinking, restoring a task orientation, arousal regulation/relaxation, the ability to clear one's mind, persisting through performance despite adversity, and finding ways to enhance one's confidence (Chavez, 2008). When the findings reported by Jackson (1992) and Chavez (2008) are juxtaposed, it becomes clear that both elite and collegiate athletes perceive three key factors as essential for controlling flow: optimal preparation, optimal arousal regulation, and positive thinking or a positive mindset. Having or fostering a positive mindset and belief in one's general ability to master a challenge was also a prevalent theme in other research.

In contrast to Stein et al. (1995), in a study of 213 masters-level athletes participating in a variety of sports, Jackson et al. (1998) found that one's perceived ability was a key factor in facilitating situational flow states. Moreover, perceived ability was also positively correlated with specific dimensions of flow including clear goals, unambiguous feedback, a sense of control, and concentration on the task at hand. The study demonstrated that cognitive aspects of anxiety such as disruptions to one's thought processes and worry are more detrimental for flow states than physiological expressions of anxiety. Furthermore, Jackson et al. (1998) provided evidence of a significant relationship between intrinsic motivational regulation and the experience of flow; this thus confirmed similar findings which demonstrated that intrinsic motivation is an antecedent of flow (Jackson, 1992, 1995; Massimini et al., 1988).

Intrinsic forms of motivational regulation are arguably an indispensable antecedent of flow. Kowal and Fortier (1999) conducted a quantitative examination of the relationship between self-determined forms of motivational regulation immediately after athletic performance, the athlete's perceived satisfaction of the basic psychological needs for autonomy, competence, and relatedness, as well as their experience of the flow state. As cited in Kowal and Fortier (1999), the motivational determinants were assessed using adapted versions of Blais and Vallerand's *Autonomy Perceptions in Life Contexts Scale* and situational motivation was measured employing Guay and Vallerand's *Situational Motivation Scale*. The experience of flow was assessed using the *Flow State Scale* (Jackson & Marsh, 1996). The participants included 90 female and 105 male Canadian masters-level swimmers; the average age of the 203 participants was 36. The swimmers had between one and 20 years of experience in the sport yet all swam at least three times per week and half

of the cohort reportedly competed regularly. The results of the Kowal and Fortier (1999) study demonstrated a significant positive relationship between the participants' experience of flow and the more self-determined forms of motivational regulation. Similar to issues raised by Jackson and Marsh (1996) as well as Marsh and Jackson (1999) in their respective efforts to validate the flow scales, Kowal and Fortier (1999) found the correlations between the specific dimensions of the transformation of time and the loss of self-consciousness, however, were not significant. As hypothesised, however, those who reported non-self-determined forms of motivational regulation also reported the lowest incidence of flow. In addition, those athletes who reported perceived situational competence and experienced a sense of relatedness with their fellow teammates also reported experiencing flow with greater frequency. Thus, the results substantiate the importance of basic psychological need fulfilment as situational determinants of both motivation and flow. Moreover, Kowal and Fortier's (1999) findings support the deduction maintained in the current pilot study: Autonomous forms of motivational regulation plausibly facilitate the occurrence of flow. What is more, Kowal and Fortier's (1999) research shed greater light upon the results yielded in the Mannell et al. (1988) study. For when Kowal and Fortier (1999) considered the relationships between intrinsic motivational regulation and flow from the perspective of the self-determination theory, they demonstrated a significant positive relationship between the experience of flow and the type of autonomous form of extrinsic motivation referenced by Mannell et al. (1988). That is to say, integrated or even identified forms of motivational regulation to engage in sport (Pelletier et al., 2013; Ryan & Deci, 2007) can in fact suffice to yield or facilitate flow.

Understanding and ensuring optimal preparation and satisfaction of the psychological and related physiological facilitators of flow, in particular, must logically increase the likelihood of finding and performing within one's challenge-skill balance (Csikszentmihalyi, 1990) and thus the occurrence of flow. As it is improbable that flow is reserved for merely those bestowed with a potentially autotelic personality (Csikszentmihalyi, 1988a, 1988b). That is, for those who are innately intrinsically motivated to engage and thus more readily possess and demonstrate the ability to focus with the necessary intensity and process goal emphasis whilst trusting in their abilities yet without ego involvement (Csikszentmihalyi, 1988b) to initiate the process. Conceivably, just as one can promote one's autonomous forms of motivational regulation to engage by actively vying to satiate one's basic psychological needs (Ryan & Deci, 2000b) and through a process of internalisation of the value inherent in one's engagement (Deci et al., 1994; Ryan, 1995), so too must flow be an experience which can be cultivated. It is feasible that one must merely understand and vie to both facilitate as many of the proposed antecedents

to flow (Chavez, 2008; Jackson, 1992, 1995) as possible whilst preventing, circumventing, or more effectively managing the debilitative factors which impede flow states—by refining and strengthening the appropriate psychological skills.

2.10 Performance Strategies and Flow

Without question, the use of psychological skills has been positively related to the experience of flow (Jackson, 1992, 1995; Jackson et al., 2001). Jackson et al. (2001) conducted a study with the expressed aim to examine the relationship between flow states, an athlete's perception of self, their outcome performance, and their reported use of performance enhancement strategies in their sport. For the current review, however, the performance strategies are of the greatest interest. The study included 236 orienteering, surf life saving, and road cycling athletes ranging in age from 16 to 73 years of age (34% were females, 66% were males). The athletes represented levels of participation from club to international; in addition, the cohort included veterans and relative novices (with between 0.25 and 45 years of experience). Using the competition subscales of the *Test of Performance Strategies* (Thomas, Murphy, & Hardy, 1999), a self-report instrument which facilitates the retrospective assessment of an athlete's use of psychological skills post competition, Jackson et al. (2001) found that seven of the ten cognitive-behavioural performance strategies in particular reportedly facilitated the occurrence of flow. Those included avoidance of negative thinking, emotional control, the ability to relax, optimal activation, goal setting, imagery, and positive self-talk. Automaticity, distractability, and attentional control are the remaining competition subscales (Thomas et al., 1999) which evidently did not facilitate flow. Moreover, Jackson et al. (2001) demonstrated that the experience of the challenge-skill balance and clear goals dimensions of flow were particularly related to the athlete's use of psychological skills and the outcome of performance. In addition, concentration on the task at hand and perceiving a sense of control over one's actions were also strongly correlated to the use of psychological skills.

Despite the glaringly obvious link between the use of psychological skills and strategies and the experience of flow, Jackson et al. (2001) were surprised to find that athletes reportedly spent little—if any—time developing and mastering mental training skills and strategies. Accordingly, Jackson et al. (2001) explicitly recommended further research examining the relationship between one's increased psychological skill use and eventual increases in the experience of flow states. Previously, Jackson (1995) had also envisioned her research as setting the stage for "the possibility of developing training programs for helping athletes and exercisers experience flow" (p. 164); that, however, has

yet to come to fruition. On a similar note, in making recommendations based on their systematic review of the extant literature on the experience of flow in elite sport, Swann et al. (2012) clearly delineate the need for future research in the form of:

> a multifaceted intervention, including psychological, physical and social factors, [as this] may be the most appropriate approach, rather than testing the influence of a single mental skill on flow (as has been the case to date). The skills involved....could revolve around thorough preparation, task-focus, coping strategies, goal-setting, motivational exercises, confidence building, and arousal manipulation. (p. 817)

Thus, establishing and examining the effectiveness of a multifaceted cognitive-behavioural training intervention was a relevant undertaking in itself. Nevertheless, besides vying to demonstrate that flow must be anything but elusive if approached systematically from a cognitive-behavioural sport psychology perspective, an additional implicit plea for research influenced the conception of the Flow-PST pilot study. Csikszentmihalyi (1988b) advocated two desiderata for the future:

> In order to improve the quality of life, two complementary strategies are needed: first, to change social conditions so as to make them more conducive to flow; and second, to educate individuals so that they will be able to experience flow regardless of social conditions. (p. 370)

Collectively, the aforementioned recommendations provided clear direction; teaching student-athletes how to cultivate the occurrence of flow through cognitive-behavioural training is a logical practical application of the flow theory. The premise of the current pilot study was that within the social structure of academic learning contexts, students can and ought to be afforded the opportunity to learn to perceive and relish in challenges as an opportunity to extend their skills. When the environmental context is simultaneously autonomy supportive (Reeve 2004, 2009), a student's successful mastery of an endeavour to seek and vie to perform within her or his challenge-skill balance will generate the self-trust, confidence, and autonomously regulated motivation to continue to do so—"regardless of social conditions" (Csikszentmihalyi, 1988b, p. 371). Thus, the current research attempted to heed the calls for further research by examining to what extent an autonomy-supportive environment in which students follow individualised mastery-oriented mental training plans will facilitate the process of wilfully cultivating flow states.

As not only the use of psychological skills (Jackson et al., 2001) but also perceived ability (Jackson, 1992, 1995; Jackson et al, 1998) and self-determined forms of motivational regulation to engage (Kowal & Fortier, 1999; Massimini et al., 1988) are demonstrably conducive to promoting flow, cognitive-behavioural psychological skills training must be a means to facilitate the self-trust and mental strength essential for achieving optimal mental performance and flow. For practitioners who adopt a cognitive-behavioural orientation to sports psychology, comprehensive psychological skills training is an ineluctable precursor to consistent performance excellence (Hanton & Jones, 1999; Orlick, 2000; Orlick & Partington, 1988; Richardson 1967a, 1967b; Rushall, 1989; Suinn, 1989/1986; Taylor and Taylor, 1995; Weinberg & Gould, 2003; Weinberg & Williams, 2001). Moreover, effective guidelines for enhancing psychological skills have been delineated (Burton & Raedeke, 2008; Morris, Spittle & Watt, 2005; Orlick, 2000; Suinn, 1989/1986; Weinberg & Gould, 2003, 2011, 2015; Weinberg & Williams, 2001). To ensure that the approach to engendering students' flourishing is in fact autonomy supportive, the cognitive-behavioural training had to entail fostering students' personally relevant, deep and meaningful engagement in their pursuits; they had to be taught *why* and *how* to cultivate flow states as an integral part of the learning process. Yet methodical, purposeful absorption in the learning process was the key.

2.11 Establishing a Systematic Means of Cultivating Flow

To develop the conative (Little, 1993; Sheldon & Elliot, 1999) dimensions of learning in academic settings (Huitt & Cain, 2005), students must experience total immersion and intrinsically rewarding involvement with their endeavours. Systematic, multimodal approaches to cognitive-behavioural training in sport are a common and highly effective means of facilitating athletes in the process of harnessing the capacities of their minds (Beauchamp, Halliwell, Fournier, & Koestner, 1996; Greenspan & Feltz, 1989; Hanton & Jones, 1999; Orlick, 2000; Orlick & Partington, 1988; Richardson 1967a, 1967b; Weinberg & Gould, 2003, 2011, 2015; Weinberg & Williams, 2001). The ultimate objective of cognitive-behavioural psychological skills training in athletic realms is to provide opportunities for self-evaluation, self-reflective learning, and improvement. Thereby, an athlete can learn to enhance her or his capacity for self-regulation (Bagozzi, 1992; Kirschenbaum, 1984; Kirschenbaum, Owens, & O'Connor, 1998; Ravizza, 2001; Robazza et al., 2004) of key strategies which can be employed to *foster* the mental strength which leads to performance excellence (Burton & Raedeke, 2009; Hardy et al., 2010; Orlick, 2000; Thomas et al., 1999; Weinberg & Gould, 2003, 2011, 2015). Enhanced self-regulation, in turn, is a means of fostering mental strength, or mental toughness (Crust, 2007; Crust &

Azadi, 2010; Jones, 2002; Jones, Hanton, & Connaughton, 2007; Mahoney, Gucciardi, Ntoumanis, & Mallet, 2014). Combined, mental toughness and the capacity for self-regulation are what allow one to direct one's behaviour more purposefully and thereby minimise fluctuations in performance. While a definitive definition of mental toughness in sport has yet to be firmly established, a prevailing commonality is its clear reciprocal relationship to athletes' use of cognitive-behavioural skills.

Multiple cognitive-behavioural strategies have been associated with and described as defining mental toughness. Jones (2002) conducted two qualitative studies with 10 athletes who had competed at either the Olympics or Commonwealth Games in their respective sport. The results of the focus groups and individual interviews with the elite athletes lead to the description of mental toughness as a refined psychological edge over other performers. From a general perspective, the described psychological advantage is what enables an athlete to cope with the myriad demands of high performance within one's performance domain. In particular, the study participants conveyed the perceived psychological *edge* as what underlies greater performance consistency, determination, focus, confidence, and the ability to exert a sense of control of their performance and mindset at all times, especially when faced with adversity (Jones, 2002). In a later study, Jones et al. (2007) established a clear framework through which to better convey that mental toughness is essentially related to key psychological skills essential for regulating one's attitude, mindset, and behaviours both in an outside of one's performance domain as well as prior to, during, and subsequent to performance.

With the aim of identifying both the role of mental toughness and how English cricketers developed mental strength, Bull, Shambrook, James, and Brooks (2005) conducted semi-structured interviews with 12 athletes identified as among the mentally toughest participants from previously conducted research. The findings of Bull et al.'s (2005) study clearly identified mental toughness as a strength which can be acquired. One's character, but also one's environment, attitudes, and thinking, influenced the development of mental toughness and related coping strategies. Moreover, Bull et al. (2005) also demonstrated that mental toughness develops over time and can be positively influenced by the social environment; it is influenced by those with whom one interacts such as coaches and friends, for instance. The work of Jones (2002) and Bull et al. (2005) thus demonstrated a clear relationship between mental toughness and the use of what can be described as strategies essential for coping with the demands inherent in sport—the cognitive-behavioural *skills* to successfully manage the challenges faced. Furthermore, extending that research, in an examination of variables related to mental toughness,

Nicholls, Polman, Levy, and Backhouse (2008) contributed to the previous research findings by demonstrating that it is greater optimism, the use of positive mental imagery and positive thinking, or thought control, in particular, which determine mental toughness.

Out of a desire to examine the relationship between mental toughness and the use of cognitive-behavioural strategies, Crust and Azidi (2010) conducted a quantitative study of 107 competitive athletes representing both university and club levels as well as a variety of both individual and team sports. The *Test of Performance Strategies* (Thomas et al., 1999) was employed to assess the cognitive-behavioural strategies employed by the athletes. Crust and Azidi (2010) demonstrated that athletes clearly equated the use of cognitive-behavioural strategies such as self-talk, emotional control, and arousal regulation/relaxation as key components of mental toughness in both practice and competition settings. Similarly, based on findings from their qualitative research, Connaughton, Hanton, and Jones (2010) found that elite, mentally tough athletes reportedly turn to goal setting, positive self-talk, and imagery rehearsal as key cognitive-behavioural strategies to facilitate coping and pre-performance preparation. Of particular importance for the current pilot study is that through interviews conducted with coaches and sport psychologists dedicated to working with elite athletes, Connaughton et al. (2010) could provide evidence which substantiates that key cognitive-behavioural skills underlying the mental toughness framework (Jones et al., 2007) are best conveyed by *educating* athletes about how to exert control over mental states. Essentially, they argued that it should be achieved by conveying *how* and *why* the key cognitive-behavioural skills are of importance for optimal behavioural regulation and thus optimal mental performance. For the study participants conceded that with sufficient time and practice, an athlete can develop and maintain the use of self-regulatory strategies which will enable them to evoke optimal performance. It merely requires a clear focus on mastering key psychological skills in a disciplined and structured fashion (Connaughton et al., 2010). Sheard and Golby (2006), for instance, demonstrated precisely that. In their psychological skills training program specifically designed for elite adolescent swimmers, Sheard and Golby (2006) similarly demonstrated that psychological skills training leads to both increments in performance and is clearly associated with the performance strategies one uses. They specifically provided evidence that self-confidence, the ability to control negative energy in the face of unforeseen events, attentional control, the use and control of mental imagery, and goal setting contributed to both performance increments and the athletes' perceptions of mental toughness. From this one may glean, therefore, that although what Jones (2002) aptly described as "superior self-regulatory skills" (p. 210) may be innate abilities, the

coping strategies (Nicholls et al., 2008) inherent in the construct of mental toughness can in fact be purposefully developed through systematic psychological skills training.

Cognitive-behavioural training ought to be systematic in order to be most effective. The work of Boutcher and Rotella (1987) was among the first to demonstrate this and hence influenced the framework upon which Flow-PST was established. Adopting a theoretical approach, Boutcher and Rotella (1987) created a systematic educational psychological skills training program designed for use with athletes in the process of refining closed skills. Beyond highlighting the importance of adopting a systematic approach to psychological skills training, what made the educational program unique is that it was organised in four distinct phases and relied heavily upon the use of pre-performance routines. The first phase, sport analysis, emphasised the importance of gathering specific details concerning the execution of the skill in question as a means of establishing a frame of reference for the ongoing evaluation of progress. Boutcher and Rotella (1987) demonstrated that an individual needs assessment and then a focus on conceptualisation/motivation must follow thereafter. The latter of which implied using the athlete's performance profile to first determine perceived strengths and weaknesses and then instigate a discussion concerning what, why, and how to change potentially debilitative behaviours. The final phase was dedicated to the development of first general and then specific mental skills. The *general* coping skills Boutcher and Rotella (1987) described included concentration, relaxation, cognitive restructuring, imagery rehearsal, and thought-stopping. In addition, mental coping skills deemed necessary to regulate suboptimal arousal levels and manage perceived pressure during competition were also emphasised. The *specific* mental skills, in contrast, referred to the development and employment of individualised performance routines for before, during, subsequent to, and in between performances or plays, for instance. Boutcher and Rotella (1987) deemed the adherence to performance routines a viable way of fostering overlearning as a means to free cognitive capacity. They reasoned that:

> Preperformance thoughts and behaviour patterns (the preshot routine) in such skills as putting in golf, set-shot in basketball, and serving in tennis should be designed to direct the athlete's attention so effectively that he or she has no choice but to focus on a series of well-rehearsed cues, images, and actions. (Boutcher & Rotella, 1987, p. 134)

Strategic planning in order to promote cognitive-behavioural regulation, therefore, was clearly identified as essential to fostering optimal performance.

Akin to what was aspired to in the current pilot study, Beauchamp, Halliwell, Fournier, and Koestner (1996) conducted a 14-week intervention in which they assessed the motivational outcomes of engaging in cognitive-behavioural training. The study included junior-college students between the ages of 17 and 28; of the 65 participants, 17 were female and 48 were male. The cognitive-behavioural training was developed based on a combination of previously established programs. While Suinn's (1989/1986) *Seven Steps to Peak Performance* mental training program provided the essential skills deemed relevant for athletic success (relaxation, stress management, positive thinking, self-regulation, mental rehearsal, concentration, and energy control—in that order), Beauchamp et al. (1996) also adopted key aspects of Boutcher and Rotella's (1987) educational program. Beauchamp et al. (1996) thus correspondingly emphasised the use of pre-performance routines as well as the inclusion of four distinct phases of the educational program. As similarly described in other scholarly work (Curry & Maniar, 2003; Ravizza, 2001; Seabourne et al., 1985; Suinn 1989/1986; Weinberg & Gould, 2003, 2011, 2015; Weinberg & Williams, 2001), Beauchamp et al. (1996) recognised that effective psychological skills training interventions must include an education, acquisition, and practice phase; thereafter, the learned skills must be integrated into performance and maintained on an ongoing basis. Thus, in their study across three parallel introductory golf classes, three distinct cohorts were formed. In group one, 45 minutes during each session were dedicated to engaging in the previously described systematic cognitive-behavioural training process. For the same duration, the second group focused on physical skills training and the final group was designated the control group. In addition to confirming the importance of a systematic process, Beauchamp et al. (1996) successfully demonstrated that psychological skills training did in fact positively influence the student-athletes' motivational regulation. When compared to the other test groups, the participants in the cognitive-behavioural training group reported increased intrinsic motivational regulation and less introjected motivational regulation to engage (Beauchamp et al., 1996). Moreover, a factor which set those in the cognitive-behavioural training group aside from all others was their more consistent use of pre-performance plans.

The effectiveness of employing cognitive-behavioural training interventions in sport has been well documented (Burton & Raedeke, 2008; Feltz & Landers, 1983; Greenspan & Feltz, 1989; Richardson, 1967a, 1967b; Weinberg & Williams, 2001; Weinberg & Gould, 2003, 2011, 2015). If considering the research pertaining to the skills associated with the mental toughness which underlies one's ability to regulate one's behaviour and thereby foster optimal physical and mental performance states, it is equally

clear that key performance strategies play an ineluctable role for those who wish to optimise their mental strength. The *Test of Performance Strategies* (Hardy et al., 2010; Thomas et al., 1999) is a well-established instrument which is widely used in applied sport psychology research (Weinberg & Williams, 2001; Weinberg & Gould, 2003, 2011, 2015). What made it of relevance for the Flow-PST study is that the key strategies and skills assessed therein more or less encompass the most important of those highlighted in the research delineated in this review thus far: self-talk, emotional control, automaticity, goal setting, imagery, activation, arousal regulation/relaxation, and attentional control.

By fostering the aforementioned skills and adhering to cognitive-behavioural training, through which one can enhance one's ability to regulate one's behaviour so that it becomes more conducive to evoking flow, student-athletes must be able to learn to satiate their innate needs for autonomy and competence. As the flow state is dependent upon one's "ability to control what happens in consciousness moment by moment, each person has to achieve it on the basis of his [or her] own individual efforts and creativity" (Csikszentmihalyi, 1990, p. 5). And not only out of a desire to foster the student-athletes' basic psychological needs (Ryan & Deci, 2007), but also because psychological skills training ought to be individualised (Seabourne, Weinberg, Jackson & Suinn, 1985; Weston, Greenlees & Thelwell, 2011) to be most effective, the Flow-PST endeavour simultaneously necessitated providing autonomy-supportive conditions (Assor et al., 2002; Deci & Ryan, 1987; Reeve, 2009). It was presupposed that fostering students' deep and self-determined engagement could be achieved by promoting students' understanding of the personal relevance of the material and then providing room for choice pertaining to the content and development of their respective mental training program. Success in such a pursuit is arguably concomitantly a reflection of one's perceived internal locus of causality and intrinsically regulated motivation (Ryan & Deci, 2000a) and, as a consequence thereof, one's willingness to engage, put forth, and maintain sustained effort. Effective behavioural regulation, however, must first emanate from the determination of and desire to achieve one's clear goals.

In the Flow-PST pilot study it was presupposed that goal setting and imagery are significant psychological skills which potentiate other psychological skills necessary for the achievement of flow states. As everything one does, no matter how minute an action, requires intention. Goals provide the impetus for action and the foundation for continual skill acquisition, refinement, and development (Burton & Naylor, 2002; Burton et al., 2001; Burton & Raedeke, 2008; Burton & Weiss, 2008; Locke & Latham, 2002; Vidic & Burton, 2010), however, they require motivating forces (Duda, 1992). Essentially, intrinsically

rewarding involvement in an activity or striving to achieve a goal must derive from a genuine desire to perform for the joy of performing and striving for optimal performance (via focus on achievement of process and performance goals) as opposed to out of a mere desire to win (via focus on achievement of outcome goals) in order to be effective (Burton et al., 2001; Burton & Naylor, 2002; Burton & Raedeke, 2008; Duda, 1992; Gould, 2001). Consequently, the psychological skill of goal-setting ought to function as a facilitator of optimal performance. Further, reinforcement of the genuine desire alluded to and fostering intrinsic responses can quite easily be attained by imagery use, for example, as strategic mental imagery use facilitates rehearsal of planned movements or steps towards one's goal (Richardson, 1967a, 1967b; Morris et al., 2005). More importantly, imagery reliably enhances motivation and confidence, whilst effectively augmenting goals (Burton & Raedeke, 2008; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Munroe, Giacobbi, Hall, Weinberg, 2000; Orlick, 2000).

According to Locke and Latham (2002), there are four mechanisms through which goals affect performance: Goals (1) guide action by directing attention toward specific tasks or goal relevant activities, (2) promote increased effort, (3) positively affect persistence and (4) lead to the establishment and use of task-relevant problem solving strategies. Within the confines of the present study, precise goal monitoring and evaluation (Gould, 2001; Vidic & Burton, 2010) were considered essential for the success of the intervention. Goal setting and imagery were seen as functioning in a reciprocal nature (Lerner, Ostrow, Yura, & Etzel, 1996). Goals provided the impetus for action (Locke et al., 1981) and the foundation for continual skill acquisition, refinement and development. While imagery was used to reinforce and underscore goal resoluteness and also facilitate goal attainment (Martin, Moritz, & Hall, 1999; Morris et al., 2005; Munroe et al., 2000), both imagery and goal setting ought to have provided the student-athlete with a sense of direction and focus, and should essentially be considered motivational forces facilitative of optimal performance once the techniques have been mastered (Burton, 1989a, 1989b; Duda, 1992; Locke & Latham, 2002; Locke et al., 1981; Smith, 1987). Essentially, setting individual and specific goals, further augmented by game (and contingency) plans (Boutcher & Rotella, 1987; Burton & Raedeke, 2008; Orlick, 2000) designed to foster goal attainment, was presupposed as facilitative of setting the stage for flow. This, however, occurred as a result of the concomitant use of imagery rehearsal which fostered *seeing* and *believing* (Vealey, 2007) in one's capability to be in command of optimal performance, one step or *dimension* at a time.

2.12 A Compendium and Preview

The review of literature and pertinent calls for research demonstrated the need and provided a clear guideline for how to systematically approach the endeavour of exercising control over the occurrence of flow states. In the current pilot study, it was hypothesised that autonomous forms of motivational regulation are most conducive to flow states, hence, if vying to wilfully cultivate flow, one must strive to satisfy one's basic psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 1985a, 2000; Ryan & Deci, 2000b, 20007). In addition, the learning environment in which the cognitive-behavioural training is to take place must be as autonomy supportive as possible (Ames, 1992; Nakamura, 1988; Reeve, 2004, 2009; Reeve & Jang, 2006), and, ideally, promote a collaborative learning environment in which social interaction (Deci et al., 2006; Deci & Ryan, 2000, 2014) is embraced as a key component of the learning process. Yet, it is equally clear that students must have the opportunity to exert competence and autonomy if intrinsic motivation, in particular, is to be enhanced (Kowal & Fortier, 1999; Massimini et al., 1988; Ryan, 1982; Ryan & Deci, 2004, 2007; Vansteenkiste et al., 2010). To best foster greater internalisation (Ryan, 1995) of the value of students' engagement, the learning environment must offer opportunity for their volitional behaviour and decisional control (Mannell et al., 1988; Ryan & Deci, 2000c). Furthermore, the tasks presented must be structured (Haworth & Hill, 1992) in such a way that the challenges inherent therein are truly conducive to reflecting the students' needs in order to cultivate flow (Carli et al., 1988; Massimini et al., 1988).

Whereas it was clear that attention must also be given to ensuring that sufficient explanatory rational was given in order to promote students' continued engagement (Deci et al., 1994), it was equally imperative that the importance of striving for individual, ideally autonomously regulated goals (Ryan, 2009; Vansteenkiste et al., 2010) was conveyed, for this ought to foster greater engagement, persistence, and conceptual learning (Sarrazin et al., 2007; Vallerand et al., 1997; Vansteenkiste et al, 2006). Above all, it was essential that, although the dimensions of flow (Csikszentmihalyi, 1990) constitute the underlying foundation for the instructional content, a clear emphasis must be placed on key cognitive-behavioural strategies (Hardy et al., 2010) which, once systematically learned, refined, and implemented, will arguably help students actively cultivate the prevalently delineated antecedents to flow (Chavez, 2008; Jackson 1992, 1995; Swann et al., 2012). While the foregoing introductory chapter delineated the importance of studying flow, as a key aspect of flourishing which is valuable for facilitating learning processes, the review of literature established not only essential theoretical and practical information gleaned to date, but

also where gaps in the research exist. Equipped with this foundation, the forthcoming chapter delineates the specific methodological considerations and methods employed to assess the viability of training student-athletes how to wilfully cultivate flow states.

Preamble to Methodology and Research Methods

Vying for optimal mental performance states is arguably mediated by multifaceted contributing factors. Hence, a dual perspectival method of examination and interpretation thereof was adopted in the current pilot study. Specifically, quantitative psychometric tests as well as structured qualitative interviews were deemed methodologically viable to afford the level of understanding sought. It was presumed that when analysed in juxtaposition, they would render it possible to descriptively and interpretatively analyse, yet also generalise and predict what would be efficacious in a subsequent large-scale study. Thus, employing an embedded mixed methods design set the stage for corroborative or confirmative intersections to be sought between the quantitative and qualitative data collected. The following chapter provides a detailed description of the methodology and methods adhered to in this pilot study; it has been organised in four distinct themes. To commence, in part one, the *Research Type and Perspectives* section includes an explanation of both the ontological and epistemological research perspectives adopted. Furthermore, the dual perspectival methodological framework under which the research was conducted is explained. Thereafter, the *Research Goals and Focus* are delineated and followed by an outline of the *Study Context and Participants*. Next, part two includes descriptions of the *Quantitative Instruments of Measurement* and the quantitative data analysis methods are highlighted. Thereafter, part three thoroughly details the *Qualitative Assessment Method and Methodology* with a detailed focus on the *Methods of Thematic Analysis*. Finally, part four of this chapter explains the twelve-week *Flow-PST Seminar Methodology and Content* with precision. In closing, the core points are recapitulated as a segue to chapter four, *Data Analysis Findings*, in which the findings of both the psychometric tests results and qualitative data analysis are presented.

3. Methodology and Research Methods

This chapter delineates the methodology adhered to for the Flow-PST intervention, methods by which relevant data were gathered, as well as the theoretical, epistemological, and ontological perspectives underlying the data collection and analysis process. Adhering to an explanatory sequential (Wisdom & Creswell, 2013) mixed methods research design, subsequent to a quantitative data collection and analysis phase, a qualitative data collection and analysis phase followed. Sequential analysis enabled use of the qualitative data to further interpret and elucidate the results yielded from the quantitative data set—thus "combin[ing] the richness and uniqueness of qualitative information with the precision and discipline of quantitative methods" (Boyatzis, 1998, p. 145). Integrating the two data sets facilitated the generation of a more comprehensive portrayal of the cohort and enhanced the efficaciousness with which the research questions could be addressed.

3.1 Research Type and Perspectives

Because a primary aim of this research was to conceptualise, test, and subsequently optimise a prospective Flow-PST program, the study was conducted as a small-scale descriptive pilot study. Essentially, while a limited number of participants were involved, this was unproblematic as the pilot study ought to primarily "verify that procedures work" (Portney & Watkins, 2000, p. 133) and was intended to yield preliminary descriptive and interpretative results (Lancaster, Dodd, & Williamson, 2004) upon which to capitalise in future. Specifically, a small-scale study afforded the opportunity to address the feasibility of an eventual larger-scale research project in four ways. As outlined by Lancaster et al. (2004) and applied to the current context, a pilot study presented the opportunity to (a) apply and consider the feasibility and effectiveness of the chosen procedures and content with an appropriate yet manageable cohort in the desired setting; (b) identify discrepant or ineffective procedural issues; (c) determine instructional ambiguity; as well as both (d) establish and substantiate grounds for the inclusion, exclusion, or re-evaluation of specific mental skills and performance strategies introduced. Essentially, the aforementioned knowledge gained will be indispensable for refining areas in need of improvement and subsequently optimising the Flow-PST intervention, or educational package, prior to introducing it on a larger scale.

3.1.1 Integrating cognitive-behavioural sport psychology and positive psychology. The Flow-PST pilot study reflects the convergence of two subfields within the larger field of psychology: cognitive-behavioural sport psychology and positive

psychology. While a theoretical and practical hybrid of the two is at the core of this study, the teaching and learning processes play a vital, yet subsidiary role. The optimal mental state of flow (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999) essentially corresponds to and reflects the ideal mental state one vies to enhance and maintain via cognitive-behavioural sport psychology (Weinberg & Gould, 2015). For the psychological skills training inherent therein is concerned with the systematic practice of psychological skills conducive to optimising one's potential, enjoyment, and psychological well-being in order to enhance athletic performance (Weinberg & Williams, 2001; Weinberg & Gould 2015). Analogous to the manner in which cognitive-behavioural training is employed to facilitate one's mental growth and development, positive psychology equally aims to both build positive qualities and increase one's capacity to thrive or flourish (Seligman & Csikszentmihalyi, 2000; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009; Seligman, 2011). In essence, the science of positive psychology, at the subjective level (Seligman & Csikszentmihalyi, 2000), and individualised psychological skills training (Seabourne et al., 1985) have a unified focus on identifying, nurturing and amplifying psychological strengths. Strengthening students' capacity to promote subjectively optimal mental states is tantamount to developing and transforming students' high underlying potential into high actual subjective experience and achievement. In the given academic context, the *conveyance* of knowledge of how to facilitate optimal mental performance and flourishing is paramount. Beyond the curriculum of Flow-PST, consideration of issues including student motivation, engagement, and the effectiveness of the instructional methods are all ineluctably related. Consequently, the subfield of educational psychology has undeniable ancillary importance, even if not given explicit attention in this dissertation. Yet, within the current framework, the provision of instruction refers to more than imparting knowledge; it also concerns establishing effective conditions under which students can adopt an autonomous role throughout the learning process (Csikszentmihalyi, 1997; Harmer, 2001). This was achieved by creating an informational environment (Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982) which ought to foster intrinsic motivation by providing choice whilst offering meaningful feedback (Assor et al., 2002; Reeve & Jang, 2006; Reeve, 2009) and which emphasised and promoted competence with the material at hand. Arguably, Flow-PST in an academic learning context ought to foster the conative dimensions of learning (Riggs & Gholar, 2008) and enable effective learners by actively encouraging their meaningful engagement. Deci and Ryan (2014) emphasised the importance of the need-supportive context as it pertains to fulfilling the basic psychological need for relatedness. They argued that those in roles of authority, such as educators, must:

> begin by appreciating and acknowledging the perspectives and frame of reference of those they would motivate at times of both setbacks and successes. These contexts also involve the authorities providing support for trying new things and making choices, providing warmth and respect, providing rationales when asking target individuals to do something, and refraining from using controlling language and controlling rewards or threats of punishment. (Deci & Ryan, 2014, p. 60)

Therefore, ideally, an academic environment conducive to learning how to facilitate the occurrence of flow states needed to be facilitated through a meaningfully engaged specialist who exemplified the desired willingness to remain on a learning edge and optimise their own skills.

3.1.2 Action research. Conducting the pilot study as an active and reflexive (Braun & Clark, 2013) participant in the research process was justifiable for four fundamental reasons. Action research traditionally involves a participative inquiry firmly rooted in one's experiences as an educator and researcher (Slavin, 2006). Hence, in the current context, this allowed me to draw on my proficiency in educational sport psychology and as a lecturer yet also embrace student feedback as a key evaluative source in the research process. Furthermore, my active and reflective involvement enabled me to generate knowledge relevant to my own teaching practices and course content whilst simultaneously contributing to scholarship in my areas of expertise. In the current research context, although my status as a former competitive athlete leads me to initially identify as an insider, my engagement in this action research must be seen as that of one occupying "the space between" (Corbin Dwyer & Buckle, 2009, p. 60) that of an insider or outsider. For, equally identifying as an educator and researcher, I inevitably negotiated between binary identities—intermittently acting, observing, analysing, and interpreting in both purposeful yet instinctive conjunction (as an actively involved researcher) and equally decisive disjunction (in a position of authority, as an educator) in relation to the participants. From those dual perspectives, my participation in the pilot study suitably presented an opportunity to immerse myself in the process of testing the preliminary Flow-PST instructional package and chosen pedagogical strategy of autonomy supportive enabling conditions and instructional behaviours (Assor et al., 2002; Deci et al., 1982; Deci & Ryan, 1987; Reeve, 2009; Stefanou, Perencevich, DiCintio, & Turner, 2004). As an active participant in the process and wishing to offer autonomy support, a clear aim was to establish the type of effective working alliance (Petitpas et al., 1999) which is essential when in an educational sport psychology consulting capacity (Halliwell, Orlick, Ravizza, & Rotella, 2003; Harwood, 2008). By vying to be empathetic, open, accepting and

approachable (Deci et al., 1994; Petitpas et al., 1999) yet nevertheless professional, the connection created between the participants and myself ought to have simultaneously further fostered the students' sense of relatedness (Deci & Ryan, 2014; Ryan & Deci, 2004). As described by Reason (1994), however, participative inquiry aims to produce knowledge and actively facilitate the subsequent use thereof in practice by means of *simultaneously* educating the target group and encouraging them to become more self-aware and reflecting. Indeed, the *Flow-PST Instructional Cycle* detailed in part four of this chapter was designed to foster students' enhanced self-awareness and reflection. The relevant information generated about students' experiences during and perceptions of the Flow-PST learning process provided the foundation for the later qualitative analysis and interpretive description (Thorne, Kirkham, & MacDonald-Emes, 1997; Thorne, Kirkham, & O'Flynn-Magee, 2004) of the students' narrative about the feasibility of Flow-PST. The resulting analysis ought to provide direction for both subsequent large-scale research and inform future teaching practices in similar academic contexts. Therefore, a simultaneous learning and research process existed.

Noffke (1997) identifies three clear dimensions of action research: Professional, political, and personal. Each of these distinct yet interconnected dimensions underlay this pilot study and influenced the perspectives through which the findings were interpreted. Adopting an active role in the research process facilitated professional understanding of how theory and the practical application thereof in an academic setting converge and differ. From a political perspective, this pilot study was arguably a reflection of a larger socio-political movement towards more widespread positive education (Peterson, 2006; Seligman & Csikszentmihalyi, 2000; Seligman et al., 2009; Seligman, 2011) grounded in fostering students' positive emotions and meaningful engagement. Similarly, yet from a very personal vantage point, as a former high performance athlete instilled with North American values and beliefs (Tocqueville, 2010), I am both dedicated to fostering the mental prowess of others and have an ingrained (Iyengar & Lepper, 1999), vested interest in providing student-athletes with tools to exercise control over and enhance the quality of their experiences. The varying perspectives of action research inherently entwine, however. For, uniting professional and personal perspectives, as an academic I am perpetually concerned with improving the content of my program of instruction, how I convey the material therein, the learning environment I create with my students, and how I ultimately keep them engaged. Yet, delving further into additional factors which influence my research perspectives and the associated preconceptions is of peripheral importance to the research questions at hand; thus, those specified ought to suffice. Because of how inherently biased active engagement in the research process inevitably is, however, Slavin

(2006) describes action research as "lack[ing] the objectivity sought in other forms of research, but it can provide deeper insight from front-line teachers or administrators than would be possible in research done by outsiders" (p. 21). Thus, capable of being generalised merely with caution, this action research is not representative of universal truths. The contextual and subjective descriptive narrative constructed herein undeniably reflects not only my political and professional, but also my personal and cultural perspectives (Madill et al., 2000) and must be considered as a reflection of the beliefs and values which underlie those perspectives. This participative inquiry can nevertheless generate knowledge about and contribute to scholarship pertaining to nurturing and amplifying psychological strengths.

3.1.3 Critical realist ontological perspective. Assuming that the study of positive emotional states and the theories of flow and self-determination upon which this study is based emanate from a humanistic tradition (Friedman, 2008; Froh, 2004; Mruk, 2008; Robbins, 2008), their shared focus is on positive growth and emphasising subjective experiences and meaning. The self-determination theory adopts the ontological premise that, from a developmental perspective, "all individuals have natural, innate, constructive tendencies to develop an ever more elaborated and unified sense of self" (Ryan & Deci, 2004, p. 5). And as described by Csikszentmihalyi (1990), the positive emotional experience of flow is in fact what leads to the differentiation and integration of autonomous components of the self; these are what constitute psychological growth. Albeit largely objectively measurable, both developmental processes are inherently subjective in nature. As such, adopting the desired athlete-centred approach in the current research context dictated a focus on perspectival subjectivity in the production of knowledge. Thus, assuming a critical realist (Bhaskar, 1989; Braun & Clark, 2013) ontological position for this research, it was presupposed that *a form* of *authentic* or *objective* reality exists (as opposed to a singular, indisputable or definitive reality) and is capable of being *known* or, "provides a *foundation* for knowledge" (Braun & Clark, 2013, p. 27). That presumed objective reality is accessible via standardised psychometric tests, for example. In the current study, however, methodological pluralism was essential, for the desire was to analyse and discuss objectively quantifiable evidence of each student-athlete's subjective experiences yet also juxtapose that insight with qualitative (experiential) evidence. While the students' experiential recounts will not necessarily render the overall findings more objective, adopting a dual research perspective enabled the establishment of a more thorough (exploratory, analytical, and interpretive) vantage point and presentation of the story of the data. Analysing and interpreting the data set at hand from dual perspectives was inevitably mediated by my theoretical background, perceptions, and cognitions,

however. Befittingly, critical realism acknowledges the ineluctable perspectival subjectivity in the actual production of knowledge, analysis, and the nuanced *interpretation* of reality in the current study. Hence, the subjective experiences athletes portray and knowledge gained during the study must be understood as a reflection of each actor's understanding and interpretation thereof. Accordingly, both the participants and the researcher involved must be considered as mediators of the context in which they are interacting and learning.

3.1.4 Contextual constructionist epistemological perspective. In close affinity to the critical realist ontology, a contextual (Braun & Clark, 2013) or contextual constructionist (Madill et al., 2000) epistemological perspective most logically frames the current research. As knowledge is regarded as accessible through language, characteristic of, and situated in a particular locality, knowledge is thus provisional (Madill et al., 2000). Consistent with the adopted critical realist ontological position, the elucidation of a singular reality is not presupposed from this epistemological standpoint. Specifically, Madill et al. (2000) support the notion that knowledge is mediated by what participants in a study understand, a researcher's interpretations, the cultural meaning underlying the participant's and researcher's interpretations, and the scientific community's assessment of the interpretations put forth. Correspondingly, in the current study knowledge is in fact assumed to emanate from and is contingent upon the given research context and the actors therein. Evidence of what the student-athletes conveyed (reportedly understood) and how that information was interpreted is not only a reflection of the specific academic context in which the data was collected and analysed, it is also inherently subjective and subject to the creativity of the interpreter/researcher. At this juncture, it is worthy of reiteration that the ontological and epistemological perspectives assumed neither dictate nor embrace the pursuit of a singular objective truth in scholarly research (Madill et al., 2000). Here, I thus diverge slightly from the more unadulterated positivistic approach associated with positive psychology interventions (Peterson, 2006; Seligman, 2011; Seligman & Csikszentmihalyi, 2000). Still, interpretations and logical deductions based on the findings were informed by transparent and objectively discernible practises and decisions; moreover, they were reinforced by a congruous methodological framework.

3.1.5 Explanatory sequential methodological triangulation. The multi-perspectival analytical framework provided through methodological triangulation (Guion, Diehl, & McDonald, 2011; Silverman, 2013) or "'meshing' methods" (Mason, 2006, p. 20) provided a multi-perspectival underlying basis for interpreting the preliminary descriptive results. Rather than adopting methodological triangulation solely as a means of converging

(Madill et al., 2000) results or assessing the validity (Guion et al, 2011) thereof per se, a contextual epistemological approach to triangulation provided a framework for broadening analytical perspectives, thereby yielding a more extensive picture of the data set (Madill et al., 2000). Essentially, within the explanatory sequential framework, subsequent to collection and assessment of the quantitative findings, the sequential analysis facilitated the process of establishing and substantiating plausible, coherent and meaningful interpretations of the narrative, or patterns of meaning (Braun & Clark, 2013) extrapolated from the qualitative data. Where feasible, the quantitative results were applied in further interpreting the quantitative findings. Furthermore, contextualist triangulation supported the retention of individual athlete's novel perspectives (Madill et al., 2000); thus, it facilitated maintaining the broader experiential focus of this pilot project. This study sought to demonstrate a correlative relationship between Flow-PST and quantitative increases in subjectively perceived dispositional flow, which, when expressed numerically, became the objective data upon which further analysis was based. Nonetheless, an additional qualitative, phenomenological view of the subjective reality conveyed by each individual athlete facilitated verification of the precursors, occurrence, subjective experience, and perceived relevance of situational flow in the given context. The analysis of the reported experiences informed to what extent the Flow-PST intervention was a viable means of teaching student-athletes how to develop the capacity to set the stage for flow.

3.2 Research Goals and Focus

The aim of this pilot study was to demonstrate that fostering an athlete's cognitive-behavioural skills in an autonomy-supportive learning environment arguably precedes increases in optimal psychological performance states, or dispositional flow in sport contexts. Accordingly, this study aimed to test a prospective Flow-PST syllabus through which student-athletes could learn to enhance their mental strengths, cultivate, and essentially control the occurrence of flow. The intervention was based on the theoretical premise that increasing one's awareness of what characterises optimal mental performance and allowing students opportunity to gain experience in how to regulate each respective dimension of flow, using applicable cognitive-behavioural training techniques, will lead to enhanced mental skills and performance success (Hanton & Jones, 1999; Lerner et al., 1996; Orlick & Partington, 1988; Ravizza, 2001; Vealey, 2007). Thus, the essential foci of this research were to identify both key themes facilitative to vying for and wilfully evoking flow as well as factors which influence students' experiences during the cognitive-behavioural training in an academic setting. Enhancing mental performance and thereby increasing one's capacity to flourish can be achieved by empowering student-athletes with a

comprehensive understanding of what their individual optimal mental performance state is comprised of and how to purposefully set the stage for and experience it.

3.2.1 Key variables. Three key variables were presumed to be instrumental to the wilful cultivation of dispositional flow states. Respectively, one's subjectively perceived locus of sport-specific motivational regulation, the psychological performance techniques and strategies employed, and one's disposition toward flow-like experiences in physical contexts ought to be seen as multidimensional and inherently related. Naturally, the isolated examination of internal processes and behaviours can offer a succinct purview of internal realities related to athletic performance. However, considered collectively, both self-determined forms of motivation and deliberate habitual use of mental performance strategies are the presumable catalysts which will effectuate increases in reported dispositional flow. The methodological framework within which the current preliminary research was conducted and the mixed methods chosen were an advantageous means of generating knowledge from two perspectives. While the qualitative data was a primary source of information in regard to student-athlete perceptions and beliefs concerning what succeeded and what requires further refinement in the eventual Flow-PST program, the psychometric tests enabled capturing each participant's subjective experiences as related to the aforementioned psychological constructs.

3.3 Study Context and Participants

The target population sought for the study was actively practicing and or competing, university level student-athletes. To preserve confidentiality, the research context shall merely be identified as a mid-sized, top tier research university in northern Germany with approximately 18,590 students—as described by the *Times Higher Education World University Rankings 2016* (https://www.timeshighereducation.com/world-university-rankings). The pilot study was conducted between April and July of 2012 with the support of the university's Institute of Sport Science. Conformant with the established institutional structures at hand, the planned ninety-minute, weekly seminar was organised to take place during the traditional twelve-week summer semester lecture period. Befittingly, the academic setting offered the precise context for which a future larger-scale study was conceptualised. Donning the generic title of a *Mental Training* seminar, the Flow-PST program was publicised in the same manner as all other sport science seminars using the university's centralised learning and registration management system: *Stud.IP (Studienbegleitender Internetsupport von Präsenzlehre)*. Permission had been granted to offer a singular seminar. To open access to as many interested students as

possible, however, the seminar was advertised as both (a) an advanced undergraduate seminar entitled *Bewegen und Trainieren II: Mentales Training* for teacher's education students with sport science as a minor and (b) as an advanced graduate seminar in the sport sciences under the title *Vertiefungsveranstaltung zur Bewegungs- und Trainingswissenschaft: Mentales Training*. Via the course description, the *Mental Training* seminar (previously and henceforth referenced as Flow-PST) was promoted as practical in nature, comprised of regular theoretical input, and specifically intended for student-athletes who would be actively involved in their sport during the upcoming semester. Furthermore, in accordance with guidelines stipulated in the respective modules within which the seminar was offered, the course was described as bilingual; both English and German were the languages of instruction and discourse. In addition, the requirements clearly indicated that in order to earn credit for the seminar, regular active participation as well as the completion of homework assignments and a final written assignment (a term paper or a journal) were obligatory. (As itemised in Appendix A, the *Course Description Handout* has been provided in the enclosed CD-ROM; see document one.)

3.3.1 Ethical considerations. Out of respect for ethical standards pertaining to the need to adequately inform and protect the desired anonymity of the participants, it was openly divulged that the seminar was in fact conducted as part of a doctoral research project. Students were privy to the general nature of the study and the purpose thereof: to optimise a mental training seminar for university student-athletes. While pragmatism dictated that the pilot study was to be conducted with the registered seminar participants, students were given the option to participate in the seminar yet not the study. A transparent description was given of how the results of the psychometric tests and all other materials would be rendered anonymous and potentially used in the resultant dissertation and eventual scholarly publications. Moreover, anticipating the time required to assess the data collected upon completion of the intervention, an open invitation was extended for students interested in learning and discussing the results of their psychometric tests—albeit in the following calendar year. Responsively, all seminar participants volunteered to participate in the study and thus have relevant data about them collected and used accordingly; only one participant, Donovan, expressed interest in learning the outcomes of his psychometric tests in January 2013.

3.3.2 Demographic data collected. The demographic information collected ought to demonstrate the rudimentary characteristics of the cohort at hand. The form used to collect this information can be found in the enclosed CD-ROM (document two). All of the

participants were enrolled in the university's Sport Science program. To preserve anonymity, however, further identifying information such as the student-athletes' competitive achievements, or team affiliations are not conveyed here. Because it was presumed that the athletes participate in more than one sport, they were encouraged to indicate which sport in particular they intended to prioritise during the seminar. Ideally, encouraging the student-athletes to adopt a clear focus ought to have promoted both a focused implementation of the cognitive-behavioural skills and ensure that the psychometric tests were approached with a particular sport in mind. The demographic information was collected prior to the first instructional session in which a dimension of flow was addressed. To ensure responses which reflect their current situation, the students were asked to generalise their level of engagement in the three months leading up to the seminar including the average number of hours dedicated to training each week. Besides indicating the amount of time spent engaged in technical training, students were asked to indicate other forms of practice which could include mental training, weight training, or even physiotherapy, for example. Questions pertaining to the types of practice engaged in were chiefly posed to determine to what extent mental training had been engaged in prior to the intervention. The student-athletes were also asked to (a) describe their perceived skill level (novice, intermediate, advanced or elite) and (b) indicate their customary level of participation in the sport. Sub-categories indicative of one's level of participation included recreational or solely that which is required in their mandatory university classes. In contrast, competitive levels were classified as municipal, state, national and or international, accordingly.

3.3.3 Study participants. Thirteen sport science students (n = 4 females; n = 9 males) initially registered for the seminar and data for seven of which (n = 1 female; n = 6 males) was included in the current study. The reduced final cohort size is attributable to customary student drop-out due to timetable changes, for example, after the first few weeks of the semester (n = 2 females; n = 3 males). One female participant incurred an injury during week four of the semester, however. While the injured student-athlete in question continued to take part in the seminar, consequences of her injury were that she was no longer permitted to be physically active and could thus no longer actively apply the information conveyed, nor did she complete the post-intervention assessment (both of which would have been essential inclusion criteria for the data analysis). The final cohort consisted of seven competitive student-athletes interested in learning more about mental training and refining their related skills.

3.3.3.1 Langston. Twenty-six-year-old Langston was a third-year Masters of Education (M.Ed.) student. A self-described advanced rower who regularly competed at national and international competitions, Langston reportedly customarily engaged in approximately twelve hours of technical practice each week. In the six months prior to Flow-PST, Langston had reportedly not engaged in other forms of training.

3.3.3.2 Ashe. Twenty-two-year old Ashe was in his second year of study for his Bachelor's (B.A.) degree. Ashe described himself as an athlete with advanced skill who engaged in competitive sport at a municipal level. While he described his primary sport as weight training, he wished to equally concentrate on long-distance running (10 km) during our seminar. On average, Ashe engaged in at least three hours of technical training each week; no time was dedicated to mental training.

3.3.3.3 Donovan. Twenty-six year-old Donovan was an M.Ed. student in his sixth year of study. As a tennis player who regularly participated at the state level of competition, he engaged in an average of four hours of technical training each week during the six months prior to our seminar. Although Donovan indicated that he usually also dedicated an average of four hours per week to a combination of weight training and endurance training, he had apparently not engaged in mental training.

3.3.3.4 Perdita. Perdita was a twenty-nine-year-old runner and swimmer who had just begun her transition to the triathlon. She described herself as a second-year B.A. student of intermediate skill level who competed at the municipal level. The most active of all participants, Perdita participated extensively in a variety of other physical activities including Pilates, aerobics, yoga, and horseback riding. Yoga was indicated as a form of mental training Perdita had engaged in for approximately three hours each week prior to the seminar. She was the only participant who indicated prior experience with what she deemed mental training.

3.3.3.5 Willie. B.A. student Willie was a twenty-three-year-old soccer player. He described himself as an athlete with advanced skill who regularly competed in his sport at the state level of competition. Willie apparently dedicated an average of six hours per week to his training: Three of which were spent engaging in technical training and between three and four hours were spent engaged in other unspecified forms of training each week. Willie clearly indicated, however, that no time had been dedicated to mental training prior to the intervention.

3.3.3.6 Jerome. Jerome identified himself as a twenty-five-year-old B.A. student. As a competitive martial arts athlete specialised in Muay Thai, Jerome considered his skills advanced and on the brink of elite. Accordingly, he regularly competed in his sport at national and international levels. On average, Jerome dedicated between nine and ten hours to technical training each week in the six months prior to Flow-PST. Although he indicated that no time was dedicated to mental training, Jerome reportedly spent between two and three hours engaged in other unspecified types of training on a weekly basis.

3.3.3.7 Bennett. Twenty-five-year-old Bennet was a second-year B.A. student. As a self-described elite tennis player who regularly competed at national and international levels, he indicated that he dedicated two hours per week to technical training during the three months prior to the intervention. Although Bennett reported that no time was dedicated to mental training prior to the intervention, four hours per week were dedicated to other forms of training including jogging and working out in the gym.

3.4 Quantitative Instruments of Measurement

Three psychometric tests were employed in the pilot study. During the first seminar session, each participant received a preliminary data collection package which included a *Cover Letter* (as itemised in Appendix A, please see the enclosed CD-ROM; document three) in addition to the three assessment tools detailed in the forthcoming section. For comparison purposes, the psychometric tests were administered pre- and post-intervention during the first and second last seminar session, respectively. Those particular times were chosen to ensure that the Flow-PST instructional content had been introduced only after the preliminary data collection. Therefore, the Flow-PST curriculum had been dealt with in entirety before the post-intervention data was collected. The instruments of measurement included the *Sport Motivation Scale* (SMS-II; Pelletier et al., 2013), the *Test of Performance Strategies* (TOPS 2; Hardy et al., 2010), and the *LONG Dispositional Flow State Scale (DFS-2) - Physical*, (Jackson et al., 2010). The versions of the *Psychometric Tests Administered* which the student-athletes completed have been provided in the enclosed CD-ROM; please see document four.

3.4.1 The Sport Motivation Scale (SMS-II). In order to assess the locus of participants' motivation while engaged in their respective sport, the revised *Sport Motivation Scale* (SMS-II; Pelletier et al., 2013) was employed under the pseudonymous title: *Why Do You Practice Your Sport*? The SMS-II was befitting as it provided insight pertaining to

characteristics and psychological processes underlying the locus of six forms of sport-specific motivational orientation and behavioural regulation as a reflection of the self-determination theory (Deci & Ryan, 1985a). It presupposes that one can exhibit multiple motives for engagement in an activity and hence the locus of motivation must be examined as on a continuum of autonomy which is influenced by factors emanating from the actor engaged in an activity (Ryan & Deci, 2007). Accordingly, the six 3-item subscales of the SMS-II assess three types of more autonomous behavioural regulation (*intrinsic, integrated, and identified*) and three types of less self-determined forms of behavioural regulation (*introjected, external, and amotivated*), respectively. Reflecting the conceptual continuum of loci of motivational regulation, the SMS-II is comprised of 18 items on a 7-point Likert scale anchored by the diametrically opposed statements *does not correspond at all* (1) and *corresponds completely* (7). Possible subscale scores could hence range from three to 21—the higher of which would be demonstrative of higher levels of the type of motivational regulation in question. In a two-phase study to create and validate a revised version of the original sport motivation scale (SMS; Pelletier et al., 1995), Pelletier et al. (2013) assessed the SMS-II with provincial-level swimmers (n = 150) and basketball athletes (n = 140) and yielded strong reliability and validity for the revised scale. Specifically, tests for internal consistency demonstrated support for the validity of the SMS-II; Cronbach's Alpha coefficients ranged from 0.70 (introjected subscale; M = 4.15, SD = 1.33) to 0.88 (intrinsic subscale; M = 4.72, SD = 1.51; mean alpha across the six subscales = 0.79). In the current context, the two scales are comparable with caution because the original SMS entailed seven subscales, three of which—intrinsic motivation to know, intrinsic motivation to accomplish, and intrinsic motivation to experience stimulation—were collapsed into the revised intrinsic motivation and integrated motivational regulation subscales. Nonetheless, Pelletier et al. (2013) demonstrated that, in comparison, the original SMS yielded Cronbach's Alpha coefficients ranging from 0.73 (introjected regulatory subscale; M = 4.18, SD = 1.39) to 0.87 (for the original subscale intrinsic motivation to know; M = 4.52, SD = 1.49; mean alpha across the seven subscales = 0.81). While the introjected regulation subscale yielded a slightly lower reliability coefficient than the remaining subscales, it remained acceptable. Moreover, Pelletier et al. (2013) confirmed the existence of a simplex pattern in the SMS-II; each respective subscale revealed a greater correlation in a positive direction with the subscales in close proximity along the self-determination continuum and a weaker correlation with those diametrically opposed. The SMS-II was thus deemed to have sufficient support for the factorial validity of the scale. As a result, the SMS-II was employed in the current study because it was deemed superior to its predecessor due to its brevity, greater conformity with the self-determination theory (Deci & Ryan, 1985a,

2008b), and the improved internal consistency (Pelletier et al., 2013). In addition to assessing the student-athletes' level and locus of motivational regulation, the Flow-PST participants reported their engagement in performance strategies conducive to fostering optimal mental performance states.

3.4.2 Test of Performance Strategies (TOPS 2). A condensed version of the revised *Test of Performance Strategies* (TOPS 2; Hardy et al., 2010) was employed in the pilot study. Developed by Thomas et al. (1999), the TOPS is a sport specific self-report instrument consisting of 64 questions which enables measurement of psychological skills and strategies employed in practice and competition settings. As the present study emphasised practice settings, merely the practice relevant questions were utilised for the pre- and post-intervention psychometric assessment. This decision was deemed justifiable because the research focus was on initial mental skill acquisition and refinement. From a learning perspective, the systematic practice of psychological skills and performance strategies ought to be promoted and implemented in practice contexts first (Weinberg & Williams, 2001; Weinberg & Gould, 2015). Thus, the Flow-PST intervention pivoted around fostering general disposition and habitual behaviours which precede optimal mental performance as applied to practice contexts rather than focusing on their immediate transfer to competition per se. The TOPS 2 thereby provided a means of monitoring the psychological skills employed by the respondent and thus enabled assessment of the effects of the psychological skills training intervention on technique implementation and skill development in the actual practice settings pre- and post-intervention. The test administered to fulfil the needs of the Flow-PST pilot study was comprised of 32 remaining questions across eight subscales and provided under the pseudonymous title *Which Strategies Do You Use in Practice*?

The TOPS 2 assessed the frequency with which the respondent employed the practice strategies indicated using a 5-point Likert scale anchored by the diametrically opposed frequencies *never* (1) and *always* (5). The cognitive behavioural strategies assessed in the TOPS 2 include activation, relaxation, attentional control, automaticity, emotional control, goal setting, imagery, and self-talk. Arousal regulation, assessed by the activation and relaxation performance strategies, refers to the skill of regulating levels of physiological arousal so as to thereby facilitate optimal performance states. *Relaxation*, for example, is achieved by lowering somatic anxiety or physiological arousal by engaging in a form of arousal regulation such as one breath relaxation. Conversely, *activation* or increases in arousal can be elicited by engaging in a psychologically and physiologically arousing

activity such as vigorously jumping up and down to increase blood flow. While *attentional control* refers to strategies such as pre-performance concentration routines which are employed to purposefully facilitate gaining and maintaining the most appropriate attentional focus for the respective performance, the items related to *automaticity* assessed the ability to perform to a high standard in absence of elaborate cognitive control, autonomously, if you will. Furthermore, the frequency with which the respondent employed strategies to effectively deal with negative emotions stemming from distractions and adversity, for instance, is measured through TOPS 2 items categorised under *emotional control*. Emotional control strategies could include the use of contingency plans to rehearse subjectively optimal ways of dealing with adversity or distraction and using said plans when the need arises. The frequency with which the respondent engages in a *goal setting* process whereby specific plans of what they wish to accomplish, ideally including an appropriate action plan, is also assessed. The TOPS 2 includes goal setting questions regards the planning process, goal specificity, and level of difficulty. Moreover, it assesses covert cognitive rehearsal of performance, *imagery rehearsal*. Questions encompass the purposeful recollection of past successful performances, involvement of the kinaesthetic sense, and also enquire as to the perspective (internal versus external). Finally, the TOPS 2 facilitates assessment of whether the respondent purposefully implements and maintains internal discourse facilitative of performance; *positive self-talk*. The TOPS 2 hence enabled a comprehensive assessment of the psychological performance strategies and skills each athlete employed pre- and post-intervention.

With a cohort of athletes of varying ability and representing different sports (n = 277), Hardy et al. (2010) found that the practice subscales on the refined version of the TOPS 2 yielded internal consistency in support of the validity thereof. Cronbach's Alpha coefficients ranged from 0.71 (activation; M = 3.41, SD = 0.63) to 0.85 (relaxation; M = 2.18, SD = 0.83; mean alpha across subscales = 0.78). While the authors cited limitations with the automaticity subscale as a result of the double-negative phrasing of some items, for example, the generally good fit statistics nevertheless served as sufficient support for the factorial validity of the TOPS 2 used in this study. Deciphering increments in the use of performance strategies first required slight adaptation of the reported scores, however, as negatively phrased statements inherent in five of the TOPS 2 subscales initially lead to obscure final results. To present readily comparable results which can be interpreted unambiguously across subscales, the responses to the items in question were inverted. For example, TOPS 2 question number 10, an item on the emotional control subscale, reads: "I get frustrated and emotionally upset when practice does not go well" (Hardy et al., 2010, p.

32). A response of *always* (5) on the 5-point Likert scale is indicative of a *lack* of emotional control. Inverting the response to *never* (1) effectively renders it a low score suggesting a deficiency and thus fostering conformity with the scoring of the remaining positively phrased items. Therefore, scores for all negatively phrased items were inverted as follows: *always* (5) was inverted to *never* (1); *often* (4) was inverted to *rarely* (2); *sometimes* (3) remained constant; *rarely* (2) was inverted to *often* (4) and *never* (1) was inverted to *always* (5). Consequently, the higher the reported score on any respective subscale (maximum 20), the more frequent the use of the performance strategy; a lower score (minimum four) therefore signifies infrequent implementation. In this pilot study, it was presumed that the greater frequency with which student-athletes reportedly employ mental performance strategies to enhance performance, the greater is the likelihood that they will also be able to foster optimal performance and dispositional flow.

3.4.3 LONG Dispositional Flow State Scale (DFS-2)—Physical. The *LONG Dispositional Flow State Scale (DFS-2) – Physical* (Jackson et al., 2010) was deemed most efficacious for the assessment of each student-athlete's multidimensional and unidimensional experiences of dispositional flow. For the self-report instrument is a reflection of Csikszentmihalyi's (1990) theory of flow as further explicated in extensive qualitative research in sport contexts with elite athletes (Jackson 1992, 1995, 1996). The nine-dimensional conceptualisation of flow reflected in the subscales include measures of the *challenge-skill balance*, *merging of action and awareness*, *clear goals*, *unambiguous feedback*, *concentration on the task at hand*, *sense of control*, *loss of self-consciousness*, *transformation of time*, and the *autotelic experience*. Individually, the respective subscales represent a singular characteristic of the multidimensional flow experience. Cumulatively, however, an average of all subscale scores yields a global flow score and is thus demonstrative of the unidimensional experience of the optimal psychological state.

The LONG DFS-2 – Physical entails 36 questions across nine subscales. Provided to the participants under the pseudonymous title *What Do You Experience When You Participate in Your Sport?*, the DFS-2 – Physical assessed the frequency with which the characteristics of dispositional flow were experienced. This is indicated via a 5-point Likert scale anchored by the diametrically opposed statements *never* (1) and *always* (5). Therefore, before determining the average response, possible subscale scores could range from four to 20. A higher subscale score is indicative of the respondent's affirmation of the frequency with which they experience the dimension of flow in question; lower subscale scores reflect the respondent's objection to or lesser agreement with the subscale questions and thus lesser

experience of the dimension of flow in question (Jackson et al., 2010). Moreover, the global flow construct calculable within the LONG DFS-2 Physical scale allowed the unidimensional assessment of each subject's general disposition for flow in sports conducive to the experience. As reported by Jackson et al. (1998), the reliability of the original trait flow scale revealed alphas ranging from .70 to .88 (mean alpha = 0.82), with a cohort of masters athletes (n = 398). In an evaluation of the construct validity and reliability of the revised version of the dispositional flow scale with a physical activity sample (n = 652), Jackson et al. (2008) demonstrated that the LONG DFS-2 – Physical yielded improved internal consistency estimates ranging from .80 (clear goals; M = 3.97, SD = 0.61) to .89 (loss of self-consciousness; M = 3.36; SD = 0.85). The mean alpha across subscales = 0.85. This served as sufficient support for the reliability of the measure of dispositional flow in this pilot study.

3.5 From a Quantitative to a Qualitative Means of Assessment: A Subset in Focus

To augment and further substantiate the quantitative evaluation of students' reported changes in behaviour from pretest to posttest, a subsequent qualitative exploration of the participants' experiences during Flow-PST was a vital component of the pilot study. The inclusion of an explanatory qualitative analysis (Wisdom & Creswell, 2013) six months subsequent to the Flow-PST intervention provided a means of gaining additional information with which to expand upon and thereby further elaborate and interpret the reported quantitative outcomes. It was presumed that building upon the psychometric test results would foster not only greater depth of understanding, merging two data sets simultaneously offers initial validation of the respective findings (Palinkas, Aarons, Horowitz, Chamberlain, Hurlburt, and Landsverk, 2011).

3.6 Qualitative Assessment Method and Methodology

A theoretical thematic analysis based on structured interviews was deemed the most befitting means of approaching the research questions from a qualitative perspective. Boyatzis (1998) characterises thematic analysis as both a simple *tool*, "a *process* [emphasis added] for encoding qualitative information" (p. 4) and a mere "translator [which] facilitates communication" (p. 145) and which is subservient to analytical traditions such as grounded theory. Similar to the qualitative research on flow in sport conducted by Jackson (1992, 1995), in this pilot study, however, theoretical thematic analysis (Braun & Clark, 2013) was employed as a viable and distinct *method* (Braun & Clark, 2006; 2012; 2013) within psychology "for systematically identifying, organizing, and offering insight

into patterns of meaning (themes) across a data set" (Braun & Clark, 2012, p. 57). Two prevailing approaches to thematic analysis exist. Inductive approaches emphasise determining themes in the data as a reflection of that which is perceptible therein. Thereafter, an analysis of the observations is conducted to evaluate how the findings pertain to the pertinent research question(s). In contrast, deductive thematic analyses, emanating from existing theoretical frameworks, ensue under the presumption that specialist knowledge is in fact applied (Braun & Clark, 2006; 2013). Specifically, a theoretical thematic analysis "is guided by an existing theory and theoretical concepts (as well as by a researcher's standpoint, disciplinary knowledge, and epistemology)" (Braun & Clark, 2013, p. 175). In the current pilot study, the lines between deductive (theory-based) and inductive (data-driven) approaches to data coding and thematic analysis converged. It was deemed essential that coded material ought to remain derivatives of latent content, or theoretically based knowledge and interpretation, *and* reflect elements of the semantic content of the data. Capturing and "appl[ying] an interpretative lens" (Braun & Clark, 2013, p. 207) to that overt semantic content was a desired goal. From an analytic standpoint, it would be both virtually impossible and arguably ill-advised to attempt to detach oneself from one's cognizance of the concepts at hand; one's applied and theoretical understanding and interpretation thereof are unlikely to waver substantially. Moreover, having relative expertise enabled a focused analytic purview. Rather than resulting in myopia, knowledge of underlying theoretical frameworks (pertaining to sport motivational regulation, athletes' use of psychological skills, and dispositional flow states) enhanced awareness of implicit subtleties in the data set. Consequently, in addition to embracing semantic content which reflected the student-athletes' experiences, the inclusive approach adopted enabled prioritising theory-based meaning and allowing significance to be subjectively constructed and ascribed as a reflection thereof during the analytic process. And codes determined at the latent level clearly "invoke[d]… conceptual and theoretical frameworks" (Braun & Clark, 2013, p. 207). Despite the inherently subjective nature of thematic analysis (Braun & Clark, 2013), scholarly integrity impelled undertaking efforts to imbue the analysis with as much objectivity as possible.

Ensuring and maintaining objectivity was achieved by adhering to a rigorous and systematic data analysis process. The process presupposed the creation and use of a template data management tool (a code manual which included 23 initial theory-driven codes), followed by immersion in the data, and development of an additional 10 essential data-driven codes. (While the *Complete Code Manual* is provided in the enclosed CD-ROM (as itemised in Appendix A, please see document five), a complete list of all codes as well as four exemplary codes have been provided in Appendix B.) Subsequently, prevailing themes

were derived from the data itself—as authentically as possible. The deductive, theory-driven, thematic analysis adopted in this study emanated from an experiential theoretical position: The analysis and interpretation of the experiences, inherent meanings thereof and realities of the athletes in question were paramount. Thus, as previously stated, the codes and analysis transcended beyond merely identifying explicit semantic meaning (and thus to the production of mere semantic codes) to proposing and substantiating the *implicit* concepts and/or beliefs which essentially motivated the overt semantic content (Boyatzis, 1998; Braun & Clark, 2006; 2012; 2013). A meticulously planned combination of inductive and deductive methods was adhered to in an effort to best establish the desired comprehensive—soundly theorised and richly descriptive—qualitative analysis.

Four key goals throughout the thematic analysis were to vie for utmost clarity, while providing evidence and also fostering credibility and consistency of the procedure followed. Adhering to a deliberately comprehensive plan for the thematic analysis offers not only methodological transparency, more importantly, it provides evidence of an *active* process (Braun & Clark, 2013) of determining and detailing the narrative of the data set as opposed to passively anticipating the emergence of relevant themes. In addition to ensuring clarity and true engagement in the process, it was essential to ensure the credibility of the methods used; this was approached in two ways. First, the foundation of the steps determined and adhered to for the current research were derived from tried-and-true guidelines put forth by specialists (Boyatzis, 1998; Braun & Clark, 2006, 2012, 2013; Silverman, 2013) in thematic analysis. In addition, embracing a multilayered approach to gleaning information for the analysis facilitated striving for exactitude in the qualitative assessment. Adhering to recommended checklists (Braun & Clark, 2006, 2012, 2013) which designated clear procedures, engaging in reflective writing based on critical questions to promote a high quality thematic analysis, and maintaining and reviewing those detailed research notes in the *Complete Thematic Analysis Reflexivity Journal*[1] all fostered adopting an unambiguously analytic research stance. The final questions used as the guide to reflexive journaling during the coding process, for instance, are provided in Appendix C. However, reflexive journaling was an ongoing occurrence throughout the thematic analysis process and not limited to merely the process of generating codes or progressively refining the thematic map. Still, to offer transparency pertaining to exactly how the reflective journaling was employed systematically, the sample questions are provided although the journaling process was not detailed as a step in its own right. Habitually engaging in

[1] To preserve both brevity and individual privacy, the complete journal has been provided on a separate data carrier; that archive shall only be provided to the dissertation supervisors for perusal. As itemised in Appendix A, that supplementary information has been compiled in the additional CD-ROM file: *Extended CD-ROM Content*.

reflective journaling and making a conscious effort to keep ongoing research notes, fostered detailing and justifying each aspect of the decision-making processes. Moreover, engaging in a systematic review of the research notes compiled on each respective day and notating highlights therein before proceeding facilitated the process of establishing an increasingly clearer focus for the analysis. Employing multifaceted steps additionally enabled selectively channelling the prevailing ideas emanating from the aforementioned sources into an increasingly definite, singular form. Thus, actively engaging in a recursive, reflective process augmented and underscored the credibility of the minutely detailed steps and decisions made in the analysis process.

Consistency could be ensured in a number of ways. The first measure was determining and adhering with exactitude to a detailed checklist of steps to follow during the thematic analysis process. Furthermore, the research questions underlying this study were habitually reviewed prior to commencing each thematic analysis session. The measure was taken to foster an unequivocally clear focus on the goals of this scholarly inquiry. Remaining cognizant of the pertinent themes and objectives facilitated "complete coding" (Braun & Clark, 2013, p. 206), or determining, coding, and analysing solely that which was relevant to answering the research questions at hand, however, without preselection of particular themes per se. Finally, additional reliability was fostered by engaging in a two-fold coding process. As outlined by Braun and Clark (2013), the first instance of which was completed using hard-copy data; the second coding process was completed electronically. In both cases, the process included comparing both the coded raw data extracts and associated research notes across the entire data set. To foster an ongoing fresh perspective, rather than coding each data item in succession, coding was strategically completed by alternating between items intermittently—a maximum of 40 minutes was dedicated to any one data item at a time. In essence, the subjective nature of thematic analysis necessitated presenting transparent evidence of consistency, clarity, and credibility in order to provide objectively discernible methods and justification for decisions made throughout the analysis, and, naturally, for the subsequent conclusions.

3.6.1 Reduction of the data corpus. The initial data corpus included (a) audio files and transcripts from three *Interim Interviews*, with Langston, Donovan, and Perdita; (b) 11 audio files recorded during each of the seminar sessions; and (c) six student journals/ final assignments from Ashe, Perdita, Willie, Jerome, Bennett, and Maya—the female athlete who incurred the injury and could no longer actively participate in her sport during the seminar. As Langston and Donovan were participating in the seminar out of mere personal interest, they did not require credit for the class and hence opted to not submit a final

assignment. The data corpus also included (d) six *Follow-Up Assessments* of the seminar (completed by Langston, Donovan, Willie, Jerome, Bennett, and Maya) and (e) three *Follow-Up Interviews* with those students who remained available. To enable a focused purview, however, the corpus was selectively reduced for the current analysis presented within this dissertation. The resulting data set was thus solely comprised of the three follow-up interviews conducted with Langston, Ashe, and Donovan six-months subsequent to the intervention; the interview questions are delineated in Appendix D.[2] The decision to drastically reduce the data set was made not only to better manage the material but primarily because the follow-up interviews were deemed the most comprehensive, yet succinct, and hence advantageous source of information to delve into, analyse, and competently answer the core research question: To what extent individualised autonomy-supportive psychological skills training is a feasible means of cultivating flow. Within the thematic analysis in particular, the research focus entailed paying particular attention to the extent to which students: (a) individually reported predominantly self-determined forms of motivational regulation to engage as a result of the Flow-PST seminar; (b) reported an increase in or more proficient use of the performance enhancement strategies introduced; (c) characterised an increase in proclivity to experience flow; and (d) which components of the Flow-PST seminar students independently cited as most conducive to their mental training experience. With the pertinent research objectives in focus, merely the meticulous process of analysis needed to be adhered to.

3.6.2 Methods of Thematic Analysis. To ensure a sufficiently rigorous, objective, and transparent data management and analysis process, the thematic analysis conducted was based on 22 clearly demarcated steps across eight progressive phases, as outlined in tabular form in Appendix E. The manifold steps in the process are admittedly seemingly exorbitant in comparison to the six-phase foundation they emanated from as offered by Braun and Clark (2012). Essentially, the steps included in the current analysis, however, acquiesce to the implicit plea for greater demarcation of the methods followed when conducting a thematic analysis in psychology (Braun & Clark, 2006). Furthermore, the demarcated steps provide evidence of measures taken to avoid eventual "pitfalls" (Braun & Clark, 2006, p. 94) whilst simultaneously reflecting the checklist of criteria Braun and Clark (2006) recommend one ought to consider when vying to conduct a sound thematic analysis. Adopting the aforementioned criteria as a foundation which was expanded upon

[2] Both for the sake of brevity and for data protection purposes, while the complete audio files and transcripts from the three follow-up interviews, upon which the thematic analysis was based, have been provided on a separate data carrier in an anonymized form, the complete archives shall only be provided to the dissertation supervisors for perusal. Appendix H, however, provides a *sample* interview transcript. As itemised in Appendix A, that supplementary information has been compiled in the additional CD-ROM file: *Extended CD-ROM Content*.

resulted in explicitly defined steps for a truly systematic process of analysis. In particular, this very precise approach to the analysis was deemed the most advantageous means of ensuring acceptable levels of consistency, clarity, and credibility in the inquiry. The steps in each phase were completed for Langston, Ashe, and then Donovan in a successive cyclic manner. As previously stated, after working with a respective data item for 40 minutes (the subjectively perceived ideal amount of time to remain thoroughly focused before requiring a pause), attention was directed to continuing with the next data item.

3.6.2.1 Phase one: Familiarisation with the data. This preparatory phase included four steps: (a) transcription, (b) collection and subsequent (c) collation of instinctually significant observational research notes, followed by (d) verification of the consistency of the final transcripts.

3.6.2.1.1 Step one: Transcription. To commence, the audio recordings of the data items (three follow-up interviews) were transcribed orthographically following a revised version of the *Gesprächsanalytisches Transkriptionssystem* (GAT) developed by Selting et al (1998). Adhering to GAT 2 (Couper-Kuhlen & Barth-Weingarten, 2011; Selting et al., 2009), the updated transcription conventions and guidelines for a minimal and/or basic transcript (as required) were adhered to, for the resulting level of detail sufficiently fulfilled the needs of the current analysis. Thus, corresponding with GAT 2, where decipherable, all discernible articulated sounds were reproduced. This included words, indications of stress thereof (or, indication of emphasis placed on singular syllables), glottal stops, hesitations, breaths, laughter, and pauses. Consonants as well as sounds produced through audible physical actions such as slapping the table with one's hands (see Appendix H; Murdock & Donovan, 2013, line 1720, for example[3]) were also reproduced in the transcripts. Slight adaptations to the conventions were required, however. Indications of cliticization were deemed irrelevant for the current analysis as they would neither further substantiate nor augment the ultimate coded material at the desired latent level. Hence, they were not represented in the final transcripts. Moreover, the interviews were conducted bilingually. Thus, due to the number of less than ideal language inaccuracies—on the part of the interviewer—the interview questions were transcribed as *intended* in order to retain greater clarity when perusing the respective interview transcripts. Because the content of the student-athlete's testimonials were the sole focus of the thematic analysis, this was

[3] *Nota bene*: While the complete interview transcript referenced has been provided as a sample in Appendix H, all other interviews and the accompanying audio files have merely been provided to the dissertation supervisors for perusal. As itemised in Appendix A, that supplementary information has been compiled in the additional CD-ROM file: *Extended CD-ROM Content*.

deemed a justifiable executive decision to take. In all other respects, each final transcript retained all colloquial language and was not refined to adhere to conventions of or establish grammatical accuracy. As itemized in Appendix A, all MP3 audio recordings and the transcriptions thereof have been compiled in the additional (limited access) CD-ROM file: *Extended CD-ROM Content*.

3.6.2.1.2 Step two: Collection of observational notes. During both transcription (step one) and actively reviewing the audio files (step three), ongoing instinctive and observational research notes were periodically made as comments on the hardcopy at hand or in each respective electronic *Microsoft Word* document. Annotation served to highlight both excerpts of presumed significance and my subjective perceptions and/or theoretical assessment thereof as they were encountered. This initiated the process of approaching each data item as literal data from both analytical and critical research perspectives. *Nota Bene:* The vast majority of the referenced research notes were merely created to facilitate initiating and maintaining an engaged approach to analysis. As such, they were neither intended for nor refined for a wider audience.

3.6.2.1.3 Step three: Augmentation of completed transcripts. Next, the completed transcripts were augmented. Where applicable and progressing question by question, written notes made on the respective interview guideline during the interview were crosschecked, and included as notes in the margin at the appropriate section of the transcript hardcopy. This was done to ensure that the context in which statements were made was accurately and appropriately noted where essential. Moreover, the notes enabled recollection of instinctual responses which came forth during the interview, and/or ideas and associations which were deemed beneficial, as those perceptions had the potential to provide or amplify a relevant "pattern of meaning" (Braun & Clark, 2013, p. 175) for the inductive analysis in phase four.

3.6.2.1.4 Step four: Conduct twofold review of the audio files. Finally, a twofold active review of the audio files against each respective data item (each complete interview transcript, in succession) was conducted. The data items were reviewed twice to ensure (a) overall accuracy (making improvements as necessary) and that (b) all omissions were justified (truly indecipherable despite a repeated review). Where required, notes made during the transcription and first review phase were augmented before turning to the next data item and second review. The succeeding review focused on enhancing familiarity with the data set and, most importantly, engaging in a systematic process of creating supplementary

observational notes for each data item. In accordance with and adapted from suggestions offered by Braun and Clark (2012), the observational notes were based on three guiding questions. These included: "How does the participant make sense of their experiences? What assumptions do they make in interpreting [and/or relaying] their experiences? What… is revealed through their accounts?" (Braun & Clark, 2012, p. 61). To consistently address the guiding questions systematically, an intuitional, explorative free-writing technique (Elbow, 1989; Oshima & Hogue, 2006) was employed as it enabled the establishment of an unrestrained connectedness to ideas which entered consciousness about the material or theme at hand. Steps in the deliberate approach to generating, refining, and concretising meaningful interpretations included (a) between five and 10 minutes of spontaneous, intuitional writing in response to each respective guiding question and (b) taking a short two-minute break to deliberately disengage and thus start afresh. The next step was to (c) return to the written response to the respective guiding question in order to determine hotspots, or areas of intuitive relevance and then (d) clearly and coherently summarise the focal points explored. Free-writing, therefore, facilitated the process of establishing a clear and succinct focus for the ongoing analysis; the most important results of which are detailed in the final report.

3.6.2.2 Phase two: Generating initial codes. Phase two was dedicated to (a) creating the theory-driven code manual, establishing an organisational structure for the (b) collation of the data extracts and related information, and, lastly, (c) applying the code to the data set.

3.6.2.2.1 Step five: Establishment of the initial theory-driven code and code manual. The prior-research, or theory-driven, codes included in the *Complete Code Manual* were primarily derived as a reflection of the subscales from the psychometric tests employed in the current study. Accordingly, the respective codes in the data management tool were classified under one of three categories: Motivational regulation, performance strategies, and characteristics of dispositional flow. At the outset, the code manual thus included six items which reflect they varying types of motivational regulation incorporated in the sport motivation scale (SMS II; Pelletier et al., 2013), eight items indicative of typical performance enhancement strategies employed by athletes in practice settings (TOPS 2; Hardy et al., 2010), and nine items which designated the dimensions inherent in the dispositional flow scale (LONG DFS-2–Physical; Jackson et al., 2010). Although the twenty-three theory-driven themes offered a comprehensive foundation for the code, prior to and during the transcription process it became increasingly evident that a hybrid combination (Fereday & Muir-Cochrane, 2006) of inductive and deductive code

development would be essential. Hence, the establishment of the initial code was approached from a multifaceted perspective: Where required, the foundation of theory-driven codes was augmented by essential data-driven codes.

The codes for the self-talk and imagery performance strategies were unfavourably generic; thus, further differentiation was indispensable. As outlined by Hardy, Gammage, and Hall (2001) and Hardy, Hall, and Alexander (2001), self-talk can be examined from various perspectives including the nature (positive or negative; internal or external), structure (a word, phrase, or complete sentence), person (use of subjective, objective, or possessive pronouns) and type of task instruction (general or skill specific). A premeditated, truly comprehensive exploration of self-talk was beyond the scope of the current research, however. Here, it sufficed to commence by including three codes which identified self-talk as primarily positive (code seven), instructional (code eight), or negative (code nine) in nature—each of which is arguably derived from a distinct locus of motivational regulation and yields an equally distinct outcome (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001). Moreover, the three aforementioned categories adequately contributed to the preliminary management of data extracts pertaining to performance enhancement strategies employed by participants. Thus, designating self-talk as instructional and/or positive or negative in nature facilitated addressing the research questions at hand. It was anticipated that the additional data-driven codes would satisfy the eventual need to further identify essential distinctions, or perspectives, of the self-talk employed and referenced by the student-athletes.

Similarly, while the imagery subscale on the TOPS 2 (Hardy et al., 2010) offers the initial higher-order theme of mental imagery, or visualisation, as a code it does not adequately differentiate between the motives behind imagery use. For instance, engaging in imagery to correct a technical skill and employing imagery as a means of arousal regulation involves comparatively distinct objectives and outcomes (Martin et al., 1999; Munroe et al., 2000), and unambiguous identification of exactly such strategical uses was relevant to the research questions at hand. Consequently, beyond the platitudinous identification of *imagery* (code 13), two broad categories (cognitive and motivational) and five further distinctions were included thereunder (in codes 14 to 18) as delineated by Martin et al. (1999). The distinctions between general and specific uses of imagery emanate from the imagery use research conducted by A. Paivio (as cited in Hall, 1998) and were further developed by Martin et al., (1999) and Munroe et al. (2000). Ensuring that diversified types of imagery were easily discernible served to offer greater clarity within the code yet also to lessen the possibility of undesired overlap.

Codes which were decidedly closely connected were immediately flagged for additional critical consideration. Specifically, during the first stage of establishing the code manual, it was evident that three codes require specific attention to determine how to best combine or make them distinct from one another. First, emotional control (TOPS 2; Hardy et al., 2010) and sense of control (LONG DFS-2—Physical; Jackson et al., 2010) both deal with regulatory mechanisms. Whereas performing with a sense of control has a strong connection to the concept of trust in one's ability to literally or figuratively exercise control during the performance of a motor skill (Schmidt, 1975; Moore & Stevenson, 1991; Jackson, 2000), emotional control clearly pertains to the management of emotional states. In an arguably reciprocal nature, exercising emotional control enables the establishment of the aforementioned trust in one's abilities and such trust lends support to the regulation of emotional states (Herwig, Kaffenberger, Jäncke, & Brühl, 2010; Robazza et al., 2004). Thus, a functional relationship exists between one's cognitions and emotions (Lazarus, 2000), for, "although emotion is always a response to meaning, it can also influence subsequent thoughts and emotions" (p. 48). Consequently, precisely *because* both a sense of control (code 27) and emotional control (code 10) are, in essence, actively and/or passively utilised to foster the success of the other, it was deemed logical to retain them as distinct, albeit ineluctably related, entities. Second, goal setting (TOPS 2; Hardy et al., 2010) and clear goals (LONG DFS-2–Physical; Jackson et al., 2010) clearly deal with the same inherent theme. While both are related, each pertains to a specific and separate phase of a technique. Goal setting, or the process of establishing and defining steps towards fulfilling goals, refers to the early stages of a systemic series of actions. In comparison, having a clear goal to vie for refers to subsequent stages of the aforementioned systemic series of actions. Hence, both *engaging in* goal setting (code 12) and *having* a clear goal (code 24) constituted individual entities, respectively.

Finally, the autotelic experience characteristic of flow and intrinsic motivational orientations are innately and inextricably interconnected; this warranted a need for explicit clarity and vigilance while coding. Csikszentmihalyi (1990) defines flow as "the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it" (p. 4). Autotelic experiences are further described as possible in "a self-contained activity, one that is done not with the expectation of some future benefit, but simply because the doing itself is the reward" (Csikszentmihalyi, 1990, p. 67). Thus, the autotelic state of flow is one in which internal drive is the compelling force which prompts action and involvement. So too, however, can one refer to intrinsic motivational regulation. Ryan and Deci (2000c) distinguish intrinsic motivation as a motivational orientation

"which refers to doing something because it is inherently interesting or enjoyable" (p. 2). Moreover, it is delineated "as the doing of an activity for its inherent satisfactions rather than for some separable consequence" (p. 3). While Ryan and Deci (2007) acknowledge the conceptual relatedness of intrinsic motivation and flow, they also emphasise that perceived autonomy when faced with an optimal challenge (one in which there is a balance between high skills required for and commensurate with the challenge faced) is what *precedes* intrinsic motivation. Without feelings of autonomy, intrinsic motivational regulation cannot ensue (Ryan & Deci, 2007). Autotelic experiences and flow, conversely, *can* still occur. Thus, although intrinsic motivational regulation (code one) and the autotelic experience (code 30) both denote an enjoyable, internally rewarding drive to be engaged with that which one is doing, references to each were clearly distinguished from one another in separate codes—despite the potential for unintended ambiguity.

As a consequence of the need for the aforementioned distinctions and prior to considering which additional data-driven codes would be beneficial, the initial code manual included thirty entities after the first review. Adhering to delineated guidelines as to the five elements a code ought to entail to render it of sufficient quality (Boyatzis, 1998), each code was identified by a label, a definition, a description of how to determine the occurrence of the theme, and an example thereof. Where feasible, the theory-driven labels were replicated and indicated accordingly. Moreover, where applicable, to facilitate recognition of distinguishing characteristics of similar codes, as outlined in the previous section, a supplementary category within the respective code (labelled *differentiation*) highlights each respective subtle nuance. In three instances a *caveat* was also included in the respective code to draw attention to acknowledged limitations therein; caveats were provided for goal setting (code 12), imagery (code 13), and clear goals (code 24).

3.6.2.2.2 Step six: Systematising the data. To facilitate systematic organisation and collation during the coding process, a separate word-processing file entailing a detailed table was generated; a random, rudimentary sample from which is demonstrated in Appendix F. The table for collating data served five functions: It (a) permitted identification of the question to which the extract pertained; (b) entailed the data extract; (c) an indication of the source (from which athlete); (d) the line at which the extract came forth in the respective data item (in the respective interview transcript) and; (e) a column for research notes.

3.6.2.2.3 Step seven: Apply code to data set; augment with data driven codes as required. Next, working with the data set, the existing code was applied. As previously described, this was conducted progressively by focusing on and successively rotating between each respective item. Simultaneously, an effort was made to remain open to and note the potential need to generate additional data-derived codes where appropriate. It was during this review phase, that a code was created to identify the concept of stretching/introversion (code 31) as a distinct arousal regulation strategy. The final supplementary data-derived code served to identify a feature of the data which was not yet adequately represented in the existing conceptual framework yet which was instinctively considered of potential relevance to the research questions. While coding, extracts of the data were coded inclusively by maintaining the surrounding data (words or phrases) to retain the context as needed. In such instances, however, to foster a clear emphasis on key material, the principal focus of the extract was highlighted (merely using blue font and or by marking the text) to render it readily discernible. Employing the aforementioned organisational tool, this step was repeated in entirety for each data item.

3.6.2.3 Phase three: Assessing and ensuring consistency and thoroughness. Phase three served to confirm and enhance the degree of coding consistency thus far. The two steps herein included (a) ascertaining the consistency with which the data extracts were coded and (b) ensuring that the terminology used by the interviewer and interviewee were in fact consistent in meaning.

3.6.2.3.1 Step eight: Ascertain coding consistency. The consistency of coding could be ascertained by re-examining all data extracts and the codes applied thus far. This second analysis of the extracts provided the opportunity to revise and augment what had been coded previously as a reflection of the revised and updated version of the code. The primary aim of step eight was to confirm confidence in what was extracted and how it was coded. I vied to better revise and refine my work in preparation for establishing themes and as a precursor to the organisational table I wished to generate as an accompaniment to my thematic map. A further goal, however, was to foster a greater level of familiarity with the data set.

3.6.2.3.2 Step nine: Ensure consistency of terminology use. Both while transcribing and generating data-driven codes, the need for greater clarity in terms of language use and thus the interpretation of how certain terms were being used became evident. For instance, the transcripts reflect that the athletes and I employed the term *awareness* regularly, yet, with

varying implied meanings. Thus, to avoid confusion and foster the consistent and purposeful use of key terminology in the analysis, I differentiated their nuanced meaning accordingly. As delineated in the code manual, the implied distinctions, or nuances, became the codes for awareness (code 32) and conscious, intentional behaviour (code 33).

3.6.2.4 Phase four: Inductive analysis. Establishing themes and conceptual relationships. The interpretative analytic process in phase four included the (a) identification of themes and (b) drafting thematic maps. Although engaging in reflective writing was not worthy of explicit mention as a key step in phase four, it was nevertheless consistently employed as a preparatory step towards progressively identifying foci for the interpretive description detailed in the final report of the thematic analysis (in chapter four of this dissertation).

3.6.2.4.1 Step 10: Identify and isolate explicit and implicit themes. To commence phase four, I returned to the respective data items successively and first identified and then created a table of both explicit and implicit dominant ideas (themes) inherent in the coded data. During this process, quotes were extracted which captured the foremost qualities of the predominant idea conveyed. Where applicable, individual extracts were assigned to multiple themes. The themes determined became the foundation for the thematic maps.

3.6.2.4.2 Step 11: Design initial thematic map(s). Next, I conceptualised ways to cluster those codes which clearly complement each other under one theme. This was done by drafting an initial thematic map to accompany the aforementioned table (commenced in step eight) in which the potential themes were organised. During this creative process I progressed through employing tables and lists to cue cards and drafting rudimentary mind maps. Following a caveat from Braun and Clark (2012), to narrow my focus, each session I vied to determine and prioritise the top six themes I deemed most relevant and beneficial for answering my research questions. While notes were kept about decisions made in drafts of the progressive development and prioritisation of themes in each thematic map, neither those drafts nor the notes are presented here in detail. However, a sample interim version of the thematic map has been provided in Appendix G. Collectively, I sought to ensure that each distinct theme demonstrated cohesion and offered a clear and analytical interpretation of an aspect of the data set which had significant meaning and from which I could glean answers to the research questions. During this step a miscellaneous category was also established. All provisional themes which did not clearly belong elsewhere were queued thereunder until they were earmarked for a newly developed theme or discarded

entirely. Once satisfied with the plausibility of the provisional thematic map at hand, the next step was embarked upon.

3.6.2.5 Phase five: Review of potential themes. This analytic and interpretive phase included six steps which furthered optimising the themes and final thematic map. The steps included ensuring (a) the viability and coherence of each respective theme, (b) the pertinence and illustrative quality of each theme, (c) revising the proposed thematic maps, and (d) determining the conceptual relationships between themes. Thereafter, consideration as given to the (e) internal homogeneity and external heterogeneity for the potential themes, and finally, (f) consciously adopting a polemic stance to ensure that alternative interpretations of the content of the data extracts and themes had been considered.

3.6.2.5.1 Step 12: Assess validity and coherence of themes. Phase five commenced with an assessment of the viability and coherence of the provisional themes. This was done by considering to what extent the themes evocatively captured the essence of the collated raw data extracts thereunder. To facilitate this process, the free-writing technique was used to consider and respond to five reflective questions suggested at this juncture as outlined by Braun and Clark (2012):

> Is this a theme (it could just be a code)? If it is a theme, what is the quality of this theme (does it tell me something useful about the data set and my research question)? What are the boundaries of this theme (what does it include and exclude)? Are there enough (meaningful) data to support this theme (is the theme *thick* or *thin*)? Are the data too diverse and wide ranging (does the theme lack coherence)? (p. 65)

3.6.2.5.2 Step 13: Ensure pertinence and illustrative quality of themes. Subsequently, the themes were reviewed to ensure that they were illustrative of prominent features of the data set as a whole while simultaneously inexorably related, relevant, and useful to answering the research questions. Where required, revisions were made to the themes (and code as needed). Where modifications no longer offered substantial contributions or meaningful amendments, the next step was embarked upon.

3.6.2.5.3 Step 14: Thematic map analysis and revision. Next, I revisited the provisional thematic map and actively pondered alternative, more innovative ways of approaching and drawing connections between the raw data and higher-order themes therein. This creative

formative strategy facilitated critically analysing the data and fostered my ability to more aptly substantiate or refute conceptual relationships. Moreover, this was also a further preparatory step towards concretising the line of argumentation for the final report. Collectively, I sought to ensure that each distinct theme demonstrated cohesion and offered a clear and analytical interpretation of an aspect of the data set, which had significant meaning and information essential to the research question.

3.6.2.5.4 Step 15: Contemplate and determine conceptual relationships. With the completion of each draft of the thematic map, I actively considered which conceptual relationships exist between the themes using the free-writing technique. The creative analytical process facilitated generating, clarifying, and meaningfully articulating conceptual relationships, which provided a comprehensive yet specific framework and emphasis for the analysis. In doing so, two key aspects were considered: (a) the validity of the individual themes in relation to the entire data set and (b) to what extent the thematic map adequately and accurately reflected the meanings I wished to convey as essential to the data set as a whole. At this juncture, I sought to elucidate the most relevant aspects of the complete data set which would facilitate answering the research questions. Albeit responded to in reference to the draft of the thematic map at hand, the open-ended questions presented in Appendix C (the reflexivity journaling questions) were used as a guideline. Once satisfied with the plausibility of the most compelling version of the revised thematic map, the next step was embarked upon.

3.6.2.5.5 Step 16: Establish internal homogeneity and external heterogeneity for final themes. Thereafter, I reviewed all collated raw data extracts under each theme and once again evaluated to what extent they form a unique pattern of meaning (Boyatzis, 1998) and are internally coherent, consistent, and distinctive (Braun & Clark, 2006; 2012). The first of two essential objectives here was to reduce the data and utilise only those data extracts which offered rich, resounding, and persuasive illustrations of what the theme conveyed and thus establish a sound foundation for the analysis. Furthermore, I vied to retain only those themes which allowed the portrayal of a thorough narrative of the data, substantiated by inherent logical connections between themes—as established in step sixteen. To ensure purposeful selectivity throughout and also systematise this process, I considered three qualitative guidelines outlined by Braun and Clark (2012) at this juncture. I evaluated the extent to which the themes "(a)…have a singular focus; (b) are related but do not overlap, so they are not repetitive, although they may build on previous themes; and (c) directly address [the] research question" (Braun & Clark, 2012, p. 66). In essence, I strove to establish themes which demonstrated both "internal homogeneity and external

heterogeneity" (Patton, 2003, p. 11). Accordingly, I ensured that each theme (and the collated extracts therein) adequately and meaningfully conveyed the breadth of the theme or underlying phenomenon (Boyatzis, 1998) with precision (thus securing internal homogeneity) whilst remaining discernible from all other themes (thus fortifying external heterogeneity). Once the themes, eventual sub-themes, and raw data extracts therein fulfilled the aforementioned qualitative criteria, the next step was embarked upon. If they did not yet do so satisfactorily, consideration was given to whether or not less obviously relevant extracts belonged (and thus should be moved) elsewhere.

3.6.2.5.6 Step 17: Adopting a polemic stance. To further substantiate the conviction with which each respective theme could be argued and to avoid presenting an "unfounded analysis" (Braun & Clark, 2006, p. 95), this step was used to engage in reflective writing to deliberately consider the potential for alternative interpretations of or apparent contradictory aspects of the themes and the analysis thereof. While vying for unequivocal certainty in this respect would be an unrealistic expectation, the aim was to actively consider potential discernible "variation[s] (and even contradiction[s])" (Braun & Clark, 2006, p. 95), as such an oversight, or misjudgement, would inevitably undermine the strength of the analysis. Only interpretations which could be refuted or at least thoroughly justified based on objective evidence in the data were deemed viable and thus retained. Where applicable, however, an effort was made to include and discuss the most relevant alternative interpretations within the final report. Once each theme fulfilled the aforementioned qualitative criteria, the next step was embarked upon.

3.6.2.6 Phase Six: Naming and defining themes. The three steps in phase six addressed (a) determining labels for each theme in addition to (b) formulating an interpretative, analytic narrative and engaging in a complete (c) evaluation thereof.

3.6.2.6.1 Step 18: Designating theme names. Next, names were determined for each theme. In creatively naming themes, the most descriptive and memorable phrasings and or concepts inherent in the raw data extracts were drawn upon, while vying to be as "informative, concise, and catchy" (Braun & Clark, 2012, p. 67) as possible. Where I felt that a different heading for the theme would be more advantageous, I revised it according to my internal critique and (where appropriate) created a new one. During this step, I was cognizant to include a justification for my revisions in my research notes. Such decisions were primarily a reflection of having collapsed two themes into one, for example. In such instances, it was thus necessary to determine theme names which adequately reflected the prevailing idea of the new theme as a whole. Refining theme names was anything but an

insular step, however; it continued as the final report continued to take shape in steps 19 through 22.

3.6.2.6.2 Step 19: Development of the preliminary interpretative analytic narrative. Once tentative theme names existed, provisional descriptions as well as analytical and interpretive summaries of each respective theme were composed. The initial drafts of the report of the data analysis were driven by the desire to establish a clearer structure and indicate what was deemed relevant to answering the research questions. Specifically, at this stage the analysis concentrated on delineating "*what* is interesting about the data – and particular data extracts – and *why* that is" (Braun & Clark, 2013, p. 254). In lieu of a mere illustrative approach to treating the data, the data was approached analytically. What was sought was "a more *conceptual* and *interpretative*, and often *constructionist*, form of analysis, typically focusing on more *latent meanings*... [and providing] a more detailed analysis of particular extracts" (Braun & Clark, 2013, p. 252). Thus, progressing theme by theme, a detailed analytic narrative was developed which (a) critically examined and developed each respective theme (from an internal, micro perspective) yet also (b) considered each theme in relation to the others (from a broader, macro perspective). Then, to ensure evolution from description to interpretation, I transcended that broader perspective to a (c) consideration and discussion of each respective theme's relevance in the context of this study and making specific interpretative claims about the extracts presented. This was done by further substantiating claims made in the analysis through relevant scholarly literature and as a reflection of the psychometric tests results where feasible. At this juncture, the extracts which ought to come forth in the final report were edited to rectify orthography, capitalisation and punctuation errors which transpired while transcribing the German audio recordings. Furthermore, the aim was to enhance clarity, remove repetition or irrelevant detail such as stuttered utterances or hesitations, and thus "clean up" (Braun & Clark, 2013, p. 251) the respective extract. To promote the development of an interpretative analytic stance, the following questions, as suggested by Braun and Clark (2013), were addressed via a recursive free-writing process:

> What meanings, ideas, or assumptions underpin this pattern of meaning-making? What are the implications of this pattern for the participants? What are the implications of this pattern for the issue at hand? What are the implications of this pattern for society? What are the implications of this pattern for the academic knowledge of the field? (p. 268)

Upon completion of the respective draft, the next step was embarked upon.

3.6.2.6.3 Step 20: Theme development self-evaluation. To ensure the quality and content of the description for each respective theme, I vied to adhere to a checklist derived directly from basic tenets of thematic analysis theme development (Boyatzis, 1998; Braun & Clark, 2006; 2012). This particular self-evaluation tool was used to revise the themes accordingly and reach an acceptable level of subjective satisfaction with adherence to and/or fulfilment of each objective delineated in the checklist. Thus, as adopted from the work of Boyatzis (1998) and Braun and Clark (2006, 2012), to what extent the following was clearly identified was considered:

1. The content and essence of the theme;
2. What makes the theme of interest and how;
3. What aspect of the data the theme typifies;
4. What narrative the theme discloses;
5. How the narrative of each theme is an ineluctable aspect of my data set (as related to my research questions);
6. Which sub-themes are inherent within a respective higher-order theme (where applicable);
7. A clear demarcation of the scope of each theme (within itself as well as in relation to others where this facilitated comprehension); and
8. Appropriate sample raw data extracts to augment the theory-driven code.

As this pilot study was conducted without a team of researchers or support staff, secondary peer evaluations did not transpire. Despite the obvious limitation of lacking proof of objective quality and validity for each respective theme, the transparency of the procedures followed toward the culmination of the final analysis ought to nevertheless demonstrate sufficient attempts at exactitude.

3.6.2.7 Phase seven: Deductive corroboration. The sole purpose of phase seven (step 21) was to substantiate the existing interpretative analysis.

3.6.2.7.1 Step 21: Deductive analysis. A concluding comprehensive deductive analysis was conducted by revisiting and listening to the MP3 audio file and re-reading each respective transcript one final time. This was done to verify that all of the relevant themes were in fact represented on at least one of three levels: As a raw data theme, higher order theme, and/or general dimension of one of the given theory-driven constructs. Engaging in this

step was deemed essential to truly foster thoroughness and thereby promote greater confidence in the plausibility of the interpretative analysis subsequent to the final phase in this endeavour.

3.6.2.8 Phase eight: Assessing validity and production of the final report. The primary objective of phase eight (step 22) was to actively vie for a subjectively sound final report. Although the aim was to address the research questions underlying the pilot study as best possible, foremost emphasis was placed on ensuring that the final report befittingly reflected the prevailing narrative of the data set.

3.6.2.8.1 Step 22: Actively avert pitfalls and establish subjective integrity. After having drafted a comprehensive analytical portrayal of the data set, the next objective was to ensure the proficiency of the thematic analysis and final report thereof. In this regard, Braun and Clark (2006) clearly delineate a number of "potential pitfalls to avoid when doing thematic analysis" (p. 94). Thus, evaluative questions were adopted directly from the caveats offered and used during a self-evaluation and revision process. This step involved using the questions as a qualitative checklist to facilitate successfully considering and thus averting possible pitfalls. In dealing with each of the 13 questions, the aim was to revise the report accordingly and reach an acceptable level of subjective satisfaction with the adherence to and/or fulfilment of each objective delineated therein. Finally, Braun and Clark (2013) also delineate "examples of good and bad practices in pattern-based analysis" (p. 270); those 21 themes were adopted as questions as the foundation for one final evaluative checklist and review. Hence, the process of thematic analysis was approached as systematically as possible. While the use of the myriad checklists need not imply that objective perfection could be guaranteed, they did serve their purpose of ensuring that the final report of the thematic analysis was the product of having adhered to a deliberate and rigorous process. Similar attention was given to ensuring that the approach to the Flow-PST seminar was equally methodical.

3.7 The Flow-PST Seminar Methodology and Content

To determine what information ought to be conveyed in the seminar, in the preparatory phases of the pilot study, pertinent research was perused to thoroughly understand the inherent characteristics of each dimension of flow (Csikszentmihalyi, 1990; Jackson, 1996; Jackson & Csikszentmihalyi, 1999; Jackson et al., 2010). With a focus on establishing specific course content, the goal was to elucidate the relationship between flow and the prerequisite psychological skills described as underlying the state (Chavez,

2008; Jackson & Csikszentmihalyi, 1990; Jackson et al., 1998; Jackson et al., 2001; Kimiecik & Jackson, 2002; Swann et al, 2012). By then considering how each dimension of flow is associated with specific foundation and performance skills (Hardy et al., 2010; Vealey, 2007) essential to sport specific psychological skills training (Williams, 2001; Weinberg & Gould, 2003, 2011), the Flow-PST program content was created following four basic steps. After determining (a) the essential theoretical foundation for the mental performance skill reflected in each respective dimension flow and (b) which cognitive-behavioural performance enhancement strategies could facilitate the development thereof, (c) a syllabus and *Microsoft PowerPoint* presentation for each theme was established. Finally, (d) a complementary handout for students was created which consisted of a summary of the theory and practical examples presented for the respective theme. Underscoring the consistent process through which the seminar and handout content was determined, the structure of each session adhered to a fixed instructional cycle.

3.7.1 The Flow-PST instructional cycle. A pre-determined Flow-PST weekly seminar instructional cycle was systematically adhered to during each of the 90-minute seminar sessions. As illustrated in Figure 3, during the seminar, participants were led through the first six steps of the cycle. Each session commenced with student-driven feedback and discussion about the homework tasks from the previous week. Thereafter, the theme for the current seminar was conveyed through the next five steps of the instructional cycle: theoretical input, individual needs assessment, acquisition and practice, individual goal setting, and a combination of centring and imagery rehearsal. The instruction phase came to an end with the conclusion of the centring and imagery rehearsal step depicted in the instructional cycle. Although the student-athletes were required to independently integrate their selected performance enhancement strategies into their practice settings each week, that step is also depicted as a constituent element of the instructional cycle. For completing the practical homework task of integrating and eventually maintaining the use of the chosen performance strategies represented both the transfer and application of the new skills from the educational to a practical setting. Moreover, the homework tasks were the foundation upon which the subsequent opening seminar discussion was based. Hence, throughout the semester, a continuously overlapping series of the instructional cycle ensued; it essentially recommenced as each new dimension of flow was dealt with in the respective seminar session.

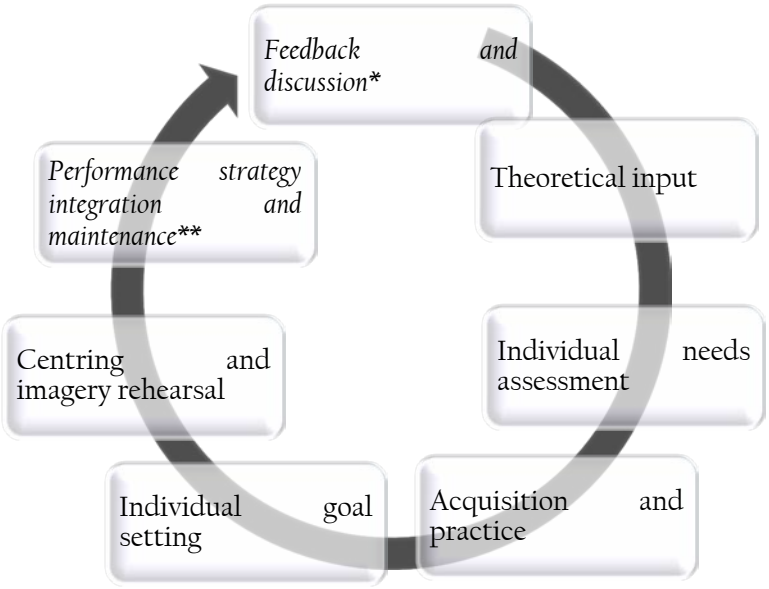

Figure 3. Phases of the Flow-PST weekly seminar instructional cycle. Notes: *Each Flow-PST session commenced with feedback and discussion pertaining to the homework tasks from the previous session. **Students were instructed to complete the performance strategy integration and maintenance step independently during their upcoming practice sessions.

3.7.1.1 Feedback and discussion. With the exception of the introductory session, each session commenced with *feedback and discussion* in regard to the homework tasks given the prior week. To facilitate the discussion, which took place before introducing the game plan for the respective session, the same recurring question was posed: *What did you do and how did it go*? The open-ended question served to invite participants to engage in a discussion of their experiences since our last session. Moreover, students used this opportunity to pose questions as needed. In any seminar setting, the length of a discussion can vary and so too did those which took place during the pilot study. It is worthy of mention that time limits were not rigidly adhered to for the mere sake of exactitude. However, a wristwatch with an alarm function was used habitually to keep track of and signal the need to come to a close and progress forward after 10 minutes. Thus, while discussions and the remaining elements of the instructional cycle were never abruptly interrupted, an effort was made to remain cognizant of the planned time guidelines. Only once the approximately 10-minute feedback and discussion phase was complete, was the theme for the day introduced.

3.7.1.2 Theoretical input. Delineating a dimension of flow commenced with the conveyance of essential theoretical background relevant to the theme as well as an indication of the practical relevance thereof. The information was conveyed with *Microsoft PowerPoint* presentations in a frontal lecture format. Nonetheless, the arguably engaging presentations systematically included questions and activating interludes with which to engage students and foster interaction. Each presentation encompassed a definition of the

construct at hand, made reference to leading scholarly work related to the theme, and provided examples of when and how the theme is important for optimal sport performance. Furthermore, the *PowerPoint* presentations included references to related supplementary reading material which would be uploaded on *StudIP*, the university's online learning platform, immediately subsequent to the seminar session. Naturally, the respective *PowerPoint* presentation was also uploaded to the learning platform so students could independently peruse the material as they deemed fit. While those elaborate presentations are not offered as supplementary documentation accompanying this dissertation (out of deference for both copyright issues and for the sake of brevity), as described later in this chapter, the more succinct session reviews and checklists have been provided (as itemised in Appendix A, please see document six in the enclosed CD-ROM: *Complete Session Reviews and Checklists*). In total, approximately 20 minutes of each session were designated to the provision of theoretical instruction. Within each presentation, the theoretical discussion of the theme segued into a consideration of the personal relevance thereof for each participant.

3.7.1.3 Individual needs assessment. Employing the performance profiling technique (Burton & Raedeke, 2008; Butler & Hardy, 1992; Jones, 1993; Taylor & Taylor, 1995; Weston et al., 2011), students were required to indicate their perceived level of proficiency in pertinent mental performance skills related to their sport performance domain. While the skills recommended as worthy of consideration reflected the performance strategies inherent in the TOPS 2 (Hardy et al., 2010), the students were welcome to make additional suggestions. Therefore, at the beginning of the Flow-PST seminar, students were asked to engage in this individual needs assessment process to enhance self-awareness. Specifically, the student-athletes individually rated themselves on a scale from low proficiency (1) to high proficiency (10) for each respective mental performance skill. By shading in everything below the given score, the athletes created clear visual representations of their perceived skills. As suggested by Taylor and Taylor (1995), the student-athletes were encouraged to consider any score below seven as an indication that the skill in question is potentially worthy of improving. Thus, using the resulting portrayal, students could identify their strengths and areas in need of improvement. (As itemised in Appendix A, the *Performance Profile Template* employed has been provided in the enclosed CD-ROM; please see document seven). Essentially, with that introductory activity, students set the stage for what was to come forth during the remainder of the semester.

In each subsequent seminar session, approximately 10 minutes was allotted for the needs assessment phase. As the assessments were completed during the first week of the seminar, the participants were asked to refer back to their performance profile and iterate their perceived strengths and room for improvement as a reflection of what was discussed thus far during the session. This was done to foster a collaborative learning environment in which the students were encouraged to share and learn from one another, for this ought to promote and contribute to the satisfaction of students' needs for relatedness (Deci et al., 2006; Deci & Ryan, 2014). Moreover, as described by Tinto (1997), such collaborative environments foster not only students' sense of community and willingness to bond with their peers, but also serves to keep them more optimally engaged and persistent in the learning environment. Bearing both the importance of the relevant mental performance skill and an awareness of their related strengths and areas in need of improvement in mind, students transitioned from the needs assessment step of the learning cycle to learning tangible ways to enhance performance.

3.7.1.4 Acquisition and practice. To augment the relevant theory, all students were introduced to and asked to engage in techniques or strategies one could employ to foster the aspect of performance in question. The in-class tasks introduced during the 20-minute acquisition and practice phase were chosen based on the ease with which they could be explained and easily executed in class. This provided participants with the opportunity to immediately gauge the benefit of the strategies in question. Naturally, students were provided with written explanations and task descriptions for what was learned and practiced in class. Moreover, where applicable, they were directed to acquaint themselves with the additional strategies briefly described in class and available via the online learning platform. To foster students' autonomous yet substantiated decision-making processes, the homework tasks the students could choose from were described as of equal relevance and an explanatory rationale was provided for the choices given (Assor et al., 2002; Reeve & Jang, 2006; Reeve, 2009). On a weekly basis, students had the recurring homework assignment to *choose what works best* for them as an individual. Initially, a specific number of tasks to be completed were purposefully not dictated, as from a research perspective, it would have been of interest to examine variations in the students' reports of the number of tasks engaged in and how that was potentially related to one's described locus of motivational regulation. An unforeseeable problem, however, necessitated reconsideration of that methodological decision in the fourth seminar session.

During the feedback and discussion phase of the third Flow-PST theme (*clear goals*), some students expressed discontent and uncertainty due to that lack of specific

instruction as to which tasks or even how many *must* be completed each week. Specifically, as described in the pertinent *Session Review and Checklist* (as provided in the enclosed CD-ROM; please see document six), we came to the conclusion that "having too many tasks each week… is daunting (can cause undesired stress) and… if everything is "optional" then fewer of the tasks [will be] used" (p. 3). As a reflection of that seminar discussion instigated by the participants, I decided to alter my initial plan of action. Provided students engaged in *any two* tasks of interest outside of class, they continued to have the freedom to choose from any of the possibilities at hand. The decision provided the explicit teacher-driven directive students desired whilst nonetheless providing opportunity for autonomous decisions to be made pertaining to which tasks were of greatest interest. Finally, students were reminded that they would be asked to share their experiences with the remainder of the class during the forthcoming session. While students were collectively encouraged to participate in testing the respective performance enhancement strategies introduced during the actual class session, thereafter, they were invited to consider how they could optimise their mental strength in regard to the theme in question on an individual basis.

3.7.1.5 Individual goal setting. The approximately 10-minute goal setting phase of the weekly seminar instructional cycle served two purposes. First, the process focused students' attention on what had been conveyed and experienced during the seminar. Moreover, it required students to systematically translate the accumulated information into specific steps towards achievement of self-determined goals, which reflected their momentary individual mental performance needs. Setting individual goals for the enhancement of the respective aspect of mental performance (dimension of flow) in question allowed students to not only consider what they wished to improve, rather, it dictated that they determine which specific performance strategies they planned to adopt to facilitate their endeavour.

3.7.1.5.1 The goal setting form. A goal setting form was employed to facilitate the in-class goal setting process; the form included ten sections to complete. The initial procedure was based on relevant theoretical considerations which called for the establishment of dream, long-term, intermediate, and short-term goals for both practice and competition (Burton & Naylor, 2002; Burton et al, 2001; Burton & Raedeke, 2008; Weinberg & Gould, 2003, 2011). Although setting goals based on the athlete's initial needs assessment and with relevance to their *practice* settings was the focus, participants were not expressly prohibited from applying the process to competition settings. The in-class goal setting process involved

the statement of quantifiable goals, which identified the specific characteristics of the improved technique or behaviour desired, and an indication of the type of goal (outcome, performance, or process). During each session, participants were encouraged to ensure that the respective goals set emphasised both quantitative and qualitative aspects of performance where feasible. Next, the perceived difficulty of the goal was rated, and a specific time or timeframe in which it should be achieved was established. Students then successively contemplated potential barriers, determination of a means of circumventing them, and a specific plan of action towards goal attainment. Furthermore, each athlete was required to indicate quantifiable levels of attainment (complete, partial and self-acceptance). Goals were hence set for the attainment of the overall conceptual objectives of the respective session. Finally, the participants were required to determine specific dates on which progress made thus far would be evaluated.

While the goals set in class were independent of the strategies students could opt to use to facilitate goal attainment, the goal setting work completed during the seminar was preliminary in nature. As previously delineated, during the feedback and discussion phase of the instructional cycle one week later, students were expected to come prepared to critically reflect on and discuss their experiences integrating and maintaining the performance strategies chosen. In that respect, during the discussion of their experiences, students were encouraged to evaluate their progress, and where applicable, consider how they could refine or change the performance strategies employed to better facilitate goal attainment. Once clear goals were established in class, however, they needed to be reinforced.

3.7.1.6 Centring and imagery rehearsal. Weekly, students engaged in imagery rehearsal to reinforce the fundamental aspects of and foster a positive experience of the theme (dimension of flow) conveyed. As imagery can be used to see, feel, and promote a belief in (Murphy & Martin, 2002; Vealey & Greenleaf, 2001; 2007) one's ability to perform within one's individual zone of optimal functioning (Hanin, 2000; Orlick, 2000). Without exception, visualisation was inevitably preceded by some form of centring exercise. Arguably, the technique of centring, or employing breathing exercises to foster focus as well as emotional and physiological regulatory control, is essentially a form of arousal regulation (Hall, 1998; Munroe et al., 2000); specifically, relaxation (Hardy et al., 2010; Thomas et al., 1999). Although imagery and one-breath relaxation are two distinct performance strategies, they were nevertheless combined in the aforementioned rudimentary form when employed during the final phase of the weekly flow instructional cycle. Thus, during the approximately 10-minute in-class imagery rehearsal phase,

students were first guided in employing the centring technique and then asked to mentally create (or recreate) a primarily kinaesthetic, yet ideally multisensory, positive, or *successful* experience of the dimension of flow in question.

3.7.1.6.1 Audio supported mental rehearsal. Sport psychologist Dr. Terry Orlick's *Zone of Excellence* audio recordings (2003a; 2003b; 2003c; 2003d) were used for each imagery session. The specific audio recordings employed are indicated in each respective seminar session review. The audio exercises were chosen based on how well they directly underscored the respective theme. To additionally enable students to engage in imagery rehearsal independently, each student-athlete was provided with a zip file containing the complete set of *Zone of Excellence* CDs (2003a; 2003b; 2003c; 2003d). For those interested in keeping track of their independent imagery rehearsal, participants were given a handout entitled *Zone of Excellence Log* with which to record the date on which they used an audio recording, which specific track they used, when, and additional commentary as they deemed fit. Akin to the other performance strategies, while imagery was one of the mental training strategies used in class, students were instructed to independently determine if they would continue to use the available audio recordings as a means of fostering the dimension of optimal performance introduced.

3.7.1.7 Performance strategy integration and maintenance. The Flow-PST participants were encouraged to not only try new performance enhancement strategies and practice them independently between sessions; they were expected to choose specific strategies to habitually integrate into their practice settings. To foster student autonomy, beyond reminding students of the room for flexibility and conveying the relevance of the various tasks as commensurate (Reeve & Jang, 2006), each week, students were given the recurrent instruction to employ "any strategy [which] makes intuitive sense to *you* [emphasis added]" (Orlick, 2000, p. 90). Active engagement in this step was the only element of the weekly instructional cycle which took place outside of the seminar. Once independently determined as an integral aspect of one's desired mental training program, students were encouraged to maintain the use of their chosen strategies by means of regular evaluation and refinement of the use thereof where applicable. This step and all performance strategies tested were thus to be considered ongoing and cumulative.

3.8 Flow-PST Seminar Themes and Content

During the 12-week semester, each of the nine dimensions of flow was successively introduced as an individual seminar theme; the titles of the 12 sessions are listed below in

chronological order. Where applicable, the corresponding name of each dimension of flow (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999) is provided thereafter in parentheses:

1. Introduction to psychological skills training
2. Individual zones of optimal functioning (*Challenge-skill balance*)
3. Enabling the body and mind to fuse into one (*Merging of action and awareness*)
4. Goal setting (*Clear goals*)
5. Deciphering and attending to feedback cues (*Unambiguous feedback*)
6. Assessing and fostering concentration (*Concentration on the task at hand*)
7. Taking and relinquishing control over your performance (*Sense of control*)
8. Constructively dealing with worry and debilitative thoughts (*Loss of self-consciousness*)
9. Freeing oneself from the tyranny of time while performing (*Transformation of time*)
10. Keeping the intrinsically rewarding joy in the pursuit of physical excellence (*Autotelic experience*)
11. Student presentations: Programs for performance enhancement
12. Wrap up

Comprehensive detail of the content of each *PowerPoint* presentation, discussion questions, tasks, and supplementary academic texts discussed in the seminar would offer utmost thoroughness and transparency. Yet, provision of such explicit detail would bear mere moderate relevance for the research questions and is certainly not viable within the confines of this dissertation. Hence, the forthcoming descriptions of each session selectively highlight components thereof to provide evidence of three key aspects: adherence to the instructional cycle, examples of the procedures used, and sample content.

3.8.1 Session one: Introduction to psychological skills training. After commencing with a brief welcoming phase and handling administrative issues, the research objective of the seminar was first reiterated: to study and thereby optimise the conceptualised *Mental Training* seminar for student-athletes. As a means of setting the stage for the forthcoming material, a key concept conveyed in the *PowerPoint* presentation (Murdock, 2012a) was that mental training is employed to encourage self-evaluation, and ultimately, self-regulation (Kirschenbaum, 1984) of the mental factors required to achieve optimal performance on a consistent basis; it would require both determination and commitment. Next, psychological skills training was defined and the importance of being

able to get *in the zone* (Orlick, 2000) to foster optimal performance was discussed. This was followed by an overall introduction in which prevailing myths surrounding psychological skills training were addressed in a tangible attempt to render them, at least in part, inoperative and, thereby, the concept of psychological skills training less ominous. The myths discussed included the false belief that psychological skills training is exclusively for *problem* athletes, is reserved for *elite* training, provides *instantaneous* solutions, or that it is *ineffective* (Weinberg & Gould, 2003; 2011).

Proceeding to practical tasks, specific themes commonly dealt with in psychological skills training were introduced. Here, students engaged in a personal assessment and then discussion of their perceived mental performance skills using the performance profiling (Butler & Hardy, 1992; Butler & Raedeke, 2008; Jones, 1993; Taylor & Taylor, 1995; Weston et al., 2011) technique (previously described as the cornerstone of the *Individual Needs Assessment* phase of the Flow-PST instructional cycle). Thereafter, students were introduced to the centring and visualisation techniques. Here, the goal was to prepare students for the types of activities to anticipate in upcoming sessions rather than delving into the actual Flow-PST course content per se. Centring consisted of merely focusing on one's breathing in the same manner frequently introduced in the Orlick (2003a; 2003b; 2003c; 2003d) audio files. That is, once the students were in a comfortable position with their eyes closed, they were encouraged to focus on actively breathing from the diaphragm. At the end of this 30-second exercise, students were simply asked what colour the carpet in their bedroom is. This seemingly peculiar question allowed us to engage in a discussion of what imagery is: "the creation or re-creation of an experience generated from memorial information" (Morris et al. 2005, p. 242), for the thoughts students had of their respective rooms had naturally accompanied the inevitable image thereof. Moreover, the sport-specific cognitive and motivational functions of mental imagery were introduced (Hall, 1998; Morris et al., 2005; Munroe et al., 2000). The core notion conveyed was that just as students could readily recreate their room in their minds, during the seminar, they would learn to actively foster their visualisation skills in order to better facilitate their mental performance.

The introduction to the centring and visualisation skills was conducted in week one to whet students' curiosity and prime them for the in-class activities in the subsequent weeks. Most importantly, to ensure that the participants knew what to anticipate throughout the semester, I segued from a practical introduction to the delineation of the aspects and objectives of both the overarching phases of the 12-week seminar as well as the weekly seminar instructional cycle. Thereafter, the research focus of the seminar was

reiterated and the three psychometric tests were explained and given to students to complete for homework before the next session. As previously described in the *Quantitative Instruments of Measurement* section of this chapter, the tests provided to the students were entitled *Why do you practice your sport?* (SMS-II; Pelletier et al., 2013), *Which strategies do you use in practice?* (TOPS 2; Hardy et al., 2010), and *What do you experience when you participate in your sport?* (LONG DFS-2—Physical; Jackson et al., 2010).

Prior to the conclusion of the first seminar session and each thereafter, the participants were asked to confirm their understanding of the information conveyed thus far. To ensure both clarity and foster a collaborative approach, this was done by first requesting a student volunteer to reiterate, in their own words, what the homework tasks included, how they ought to be completed, and what the students ought to prepare for the next session. Then, the remaining participants were asked to augment what the first volunteer explained as needed. To conclude the session, students were given opportunity to pose questions, make comments, and address potential concerns. The content and procedures followed in the introductory session laid the groundwork for the first Flow-PST theme: determining an individual zone of optimal functioning.

3.8.2 Session two: Individual zones of optimal functioning (challenge-skill balance). The challenge-skill balance was the first Flow-PST theme introduced. The focal point of this session (Murdock, 2012b) was conveying the importance of first understanding what constitutes peak performance (Jackson & Roberts, 1992) and subsequently performing or vying to perform within one's individual zone of optimal functioning (IZOF; Hanin, 2000). The IZOF model and word choice was consciously used in conjunction with a model of the challenge-skill balance (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999), which leads to flow, in lieu of directly describing Csikszentmihalyi's (1990) research in intricate detail. The theoretical focus of the session was conveying the importance of remaining actively cognizant (Ravizza, 2001) of and establishing a balance between one's perceived (conceivably progressively advancing) skill level and the challenges inherent in goals striven towards. Beyond finding said balance, students were thus encouraged to recognise the process of determining and vying to perform in an IZOF as inherently related to a correspondent ongoing goal modification process. Thereafter, primed by a discussion of the psychological correlates of peak performance (Jackson & Roberts, 1992; Privette, 1982; Williams & Krane, 2001), the participants engaged in individual performance profiling; this was reiterated as a cornerstone of raising awareness essential for psychological skills training. With that

preparatory work in mind, the theoretical background and practical application of goal setting was discussed from three perspectives. To start, (a) an explanation was given of the role of outcome, performance, and process goals in sport (Burton & Naylor, 2002; Burton et al., 2001; Kingston & Hardy, 1997; Weinberg & Gould, 2003, 2011). Thereafter, students were made aware of (b) what makes goals effective (Burton et al., 2001; Burton et al., 1998), and (c) the key principles of goal setting (Burton, 1989a, 1989b; Burton & Naylor, 2002; Weinberg & Gould, 2003, 2011). To synthesise the aforementioned information, students were given the task of setting performance and process goals (Burton, 1989a, 1989b; Burton et al., 2001; Kingston & Hardy, 1997; Weinberg & Gould, 2003, 2011) for their specific mental performance needs as related to their athletic discipline. While the task was commenced during the seminar so participants could ensure that they understood the steps in the process and pose clarification questions as needed, the short-term, intermediate, long-term, and dream goal *Goal Setting Forms* (provided in document eight of the enclosed CD-ROM) were meant to be completed as homework in preparation for the upcoming session pertaining to goals. Although the student-athletes had complete autonomy in determining their goals, it was emphasised that their goals ought to clearly represent steps towards performing within their subjectively perceived optimal performance states. To complete the instructional cycle of the challenge-skill balance session, the *Mental Preparation for Training/Practice* audio recording (Orlick, 2003b) was used to reinforce the importance of focusing on setting the stage for vying to use one's best skills in pursuit of an equally high challenge: Performing at one's best.

3.8.2.1 Sport journals and self-reflective writing. To foster self-reflection and greater awareness of their experiences with mental training, students were given the option of keeping a sport journal for the duration of the Flow-PST seminar. Albeit with varying themes specifically related to each respective seminar session, this was one of the ongoing homework tasks students could choose from (as itemised in Appendix A, the complete list of *Sport Journal Questions* which came forth has been provided in document nine of the enclosed CD-ROM). Keeping an ongoing journal related to one's experiences in their sport is a beneficial means of developing self-awareness (Ravizza, 2001). Hence, this task was included because athletes could use the knowledge gained in the self-reflection process to further develop their performance skills. Students were regularly provided with two self-reflection writing options to choose from. Option one provided participants with the opportunity to respond to questions which underscored the theme of each respective seminar session. The first theme-specific reflective journaling question was related to peak performance and ought to foster each student's focus on what their IZOF entailed. Thus, as adapted from Ravizza (2001), students were asked to respond to the following three

questions in writing: "What does it feel like when you play or practice at your best? Describe some of your most enjoyable experiences playing/ performing in your sport. What have you learned from these moments when you are fully functioning?" (Murdock, 2012b, p. 48). The alternative option was to engage in a self-reflection process by responding to generic sport-performance related questions. Directly adopted from *The Role of Post Practice Learning* (Orlick, 20003c) audio self-regulation exercise, the questions focused the participant's attention on how to remain active in the mental training process. Furthermore, the questions ought to foster students' active consideration of how they implemented the performance enhancement strategies dealt with in the seminar each week. The general self-regulatory questions included: (a) What went well today? (b) What needs improvement? (c) How can I improve my performance for next practice; or, what would I like to pay special attention to next practice? Students were instructed to reflect on and respond to their chosen written task either daily or as frequently as they participate in their sport. As the official guidelines for the seminar dictated that students, who wished to earn credit points for their work, ought to submit a written assignment, the reflective writing tasks were viable options. Most importantly, both writing tasks had the potential to promote reflection on the various strategies used during the seminar. The increased cognizance and application of what fosters entering one's IZOF represented a substructure for the focus required to merge action and awareness.

3.8.3 Session three: Enabling the body and mind to fuse into one (merging of action and awareness). Visualisation can lead to cognitively and physically unified and uninhibited performance when employed to foster total absorption in what one is doing (Martin et al., 1999). Thus, imagery was introduced as a theoretical foundation for and strategy through which one can enter into a *Zen zone* (Orlick, 2000). The mental images we see of ourselves are arguably a driving force behind the reality we create for ourselves. Therefore, to establish a foundation for the theoretical input, students were asked to actively recall their past experiences of optimal performance while invoking as many senses and aspects of the memory possible. As described by Robazza et al. (2004), actively recreating past optimal experiences in the mind ought to reinforce how one is capable of performing. Specifically, the practice ought to foster reconstruction and activation of the positive feelings, thoughts, and actions associated with optimal mind-sets; such recall of positive emotions related to performance fosters gaining and maintaining confidence (Robazza et al., 2004; Moritz, Hall, Martin, & Vadocz, 1996; Munroe et al., 2000). Hence, the cognitive and motivational functions of imagery (Hall, 1998; Morris et al., 2005) and a conceptual framework thereof (Munroe et al., 2000) were introduced. Students were encouraged to adopt a theoretical perspective and consider how total absorption

(investing complete attention in only the moment by moment execution of performance relevant actions) was essential during the optimal experience they recalled. Then, an explanation was given to highlight the connection between the inevitable process goal focus required for such complete task absorption (Burton & Weiss, 2008; Vidic & Burton, 2010). Demonstrating that association naturally led to a brief reiteration of the three types of goals discussed during the challenge-skill balance seminar session. As a reflection of the class discussion about the conceptual framework conveyed in *The Four Ws of Imagery* (Munroe et al., 2000), students then transitioned to revisiting their individual performance profile. When reviewing their initial assessment of their imagery use, they were asked to reconsider how their imagery use could be optimised as a means of enabling their cognitions and physical actions to fuse into one. In order to demonstrate how one can develop the required attentional control, we entered the practice and acquisition phase of the learning cycle. Three brief introductory practical attentional training exercises were conducted in class to help students understand how to facilitate a process goal focus and become totally absorbed in what they are doing.

3.8.3.1 One pointing. The first exercise, learning to maintain focus, or "*one pointing*" (Schmid, Peper, & Wilson, 2001, p. 341), required that students focus deliberate multisensory attention on the intricate details and characteristics of any singular object they had in their possession during the seminar. After approximately one minute of examination, students were asked to leave the object on the table top before them and maintain focus on the object for as long as possible. Furthermore, they were instructed to actively redirect their attention to the object should they notice that their attention had waned. The simple task helped convey the importance of both focusing on *details* as a means of initiating absorbed attention and the role of *refocusing* as required to stay in the moment (Orlick, 2000). For those who opted to employ this task for homework, they were instructed to use it as intended: With an object relevant to their sport.

3.8.3.2 Grid concentration exercise. The ability to focus one's attention, search for and store relevant visual cues is essential in most sports. Thus, next the students completed a basic "*grid exercise*" (Schmid et al., 2001, p. 341; Weinberg & Gould, 2003, p. 375), which is commonly used to introduce athletes to attention training (Boutcher, 2008). The concentration grid exercise has been described as an exercise to use with caution due to inconclusive empirical evidence of its efficacy when employed as a solitary concentration enhancement strategy in applied sport psychology interventions (Greenlees, Thelwell, & Holder, 2006). However, because it was a *supplement* to the other in-class

activities, the strategy was in fact used in a manner surmised as viable for "enhancing awareness of attentional issues, promoting some control over attention and prompting adherence to the use of concentration enhancement strategies" (Greenlees et al., 2006, p. 37). Students were given a handout with a ten-by-ten grid containing double-digit numbers from 00 to 99 on each side of the paper. Instructed to commence with number 00, the students were given 60 seconds to find and cross out as many numbers as possible albeit in chronological order. After a short break, they were given an additional minute to repeat the exercise using the grid on the reverse of their handout. Upon completion, students were offered suggestions for how to reuse a grid one has already commenced as well as to increase the difficulty of the task should they wish to continue with the task as one of their practical exercises outside of class.

3.8.2.3 Simulation Training. The third introductory exercise to attentional training, simulation training (Orlick, 2000), offered students an example of cognitive-specific imagery rehearsal (Martin et al., 1999; Munroe et al, 2000) to foster focus. After centring, students were instructed to: "imagine yourself doing a simple skill or move that you can do very well for approximately thirty seconds. *See* and *feel* the successful execution. The exact time is not important, rather, ensure that your image is as successful, vivid, and controllable as possible" (Murdock, 2012c, p. 35). After engaging in the short exercise, students were given a brief recount of how the technique can be employed to mentally set the stage for or replicate and thus prepare for various practice conditions in advance so that one can learn to maintain focus despite potential distractions. Thereafter, the focus transitioned to individual goal setting. Accordingly, students contemplated how they would like to enhance their ability to enter a *Zen zone*. Finally, to augment the use of imagery, one-breath relaxation was re-introduced via phase one of the *Progressive Relaxation Exercise* (Suinn, 1989/1986) conducted in class.

To supplement the in-class exercises, students were provided with three additional options to independently choose from. For example, they could opt to practice shifting focus employing a *Thought Stopping and Control* (Orlick, 2000; Taylor & Taylor, 1995) self-regulation exercise. Although clearly related to self-talk, the task was nevertheless introduced here to encourage the participants to identify and replace detrimental and debilitative thoughts with self-enhancing ones. As, Csikszentmihalyi (1990) does in fact characterise the merging of action and awareness as inherently related to the loss of self-consciousness dimension of flow. Thus, the *Thought Stopping* task ought to facilitate the optimal concentration required to enable the mind and body to fuse into one. Alternative

exercises included engaging in self-hypnosis using positive autosuggestions (Orlick, 2000) such as *Zen Quotations* or *Repetitive Suggestions* . Both exercises function on the principle of autosuggestion, the deliberate recitation of previously notated positive self-affirmations and performance-enhancing statements prior to performing in practice, as a means to restructure one's behaviour. Students were encouraged to commence either task by engaging in a centring exercise such as one breath relaxation. Then, they were to recite their suggestive reminders to themselves. To augment what they recited, they were encouraged to combine their suggestions with either cognitive-specific or motivation-specific imagery (Martin et al., 1999; Munroe et al., 2000). Essentially, for the latter two exercises, students were encouraged to progressively combine three cognitive-behavioural strategies (one-breath relaxation, positive imagery, and positive self-talk) to foster enabling their cognitions and actions to merge into one united entity in active pursuit of their goals.

3.8.4 Session four: Goal setting (clear goals). To excel with their task related goals, it was essential for students to consider and determine specific action plans (Burton & Raedeke, 2008; Burton et al, 1998; Burton et al., 2001; Vidic & Burton, 2010) towards goal attainment. Therefore, after reiterating the theoretical justification for setting daily and weekly goals as a reflection of each student's intermediate, long-term, and dream goals (Burton & Naylor, 2001; 2002; Burton & Weiss, 2008; Weinberg & Gould, 2003), the role of action and contingency plans was impressed upon the participants. The theoretical foundation imparted in the presentation (Murdock, 2012d) reiterated not only the importance of establishing meaningful goals (Burton & Vidic, 2010; Orlick, 2000), but the role of clear game plans, or action plans (Burton & Naylor, 2002; Burton et al., 1998; Burton et al., 2001), which emphasise where one's attention ought to be focused during pre-performance, performance, and post-performance situations. The goal of the needs assessment for this session was to have students reconsider the clarity of their individual road maps (Burton & Vidic, 2010) for performance and to what extent they could enhance the specificity of their written action plans towards goal fulfilment.

The acquisition and practice phase was essentially combined with the goal setting phase of this session; the focus revolved around students devising or revising their plans as required. Prior to making final revisions, students collaboratively analysed and discussed the characteristics of strong pre-performance action plans which would foster both entering one's IZOF (thus achieving a challenge-skill balance) and adopting a task-specific focus to facilitate merging action and awareness. The analyses and discussions, using the peer instruction flipped-learning technique (Crouch & Mazur, 2001), had a threefold

purpose. By discussing first in partners and then with the whole group, students had the opportunity to learn from the ideas and suggestions others presented. Secondly, not only could students receive constructive peer and instructor feedback as to how their plan could potentially be improved, they ultimately had the opportunity to apply the knowledge gained thus far in the seminar when offering feedback to their peers. Most importantly, however, the peer instruction method was also chosen because it was inferred that it would further foster students' sense of relatedness with their peers (Deci et al., 2006; Deci & Ryan, 2000). Finally, the students were encouraged to compose a *Personal Litany* as an alternative or supplement to the *Zen Reminders* created in the previous session. Specifically, the participants were encouraged to write brief subjectively self-enhancing and self-affirming statements which could serve to increase their self-confidence and foster trust in their belief in their ability to achieve their goals. The task was derived in part from the forthcoming self-evaluative, reflective, and motivational goal-related audio exercise (Orlick, 2003c).

To complete the instructional cycle, students engaged in centring and imagery rehearsal following *The Role of Goals* (Orlick, 2003c) audio exercise. To reinforce the information conveyed during this particular session, students were given the option of engaging in any two of four mental training activities provided for homework that week. Students could opt to incorporate (a) phase two of the progressive relaxation exercise (Suinn, 1989/1986) or (b) *The Role of Commitment* (Orlick, 2003c) audio mental training exercise into their performance routines (Boutcher & Rotella, 1987). Alternatively, they could engage in written tasks and (c) complete additional pre-performance, performance, and post-performance game plans and contingency plans as required. The final option was to (d) respond to the sport journal question about quality practice time. As always, however, the previously delineated self-regulatory questions, which fostered self-reflection, could be considered in lieu of the sport journal question as desired. The session's focus on remaining active in the goal setting process was reinforced in the fifth seminar session during which participants refined the skill of capitalising on relevant feedback.

3.8.5 Session five: Deciphering and attending to feedback cues (unambiguous feedback). Feedback is essential for flow as it provides clear evaluative information indicative of one's progress towards goal attainment (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). The development of an acute awareness of ongoing feedback directs an athlete's attention to beneficial behaviours, which ought to be continued, and to the eventual need for refinement of others. Moreover, clear process

goals (Burton et al., 2001; Burton & Raedeke, 2008; Kingston & Hardy, 1997; Weinberg & Gould, 2003; 2011) provide an unequivocal opportunity to monitor progress. Thus, the lecture phase of the fourth Flow-PST seminar (Murdock, 2012e) demonstrated the inherent reciprocal relationship between clear goals and unambiguous intrinsic and extrinsic feedback. After conveying and discussing the motivational and instructional functions and effects of feedback in sport (Burton & Raedeke, 2008; Latinjak, Torregross & Renom, 2011; Smith, 2001; Weinberg & Gould, 2003; 2011), various sources of feedback were delineated and students were given the opportunity to offer examples of feedback cues from their sports. The discussion segued to the needs assessment phase of the instructional cycle during which the student-athletes considered where potential existed to make more effective use of the sources of feedback at their disposal.

The first activity in the acquisition and practice phase focused on *Deciphering Relevant Feedback Cues*. Because of the subjective nature of flow, internal, or sensory-perceptual, rather than external sources of feedback were our focus. Jackson and Csikszentmihalyi (1999) describe the most important source of feedback as "the feedback the body itself provides, particularly in the form of kinesthetic awareness or knowledge of where it is in space" (p. 22). Accordingly, the task required that students consider visual, auditory, gustatory, olfactory, somatosensory, kinaesthetic, and coenesthetic sources of feedback available to them while performing. Thereafter, the participants individually considered and notated their perception of the importance of each feedback source they listed. This was conducive to directing their attention toward and raising their awareness of the manner in which each source could be purposefully monitored to facilitate and ensure progression towards their goals and performing within their IZOF.

The second in-class task required students to consider their optimal physical and mental readiness. For without optimal physical preparedness, not only is the establishment of an optimal mental mind set arguably less likely, it is also less probable that one will perform in flow (Jackson & Csikszentmihalyi, 1999). The individualised checklist of physical conditions and mental factors one needs to attend to in order to become optimally ready for performance provided the student-athletes with tangible feedback. Used effectively, the information ought to foster awareness of the target state and thereby the knowledge required to make befitting adjustments in one's behaviour as desired. To emphasise the conceptual link between the first four mental training themes, students were reminded that optimal performance will result when one aims at

a balance between the realistic goals pursued and the tangible skills one has. When one adopts not only a process goal focus, but also deciphers and attends to the relevant feedback cues available, one can ensure that they are on a constant progression towards consistently performing within their IZOF.

To facilitate the individual goal setting process related to this particular theme, students were encouraged to determine specific "goal evaluation strategies" (Weinberg & Gould, 2003, p. 341) based on their most relevant feedback cues. Designing such a performance measurement system required each athlete to first notate, or revisit, the short-term goals they were currently vying for. The next step required students to indicate the feedback sources, which would offer evaluative information about the progress made towards goal attainment. The intention was to foster ongoing goal implementation and adherence by encouraging the student-athletes to determine how frequently and based on which specific feedback cues they could monitor their progress towards their goals. Moreover, in the Flow-PST context, goal support and commitment (Learner & Locke, 1995; Weinberg & Gould, 2003) was fostered through the in-class discussion at the start of each session during which students ought to report on their progress in increasing or refining their use of internal feedback cues. Finally, in preparation for the homework tasks, students were introduced to the concept of *High-Five Evaluations*. This form of evaluative feedback was intended as an additional means of self-evaluation yet also as a means of providing interim feedback concerning the Flow-PST seminar.

3.8.5.1 High-five evaluations. The celebratory high-five gesture was demonstrative of the collaborative working environment and camaraderie established in class, yet also the evaluative feedback sought during this session and for the pilot study. The student-athletes in the Flow-PST seminar were well aware that the research objective of the seminar was to optimise an educational sport psychology mental training program for university students. They understood, therefore, that to optimise the program, their feedback was essential. One means of constructively providing evaluative information toward the goal of improving the mental training seminar was based on the act of giving a high-five. As illustrated in the template provided in the enclosed CD-ROM (see document 10), students were asked to offer evaluative feedback about their perceptions of the seminar thus far using the five digits of a hand as a guideline. In the space designated to the little finger (a), students had the opportunity to indicate what they felt we had done too little of during the seminar. Next, in the section for the ring finger (b), students could indicate what they deemed indispensable for the seminar. Whereas the middle finger (c)

was designated for feedback about aspects of the seminar which were clearly suboptimal or displeasing to the evaluator, the index finger (d) represented the space in which cautionary feedback could be offered. Finally, the thumb (e) indicated the section in which satisfaction or approval could be addressed. To ensure that miscellaneous feedback could also be notated if desired, a sixth category, the watch (f), provided a section in which students could comment on things which they also wished to share yet had not yet had the time to address. The high-five feedback task gave students an opportunity to share their perceptions of the Flow-PST seminar; yet, the same task could be used to evaluate one's own progress towards enhancing one's mental strengths.

For those interested, the high-five evaluation task was a means of independently evaluating their use of the mental training strategies introduced thus far from five perspectives. The student-athletes could assess (a) what they felt they were making insufficient use of, (b) which techniques they considered vital, (c) what they abhorred, (d) what they felt needed further consideration, and (e) what they deemed their most favourable performance enhancement strategies. As an alternative means of completing the same core task, one of the reflective writing/sport journal questions instructed students to: "Give *yourself* a high-five evaluation regarding your use of the various mental training techniques you have chosen to use. Include any thoughts you wish to address" (Murdock, 2012e). To conclude the instructional cycle, students engaged in the feedback-related audio mental training exercises entitled: *Respecting Patterns That Work Best for You* (Orlick, 2003c) and *Change Channels* (Orlick, 2003a). Encouraging the student-athletes to pay deliberate attention to their self-determined feedback cues ought to have fostered clarity pertaining to their proximity toward fulfilment of their process goals (Burton et al., 2001; Kingston & Hardy, 1997; Weinberg & Gould, 2003; 2011, 2015) and making adjustments as required—by changing channels to the appropriate process oriented focus. Moreover, using sensory-perceptual feedback as a foundation for one's goal evaluation strategies promotes moment-by-moment concentration on the task at hand.

3.8.6 Session six: Assessing and fostering concentration (concentration on the task at hand). To promote the all-encompassing task relevant focus requisite for flow, this seminar theme emphasised behaviours to foster concentration and distraction control. The theoretical input phase of the seminar (Murdock, 2012f) thus commenced with the description of four definitive features of concentration in sport: situational awareness, the ability to select relevant environmental cues, and the ability to shift and or maintain one's attentional focus as necessary over time (Nideffer & Sagal, 2001; Weinberg & Gould, 2003; 2011). Attentional processes were discussed from informational processing and social

psychological perspectives (Boutcher, 2008). Students were introduced to an informational processing perspective of attention in sport contexts mediated by three aspects thereof: selectivity, limited capacity, as well as alertness and arousal (Abernethy, 2001; Boutcher, 2008). Here, a distinction was made between effortful, deliberate and thus slow controlled processing characteristic of the early stages of learning and novel actions or behaviours and the more automatic processing of well learned skills, which essentially require little attention. Students were made aware that while greater controlled attentional capacity was potentially required in the early stages of mental training, the goal was for them to progress to more automatic processing within their performance contexts. Next, the information processing perspectives of attention were juxtaposed with psychosocial perspectives and included the consideration of the role of distractions (distraction control) as it relates to the automatic execution of one's skills (Boutcher, 2008) and attentional style (Nideffer, "Theory of attentional," n.d., 1; Nideffer & Sagal, 2001). Both Nideffer's four types of concentration styles (broad, narrow, external, and internal) and their situational uses were introduced and discussed. Naturally, the discussion included a delineation of common internal and external distractors (Weinberg & Gould, 2003; 2011) and the inherent need for distraction control skills (Howland, 2006; Nideffer, "A.C.T.: Attentional Control Training," n.d., 2; Nideffer & Sagal, 2001). Before distraction control techniques were introduced, however, in the needs assessment phase, students were asked to consider more than merely areas in need of improvement as related to concentration. They were also asked to consider how focusing their attention on the various sources of feedback they had determined the prior week could be beneficial. To forge the conceptual link between unambiguous feedback and concentration on the task at hand, primary attention was paid to conveying the difference between and use of association and dissociation cognitive coping strategies (Masters & Lambert, 1989; Masters & Ogles, 1998; Morgan, O'Connor, Sparling, & Pate, 1987). For key determinants of success in athletic contexts include an associative attentional focus "by maintaining awareness of their body and the physical factors critical to performance" (Masters & Lambert, 1989, p. 161) and "focusing on bodily sensations such as breathing and feelings in the legs" (Boutcher, 2006, p. 331) for example. Furthermore, general strategies conducive to fostering a task related focus were provided. The related handout provided in class drew a connection to the game plans, task focused goal setting process, and self-affirming autosuggestions dealt with in previous sessions, for instance. Next, as distraction control was an integral aspect of the forthcoming session (sense of control), mere introductory concentration exercises such as "'Parking' Thoughts" (Weinberg & Gould, 2003, p. 375) and "Learning to Shift Attention" (Weinberg & Gould, 2003, p. 374) were completed as a group during the acquisition and practice phase. To facilitate individual goal setting, the

student-athletes established goals for and developed individualised concentration routines or preparation patterns (Orlick, 2000; Taylor & Taylor, 1995; Schmid et al., 2001) to follow as a means of fostering optimal focus on the imminent task. Before completing the exercise, students were encouraged to consider how positive self-talk, in the form of their *Zen Reminders* or other self-affirming autosuggestions (Orlick, 2000), could be incorporated where desired. Finally, the centring and imagery phase of the session included the progression through three brief audio exercises from Orlick (2003c): *The Role of Focusing*, *Focusing During Practices*, and *Controlling Distractions During Practices* .

For homework, the student-athletes could choose from any of four pre-practice and practice related (or pre-competition and competition related) audio focusing and distraction control exercises (Orlick, 2003d). Additional homework options included integrating (a) concentration tasks for inside and outside of practice or competition, respectively, (b) responding to either of the related sport journal questions, or (c) engaging in the ongoing self-reflective self-evaluation process. As a final homework task, students were asked to read the supplementary text *Training for Trust in Sport* (Moore & Stevenson, 1994) in preparation for our discussion about how to develop a sound trust in one's ability to control one's mental performance. With strategies available to foster maintaining optimal concentration, student-athletes needed to understand how the quality of their concentration would inevitably dictate the degree to which they can release conscious control of their actions.

3.8.7 Session seven: Taking and relinquishing control over your performance (sense of control). The ability to relinquish conscious control of one's performance and give way to the automatic execution thereof is a by-product of both extensive prior rehearsal and trust (Moore & Stevenson, 1991, 1994). Albeit mutually reciprocal, automatic information processing requires a semblance of control; trust, however, implies uninhibited inherent confidence or belief in oneself yet need not reflect controlled execution per se. Moore and Stevenson (1991) define trust pertaining to sport as "letting go of conscious controlling tendencies and allowing automatic processes, which have been developed through training, to execute the motor skill" (p. 282). In further research, they distinguish "trust as a mental performance skill [which] involves freeing oneself of expectations, fears, or other conscious activity and maintaining a clear and present focus necessary to attend to higher aspects of sport competition, such as cue utilization and strategy" (Moore & Stevenson, 1994, p. 3). These definitions befittingly conveyed the sense of control characteristic of experiencing flow in sport (Jackson & Csikszentmihalyi,

1999). Therefore, the theoretical phase of the seminar consisted of a discussion of keys to balancing and eventually relinquishing control in order to experience optimal mental performance states (Murdock, 2012g). The essential idea conveyed was the importance of taking action to foster trust and automaticity, as refining and using one's mental training strategies purposefully and consistently over time is a manner through which one can foster trust in one's mental skills and render the automatic use thereof when *needed* more probable (Orlick & Partington, 1988). In furtherance of that objective, the student-athletes were provided with a *Control the Controllable Self-Regulation Checklist* which encouraged identifying mental training strategies at one's disposal, aspects of one's performance which one can control, and taking responsibility for one's performance (Ravizza & Osborne, 1991). The task simultaneously facilitated the individual needs assessment phase of the session. The checklist entailed a complete list of the mental training techniques and strategies the student-athletes had been introduced to thus far. Students were asked to use the chart and key self-regulation questions provided in the handout to consider: (a) Long and short-term factors essential for optimal performance and (b) whether they deemed each respective factor as sufficiently under control. Moreover, where they deemed it necessary they ought to (c) indicate which of the mental training techniques at their disposal could help foster exerting preliminary control over each given factor of optimal performance. The activity was chosen to draw the student-athletes' attention to the plethora of strategies available and the fact that they *can* take action to control factors which facilitate consistent optimal mental performance states. Students were then introduced to Ravizza and Osbourne's (1991) "one-play-at-a-time" (p. 260) cognitive-behavioural routine of readying, responding, and refocusing to gain and maintain control over one's responses to events which occur while performing. Moreover, we discussed Moore and Stevenson's (1994) three-step routine, which follows a similar premise and structure to foster relinquishing conscious control of performance and thereby trust: " (a) 'Check it out,' (b) 'click it in,' and (c) 'let it go'" (p. 10). For the purposes of the Flow-PST seminar, the routine was slightly adapted to include references to mental training strategies discussed in the seminar thus far. Then, during the seminar's acquisition and practice phase, students were put into small teams to discuss a situation in which they had lost control and would have preferred to respond more constructively. Using the given structure for systematically exercising control and fostering self-trust, students simulated the execution routine by articulating how they could have prompted the behaviour analysis and refocusing technique inherent in the routine. Revisiting the peer instruction technique (Crouch & Mazur, 2001), students were encouraged to offer each other constructive feedback and alternative refocusing strategies which could be used in similar situations where feasible. Thereafter, to reinforce the importance of strategic

and systematic integration of these and other techniques, students were guided to the next phase of the instructional cycle.

A handout and task entitled *Control the Controllable: Engage in Mental Training* provided direction for the individual goal setting phase of the session. An adaptation of the previously described *Goal Setting Form*, the task was designed to foster dedication and commitment to refining one's mental skills. Specifically, it required participants to set specific goals for practicing and improving the mental training techniques of their choice during the forthcoming week. Furthermore, the form included a table for a daily protocol, which should foster the participant's awareness of their efforts and progress. To conclude the seminar, mantra's of control, based on "positive self-suggestions" (Orlick, 2000, p. 76) were introduced as an alternative to the audio imagery rehearsal completed in the seminar during previous sessions. After centring, students were asked to read each of the positive self-suggestions projected via the PowerPoint presentation (Murdock, 2012g) and choose one which they intuitively deemed befitting and able to help them take and relinquish control over their performance. Then, for one minute, students were asked to repeat their chosen phrase in their mind whilst consciously internalising the message of control. To do this, before the task began, the student-athletes were encouraged to focus on *seeing*, *feeling*, and *believing* (Murphy & Martin, 2002; Vealey & Greenleaf, 2001) the mantra they were repeating to themselves. Finally, for homework, in addition to opting to continue to make use of any of the other strategies introduced during this session, students could also choose to engage in reflective writing. As agreed, students were required to integrate no less than two of the mental training tasks which fostered taking and relinquishing control of their mental performance and mind set.

3.8.8 Session eight: Constructively dealing with worry and debilitative thoughts (loss of self-consciousness). The loss of self-consciousness necessary for flow to ensue plausibly requires effectively managing the ideas and attitudes one conveys to oneself. As conveyed during the theoretical input phase (Murdock, 2012h), to foster optimal mental performance, one's internal dialogue ought to be performance and self-enhancing. In this session, emphasis was placed on *emulating* one's desired mental strength as a means to facilitate thoughts and behaviours conducive to building the confident focus characteristic of optimal performance states.

3.8.8.1 Fake it until you make it. The common North American adage *talk the talk and walk the walk* befittingly highlights the theory that not only one's self-enhancing self-talk

but one's non-verbal behaviour, and posture in particular, can effectively instil confidence (Cuddy, Wilmuth, & Carney, 2012). To allow those notions to become self-evident through a practical task, first, students were asked to walk around the seminar room aimlessly with their heads and eyes down, shoulders hunched, and feet dragging. After approximately 60 seconds, the students were asked to give a one-word report indicative of what feelings the exercise, and their body language in particular, evoked in them; confident, high-power expressions were not anticipated. Next, students were instructed to take a short walk, consisting of three laps, around the hallway, designed with a circular plan, outside of the seminar room. Specifically, they were instructed to adopt a confident posture—albeit with over exaggerated pomp for illustrative purposes—"with [their] head high, chin up, eyes forward, and shoulders back" (Murdock, 2012h, p. 15) for each of the three laps. The first lap served to acquaint the student-athletes with the desired confident posture and strut. In advance, two signs had been prepared and were held up as the participants passed the starting point of the second and third laps. The first read *I just can't do this* while the second message revealed *I'm a terrible ____ athlete/player*. During the second and third laps, students were asked to maintain the desired self-confident strut, however, continuously repeat the respective message held up for them as they commenced the respective lap. The intention of the task was to demonstrate the inherent relationship between nonverbal behaviour and performance whilst also providing a foundation for the planned follow up discussion.

To open the discussion, students were once again asked to give a one-word report indicative of what feelings the second exercise evoked in them and/or to indicate a numeric value on a scale of one to 10 (10 being the high score) of how confident they felt while completing each respective task. As demonstrated by Cuddy et al. (2012), it is difficult to feel completely elevated, positive, and confident while actively reciting self-defeating thoughts. Conversely, it is challenging to feel and think negatively while strutting with sheer confidence. Thus, progressing forward in the instructional cycle, after the individual needs assessment, the student-athletes were asked to formulate a self-empowering statement which they could use is their sport to foster absolute confidence. The statement, moreover, ought to replicate the dauntlessly zealous communicative style of self-talk, or positive autosuggestion (Orlick, 2000), incarnated by the late U.S. boxer Muhammad Ali. Thereafter, the second acquisition and practice task required students to emulate Jamaican track and field athlete Usain Bolt and assume his customary expansive, high-power posture (Cuddy et al., 2012). While maintaining their pose, students were asked to repeat their self-empowering statement in their head for 60 seconds. It was presupposed that the aforementioned cognitive-behavioural strategies, which required the student-athletes to

act as if they had trained their "butterflies to fly in formation" (Hanton & Jones, 1999, p. 22), would allow the students to physically and mentally experience the self-confident trust required to overcome debilitative internal thoughts. Then, drawing on the foundational information conveyed in the seminar to date, students were reminded that the trust underlying the loss of self-consciousness emanates from an *awareness* of what works best for oneself and actually *employing* the strategies one deems most facilitative. As the presumed tangible result of such ideal preparation is the ability to—confidently (without anxiety or self-consciousness)—*exercise control* over one's performance.

Before engaging in individual goal setting, students were asked to discuss in teams which debilitative thoughts they face during performance (as was done during session seven; sense of control). Using the *Control the Controllable Self-Regulation Checklist* once again, in their teams, the participants were expected to confer which mental training strategies would be beneficial for fostering a loss of self-consciousness whilst managing the concern put forth. Here, too, requiring the students to reiterate and actively reflect on the various techniques available to them was a means of reinforcing their knowledge of not only the techniques, but when and how they could be used effectively. Finally, because a combination of goal setting, imagery, and self-talk is demonstrably beneficial for effectively managing debilitative thoughts and anxiety (Hanton & Jones, 1999), the individual goal setting tasks combined the three strategies. First, adopted from the framework outlined by Hardy, Gammage, and Hall (2001) and Hardy, Hall, and Alexander (2001), the student-athletes were asked to determine at least four self-enhancing statements reflective of four specific types of self-talk: self-encouragement, effort control, performance goal achievement, and general positive self-talk. The associated *Talk the Talk* handout (provided in the enclosed CD-ROM; see document 11) required students to set goals for where and when to use each type of self-talk. Moreover, it entailed a protocol with which the athletes were required to track their progress as homework. Further, the *Walk the Walk* goal setting task (provided in the enclosed CD-ROM; please see document 12) encouraged the participants to plan how they would behave and feel by notating goals for how they would purposefully carry themselves pre, during, and post-performance. While Usain Bolt was the model given, where desired, students were encouraged to emulate a paragon from their own sport. As a segue to the final centring imagery and relaxation phase, students were asked to spend 90 seconds visualising how they would carry themselves during their next pre, during, and post- practice phases. Furthermore, they were additionally instructed to combine their images with an appropriate self-enhancing statement as determined in the previous *Talk the Talk* in-class exercise. Thus, after using one-breath relaxation as a centring

technique, students were guided through 30 seconds of envisioning (*seeing* and *feeling*) how they will talk the talk and walk the walk during their next (a) pre-performance, (b) performance, and (c) post-performance phases, respectively. The seminar was brought to a close with the stress control audio exercise *Reminders for Feeling Good* (Orlick, 2003a). Indubitably, to foster optimal mental performance states, athletes must increase their awareness of and take control over both how they carry themselves and their internal dialogue. Similarly, one must cultivate an equally mindful and intentional attitude towards focusing on making time work in one's favour both within and outside of one's performance domain.

3.8.9 Session nine: Freeing oneself from the tyranny of time while performing (transformation of time). Effectively managing one's time was presupposed as conducive to facilitating the engrossment characteristic of flow. The experience of the transformation of time dimension of flow arguably emanates from complete concentration on the task at hand; yet, it is not universally experienced (Jackson et al., 2010; Swann et al., 2012; Tenenbaum et al., 1999). If considered on a *continuum*, it is plausible that it occurs solely "at the deeper levels of flow" (Tenenbaum et al., 1999, p. 287) and was thus deemed less viable to *cultivate* per se. When experienced, however, "it is one of the liberating dimensions of flow—to feel free from the time dependence under which we live most of our lives" (Jackson et al., 2010, p. 10). Accordingly, a time-management approach to the theme was adopted for this Flow-PST session. When in flow, thoroughly absorbed in what one is doing while performing, the passage of time is often perceived as either accelerated or decelerated (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). To promote this dimension of flow, in the current context, temporal awareness and the *effective* use of time implied diametrical skills. Effectively managing one's time referred to deliberately *increasing* one's situational awareness of time (as related to one's sport performance) with the aim of consequently governing one's attention to and use thereof accordingly. Conversely, the effective use of time concomitantly referred to purposefully *decreasing* excessive awareness of temporal constraints; it involved liberating oneself from debilitative concerns about time. The commonality in the opposed objectives was the underlying intention of enabling complete engrossment to ensue. Accordingly, the seminar commenced with a cognitive-behavioural exercise in experiential absorption (Bryant, Chadwick, & Kluwe, 2011).

By asking students to savour a singular raspberry *mindfully*, the concept of "sharpening perceptions" (Seligman, 2002, p. 108) to promote deep absorption in the moment could be highlighted, for as argued by Seligman (2002), "mindfulness begins with

the observation that mind*less*ness pervades much of human activity" (p. 109). The instructional phase of the seminar (Murdock, 2012i) included a delineation of the concepts of savouring and mindfulness (Aherne et al., 2011; Peterson, 2006; Seligman, 2002), followed by a discussion of their potential role in and importance for entering optimal mental performance states in athletic contexts. Awareness of not only sport-specific limitations to time available to perform but also of one's general time management skills were described as essential. Hence, the needs assessment phase of the instructional cycle commenced with the completion of a 25-item time management quiz (Neville, 2007). Bearing marginal adaptations so that it made reference to aspects of the Flow-PST mental training seminar, the self-report test entailed a 3-point scoring format ranging from *never* (0), to *sometimes* (1), and *always* (2). The higher the respondent's score was, the better their time management skills were presumed to be. Effectively, the quiz ought to have provided each respective athlete with generalised yet tangible insight into their time management habits and potential areas in need of improvement. Thereafter, the students were given the opportunity to revisit and augment their performance profiles as desired.

Revisiting the concept of mindfulness, the acquisition and practice phase first included a deceleration exercise based on the notion of slowing down fast (Bohl, 2009). Slightly adapted to befit the Flow-PST seminar, Bohl's (2009) *Slow Down Fast* exercise required participants to reflect on their life as an athlete and consciously prioritise behavioural practices which they deemed conducive to making their desired progress and fully engaging in their sport. Moreover, it required the participants to actively consider and list ineffective practices which they would prefer (and planned) to discard in order to create figurative and literal space for themselves to flourish. The task included the creation of an action plan to facilitate this particular deceleration process and was essentially designed to fulfil two goals: to promote more quality in the experiences the student-athletes would have in their sport and to foster the athlete's awareness of their use of time. Student-athletes face a unique difficulty in that, to be successful yet also prevent overload (Orlick, 2000), they must establish a balance between managing both the demands of their sport and academia in the time at their disposal. While that premise logically renders time management skills imperative, it is precisely student-athletes who often exhibit insufficient time management abilities (Ellis, 2005; Lanning, 1982) and this can compromise an athlete's ability to perform optimally. Thus, students were offered recommendations for successful time management (Murdock, 2012i). Amongst those suggestions came the first homework task: not only establishing prioritised *To Do* lists, but equally important *Not to Do* lists (Ellis, 1998). Beyond engaging in a brief discussion of the

advantages of effective prioritisation and time management, students were asked to consider how timeless moments in sport arise. Essentially, the term timeless was employed as a guise for the transformation of time dimension of flow. Here, the objective was to reinforce the cumulative foundation for cultivating flow as established in previous sessions. Incorporating reiteration of mental training strategies introduced in the seminar, the student-athletes were encouraged to bethink that they could:

> Free yourself from the tyranny of time by knowing yourself/your abilities [;] deciding what you want to accomplish [;] having a clear game plan for the accomplishment of your goals[;] attending to your most important feedback sources and regularly evaluating your progress towards your goals [;] allowing your mind to get into a *Zen Zone* [;] optimally focused on the steps before you [;] leaving worry where it belongs (…) *Parking* it! [; and] making time work in your favour. (Murdock, 2012i, p. 20)

Periodically *forgetting* about time is one of the most effective ways to manage it (Ellis, 1998; 2005). Accordingly, in conjunction with addressing the importance of effectively managing one's time, the student-athletes were asked to schedule and consider how to effectively use planned intervals of inactivity and regeneration, or down time (Ellis, 1998), as an additional practical homework task. Before the session was brought to a close, however, time was taken to engage in a special imagery and relaxation exercise.

3.8.9.1 Cumulative mental training imagery script. In this particular centring and imagery rehearsal phase, a comprehensive imagery script (provided in the enclosed CD-ROM; see document 13) was used to further emphasise a cumulative foundation for fostering optimal mental performance states. Modelling Orlick's (2003b) *Mental Preparation for Training/Practice* audio exercise, the modified descriptive script commenced with a centring exercise, entailed statements which characterised fulfilment of the eight dimensions of flow detailed thus far, and encouraged both a multisensory imagery experience and incorporated positive self-talk. By asking students to engage all of their senses and visualise the optimal mental performance state described, the stage could be set to draw students' attention to the intrinsically rewarding, deep satisfaction and enjoyment characteristic to flow.

3.8.10 Session ten: Keeping the intrinsically rewarding joy in the pursuit of physical excellence (autotelic experience). Being an athlete and having the opportunity to grow, excel, and constantly refine one's best skills in sport ought to be an intrinsically

rewarding (Ryan & Deci, 2007) experience. Moreover, positive emotions such as joy (Kimiecik & Harris, 1996; Scanlan et al., 1989) and fun (Jackson, 2000) ought to be equally prominent features when vying for optimal mental performance states. To approach the theme of autotelic experiences in sport, the theoretical foundation for the session pivoted around recognising the importance of discovering and fostering intrinsic forms of motivational regulation. Circumventing direct reference to the self-determination theory (Deci & Ryan, 2008b; Ryan & Deci, 2007), students were offered a rudimentary description of the six prevalent types of motivational regulation in sport (Pelletier et al., 2013). As enjoyment is a key variable which dictates one's motivation for sport participation (Jackson, 2000; Kimiecik & Harris, 1996; Kimiecik & Jackson, 2002; Scanlan et al., 1989), a classroom discussion was opened with the intention of invoking and rekindling students' feelings of enjoyment. The open-ended questions invited the participants to deliberate and share why they take part in sport and what they love most about being an athlete (Murdock, 2012j). This was done based on the premise that recalling what provides one with the most enjoyment in their sport facilitates recognising and increasing sport's intrinsic rewards (Jackson & Csiksentmihayli, 1999; Orlick, 2000). The discussion created a natural transition from the needs assessment, including consideration of where and how one could enhance enjoyment in their sport, to the acquisition and practice phases of the learning cycle. Vying to deliberately foster the autotelic experience dimension of flow, three widely-used positive psychology exercises were presented. As it was deduced that the exercises would reinforce students' positive emotions, engagement, and meaning by "increasing [students'] awareness of what is most positive about [themselves] and (…) identifying strengths of character" (Seligman, Steen, Park, & Peterson, 2005, p. 415) which they could actively capitalise on. First, a revised version of the practical "Three Good Things" (Peterson, 2006, p. 38) exercise was introduced. This task was chosen because it demonstrably increases happiness (Seligman et al., 2005); in particular, it reliably yielded positive affect when used in academic contexts (Seligman, 2011). The revisions made offered reference to the Flow-PST seminar and, naturally, sport; they thus rendered the exercise more befitting of the current context. The adapted written task provided students with an opportunity to first (a) list three good things which happened during the day which were clearly related to their sport or training. For each positive occurrence, students were to then indicate (b) why each good thing happened, (c) how and why it is important for them and their athletic performance, and (d) what they can do to recreate the same situation or experience in the future. To ensure that students had understood the task, it was first demonstrated orally in the large group with volunteers offering examples. A clear emphasis was placed on not only identifying the positive events but on how one's competence played (and in the future will play) a role

in the occurrence thereof. Thereafter, as practice, the students spent 10 minutes individually completing the aforementioned task for any one good thing identified. As the latter two practical tasks introduced required preparatory work, rather than attempting to complete them during the seminar, merely their purpose, how to prepare and then complete the tasks was explained in class.

The second two-fold task introduced focused on identifying and building the preeminent positive components of one's *self* or competencies in the form of *character* strengths (Peterson, 2006), or *signature* strengths (Seligman et al., 2005; Seligman, 2011). As theorised by Peterson and Seligman (2004), signature character strengths are "strengths of character that a person owns, celebrates, and frequently exercises" (p. 18). They are the prominent ones which, when used, make one feel most authentic and happy (Peterson, 2006; Seligman, 2002). As actively using one's signature character strengths can thus contribute to one's sense of happiness (Seligman et al., 2005) and fulfilment (Peterson & Seligman, 2004; Peterson, 2006), the exercise was deemed a means of fostering enjoyment and the autotelic dimension of flow. Hence, students received a description of the 24 *Values in Action* (VIA) character strengths and virtues (Peterson & Seligman, 2004) and a demonstration of where and how to complete and obtain the results of the "VIA Inventory of Strengths (VIA-IS)" (Peterson, 2006, p. 150) survey online. For homework, the student-athletes were asked to follow five steps, which were only slightly adapted from the "using signature strengths in new ways" (Peterson, 2006, p. 158) exercise. Students were to (a) complete the online survey, (b) identify and ensure that they understand their top five character strengths, and then (c) choose any one of those top strengths they wished to capitalise on. The student's subsequent task was to (d) determine and plan ways to make daily use of their chosen character strength in novel ways (adopting a new approach daily) in and outside of practice during the forthcoming week. Finally, the participants were asked to (e) keep a protocol and briefly reflect on their experiences.

Students were given four additional practical positive psychology exercises, albeit marginally adapted to reference sport contexts, as homework options. First, described as best completed after taking the VIA survey, the "You at Your Best" (Peterson, 2006, p. 99) task (under the adapted title *Me at My Best*) required the student-athletes to write a detailed story about a situation, which brought out the very best in them as an athlete. Thereafter, their task was to re-read and reflect on the strengths they perceived in the story every day for the following week. Because the task demonstrably fosters perceived competence, autonomy, and psychological well-being (Seligman, 2011; Sheldon, Ryan, & Reis, 1996), the second option provided was "Have a Good Day" (Peterson, 2006, p. 43); it required a two-

week commitment. In the first week, those who opted for the task were to make daily notes about their various activities throughout the day and then rate the day as a whole on a 10-point scale from *the worst of days* (1) to *an outstanding day* (10). After determining a pattern indicative of what truly constitutes a truly good day from their unique perspective, the athlete had the task of purposefully planning and scheduling a day which included all of the previously determined uplifting components and then reflecting on the experience in writing thereafter.

Thirdly, students who preferred to complete a "gratitude visit" (Seligman, 2011, p. 30) had a five step assignment which included first (a) determining someone who they recognised as having been instrumental in their development as an athlete, yet to whom due thanks had not yet been befittingly given. The student was to then (b) write a letter of gratitude to the person in question which specifically expressed what the person did and how it affected the participant's life as an athlete. After (c) requesting a meeting in person where feasible, the assignment was to (d) personally deliver and share the authentically formulated letter of thanks. As a final homework option, students could opt to purposely engage in "Acts of Kindness" (Boehm & Lyubomirsky, 2009, p. 672) as an additional strategy to foster a sense of happiness, well-being, and, by extension, the autotelic experience. While the altruistic acts could be committed for anyone, it was suggested that the participants consider random acts of kindness for a fellow athlete or member of the administrative or coaching staff in the forthcoming week. The participant was expected to reflect on and keep a written protocol of the respective date upon which the task was completed, the altruistic act performed, and their perceptions of how it went. As suggested by Seligman (2011), for *all* tasks, students were encouraged to take their time and be as mindful of the experiences as possible so that they could later share their experiences and perceptions in the upcoming feedback rounds at the beginning of class. To underscore the theme and bring not only the session but the Flow-PST content to a close, the students engaged in the audio mental training exercise *Keeping the Joy in the Pursuit* (Orlick, 2003d). While session 10 denoted the completion of the Flow-PST intervention content, the two subsequent seminar sessions offered the student-athletes the opportunity to convey what they had learned and believed they could profit from.

3.8.11 Sessions eleven and twelve: Student presentations and wrap up. To conclude the semester and Flow-PST intervention, students were given the opportunity to present the fruits of their labours, articulate their perceived overall progress, and evaluate the mental training seminar. Throughout the semester, the students had been expected to progressively refine and establish individualised mental training programs based on the

techniques and strategies introduced in class. Offering each student the opportunity to present their individualised programs for performance enhancement during one of the final two seminar sessions was intended as a means of obliging them to truly delve into the Flow-PST material. Moreover, the opportunity ought to have served to further encourage each respective athlete to both refine and establish a comprehensive mental training program to follow subsequent to the completion of the intervention. To ultimately bring the Flow-PST seminar to a close, in session 11, one complete week after the end of the Flow-PST instruction, students were once again asked to complete the battery of psychometric tests completed pre-intervention. Subsequent to the final student presentations and seminar wrap up in session 12, students were asked to evaluate and offer feedback about the seminar by completing the *Mental Training Seminar Follow-Up Assessment* as a hardcopy or electronically. The rudimentary assessment included four social validation questions (Wolf, 1978) which required students to rate their experiences and perceptions pertaining to the mental training seminar using varying criteria on an 8-point Likert scale. Most importantly, the remaining open-ended questions asked the participants to provide detailed and specific feedback about the content of each respective theme as well as the seminar overall. Thus, the assessment presented participants with the opportunity to propose specific suggestions for improvements to the seminar.

3.8.12 Three overarching phases of the Flow-PST seminar. Emanating for suggestions put forth by Weinberg and Williams (2003, 2011), the Flow-PST program was designed to progress through three overarching phases across the given 12-week semester. Those phases included an education, acquisition, and practice phase, a personal performance enhancement plan design phase, and finally, an integration and maintenance phase. In the pilot study, the acquisition and practice phase was a cyclical process, which came to an end once the students discussed their experiences with strategies inherent to each respective theme after one week of rehearsal. Thus, the Flow-PST instructional cycle essentially recommenced as each new dimension of flow was dealt with in the respective seminar session. However, as each respective theme was brought to a close, students were instructed and expected to choose which strategies worked well and to *continue* to integrate those strategies in their performance domain for the remainder of the semester. Consequently, the cyclical process was envisioned as cumulative in nature yet a continuously overlapping repetition of the cycle ensued. As performance strategies were not only integrated but successively refined and optimised (maintained) throughout the semester, students were expected to engage in an *ongoing* process of actually designing a personal plan for performance enhancement by trial and error. Although the appropriate *terminology* had been adopted, the aforementioned logically deducted process differed

slightly from what is commonly advised in psychological skills training interventions. For instance, Weinberg and Williams (2011) describe the integration and maintenance phase as one in which an established mental training plan is put into practice. In contrast, however, the process adhered to in the current pilot study represented steps *towards* the development and creation of a sound personal plan for performance enhancement. Naturally, the plan students ought to create for themselves by the end of the semester should be implemented and maintained in the long-term. The focus of the pilot study, however, was facilitating the student-athletes in the more immediate process of establishing individualised Flow-PST plans. Even if thus less conventional, it was nevertheless deemed a viable rudimentary means of examining to what extent the student-athletes could learn to wilfully set the stage for and experience increases in dispositional flow using their chosen cognitive-behavioural strategies.

3.9 A Compendium and Preview

In summary, the objective of this chapter was to delineate the methodology adhered to and methods employed in this small-scale descriptive pilot study. The aim thereof was to examine to what extent university level student-athletes can be taught how to wilfully cultivate dispositional flow states. The Flow-PST seminar for B.A. and M.A. students transpired across a 12-week semester involving 90 minutes of instruction each session; nine of those sessions, in particular, were specifically dedicated to cultivating a dimension of flow (Csikszentmihalyi, 1990). Adhering to an explanatory sequential (Wisdom & Creswell, 2013) mixed methods research design, first, quantitative data was collected and analysed. Having approached the study from a critical realist (Bhaskar, 1989; Braun & Clark, 2013) ontological position and a contextual constructionist epistemological perspective (Madill et al., 2000), the presupposed objective form of reality was tapped into employing three befitting standardised psychometric tests. The tests facilitated the idiographic (Swain & Jones, 1995) assessment of each participant's (a) subjectively perceived locus of sport-specific motivational regulation (Pelletier et al., 2013), the (b) psychological performance techniques and strategies employed (Hardy et al., 2010), and their (c) disposition toward flow-like experiences in physical contexts (Jackson et al., 2010). Thereafter, a qualitative data collection and analysis phase ensued six months subsequent to the intervention. It was accepted, however, that the knowledge to be gleaned from the qualitative examination of a subset of the cohort must be recognised as provisional. Furthermore, it was clear that the results of the thematic analysis conducted must be generalised with great caution, for the findings can only be viewed as a reflection of the given academic context and the unique perceptions of the participants therein.

In the light of those caveats, the next chapter, *Data Analysis Findings*, details the outcomes of the aforementioned endeavour.

Preamble to the Data Analysis Findings

This chapter offers a comprehensive presentation of the data analysis and results in two parts. First, the quantitative results derived from the three psychometric tests employed are presented. The foci thus includes the locus of motivational control as assessed by the *Sport Motivation Scale* (SMS-II; Pelletier et al., 2013); sport-specific cognitive-behavioural performance strategies employed as assessed with the *Test of Performance Strategies* (TOPS 2; Hardy et al., 2010); and both a global and dimensional assessment of dispositional flow measured with the *LONG Flow–Physical* scale (Jackson et al., 2010). Thereafter, the second half of the chapter details the final report of the qualitative thematic analysis which emanated from follow-up interviews with a subset of the cohort. Although the respective quantitative and qualitative results are communicated in succession, in the same manner in which they were collected and analysed, where feasible, the themes presented in the qualitative final report are juxtaposed with the previously delineated psychometric test results. This ought to foster distinguishing further meaning in the results and forge links between the quantitative and qualitative outcomes. While the final report of the thematic analysis primarily serves to offer an analytical description and interpretation of the findings, a discussion thereof is simultaneously embarked upon in context. A brief compendium then provides a segue to the final chapter of this dissertation in which key revelations, limitations, and possible implications of the study are presented.

4. Data Analysis Findings

Direct comparison of the psychometric tests results prior to the intervention in contrast to thereafter was made *within* each individual athlete in adherence with an idiographic approach (Portney & Watkins, 2000; Smith, 1988; Swain & Jones, 1995). Accordingly, what follows is the presentation of the descriptive statistics based on each individual athlete's results on the *Sport Motivation Scale* (Pelletier et al., 2013), the *Test of Performance Strategies* (Hardy et al., 2010) and the *LONG Flow–Physical* scale (Jackson et al., 2010). It is herewith reiterated, however: As the forthcoming results emanate from a preliminary small-scale pilot study, they remain conjectural due to the lack of statistical power calculations (Lancaster et al., 2004). Thus, the quantitative results ought to be considered preliminary and merely interpretative. Nonetheless, they serve as a foundation against which to juxtapose and further elucidate the final report of the thematic analysis which was conducted six months post-intervention. Values provided in both tables and in-text references have all been rounded to two decimal places. Moreover, in lieu of references to statistical significance, explanatory terms were used to render changes in responses (subscale scores) from pre-intervention to post-intervention readily discernible. Employing a straightforward quadrisection, all post-intervention decreases or increments of less than half a point ($< .50$) are described as *minimal*. *Marginal* changes refer to differences of half a point or more ($\geq .50$); variations of one full point or more (≥ 1.00) are described as *distinct*; and differences of one-and-a-half or more full points (≥ 1.50) on the Likert scale in question are described as *substantial*. The portrayal of each athlete's phenomenological, intrapersonal experience is of foremost importance. To supplement the descriptive statistics, however, a succinct generalisation of the results for each respective psychometric test *across* athletes serves to capture and speculatively propose common features in the data where relevant.

4.1 Locus of Motivational Regulation along the SDT Continuum

The revised *Sport Motivation Scale* (SMS-II; Pelletier et al., 2013) provided insight pertaining to characteristics and psychological processes underlying the locus of six forms of motivational orientation and behavioural regulation as a reflection of the self-determination theory (Deci & Ryan, 1985a; 2000; 2008b; Ryan & Deci, 2000a; 2000c; 2007). It was hypothesised that the participating athletes would report increases in autonomous forms of motivational regulation (intrinsic, integrated, and identified) and decreases, or consistently lower reports of the least autonomous forms of motivational regulation (introjected, external, and amotivation) post-intervention. This could not be

confirmed. The current sample reflected increases in intrinsic regulation for five of the seven athletes examined. As hypothesised, consistently low or decreased scores for amotivation were yielded in all but one athlete post-intervention. However, unanticipated increases in introjected motivational regulation simultaneously eventuated across six of the seven athletes. Descriptive statistics including means, standard deviations, and median results are reported for each athlete in Table 1.

4.1.2 Motivational regulation (SMS-II Langston): Descriptive statistics. The post-intervention results yielded for Langston primarily contradict the hypothesis. As portrayed in Table 1, while marginal increases in intrinsic motivational regulation (M = 6.67, SD = 0.58) were reported post-intervention, a distinct decrease in identified regulation (M = 4.33, SD = 0.58) contrary to the projected direction was reported. Equally inconsistent with the hypothesis, the descriptive statistics reveal no prominent change between pre- and post-intervention scores for integrated and introjected forms of motivational regulation. While the standard deviation decreased slightly post-intervention, integrated motivational regulation (M = 5.67, SD = 0.58) remained constant at 6 (*corresponds quite a lot*) and introjected motivational regulation (M = 3.33, SD = 3.21) was 2 (*corresponds very little*) in both assessments. Finally, Langston's reports of amotivation (M = 1.00, SD = 1.00) and extrinsic regulation (M = 1.00, SD = 1.00) did in fact support the hypothesis as they remained virtually constant across all points of measurement at the lowest possible response: 1 (*does not correspond at all*).

4.1.3 Motivational regulation (SMS-II Ashe): Descriptive statistics. Assessment of the types of motivational regulation reported by Ashe pre- and post-intervention (Table 1) revealed minimal post-intervention increases in the predicted direction for intrinsic regulation (M = 6.67, SD = 0.58). However, unanticipated marginal increases in introjected regulation (M = 6.67, SD = 0.58) and amotivation (M = 2.00, SD = 0.00) simultaneously occurred. Moreover, a substantial increase in extrinsic motivational regulation was reported post-intervention (M = 5.00, SD = 1.73). Integrated motivation remained identical pre- and post-intervention (M = 6.67, SD = 0.58). Although the mean for identified forms of motivational regulation had remained constant when assessed post-intervention (M = 6.33, SD = 0.58), the median response decreased from 7 (*corresponds completely*) to 6 (*corresponds quite a lot*). Thus, here too, the results clearly lack consistent conformance with the hypothesis.

Table 1

Paired Samples Statistics: Sport Motivational Regulation Pre-intervention (PRE) and Post-intervention (POS)

Subj.	Paired Samples	Mean Value	Standard Deviation	Median
Intrinsic motivational regulation (INTRI)				
Langston	INTRI PRE	6.00	1.15	7.00
	INTRI POS	6.67	0.58	7.00
Ashe	INTRI PRE	6.33	0.58	6.00
	INTRI POS	6.67	0.58	7.00
Donovan	INTRI PRE	6.00	1.00	6.00
	INTRI POS	7.00	0.00	7.00
Perdita	INTRI PRE	5.67	1.15	5.00
	INTRI POS	6.67	0.58	7.00
Willie	INTRI PRE	5.67	0.58	6.00
	INTRI POS	5.67	0.58	6.00
Jerome	INTRI PRE	6.33	1.15	7.00
	INTRI POS	6.00	0.00	6.00
Bennett	INTRI PRE	6.00	1.00	6.00
	INTRI POS	7.00	0.00	7.00
Integrated motivational regulation (INTEG)				
Langston	INTEG PRE	5.67	1.53	6.00
	INTEG POS	5.67	0.58	6.00
Ashe	INTEG PRE	6.67	0.58	7.00
	INTEG POS	6.67	0.58	7.00
Donovan	INTEG PRE	5.33	1.53	5.00
	INTEG POS	6.00	1.00	5.00
Perdita	INTEG PRE	6.67	0.58	7.00
	INTEG POS	7.00	0.00	7.00
Willie	INTEG PRE	6.00	1.00	6.00
	INTEG POS	6.00	1.00	6.00
Jerome	INTEG PRE	6.33	1.15	7.00
	INTEG POS	5.33	1.15	7.00
Bennett	INTEG PRE	6.33	0.58	6.00
	INTEG POS	6.67	0.58	7.00
Identified motivational regulation (IDENT)				
Langston	IDENT PRE	5.33	0.58	5.00
	IDENT POS	4.33	0.58	4.00
Ashe	IDENT PRE	6.33	1.15	7.00
	IDENT POS	6.33	0.58	6.00
Donovan	IDENT PRE	5.33	0.58	5.00
	IDENT POS	4.33	0.58	4.00
Perdita	IDENT PRE	6.67	0.58	7.00
	IDENT POS	6.67	0.58	7.00
Willie	IDENT PRE	4.33	1.15	5.00
	IDENT POS	4.00	1.73	3.00
Jerome	IDENT PRE	6.67	0.58	7.00
	IDENT POS	6.00	0.00	7.00
Bennett	IDENT PRE	3.33	2.08	4.00
	IDENT POS	5.33	0.58	4.00

Introjected motivational regulation (INTRO)				
Langston	INTRO PRE	3.33	3.21	2.00
	INTRO POS	3.33	3.21	2.00
Ashe	INTRO PRE	6.00	1.00	6.00
	INTRO POS	6.67	0.58	6.00
Donovan	INTRO PRE	4.33	2.52	4.00
	INTRO POS	5.67	2.31	7.00
Perdita	INTRO PRE	5.33	2.89	7.00
	INTRO POS	6.67	0.58	7.00
Willie	INTRO PRE	3.67	2.52	6.00
	INTRO POS	6.33	1.15	7.00
Jerome	INTRO PRE	3.33	3.21	2.00
	INTRO POS	6.00	0.00	6.00
Bennett	INTRO PRE	3.67	3.06	3.00
	INTRO POS	4.67	2.52	5.00
External motivational regulation (EXTER)				
Langston	EXTER PRE	1.00	0.00	1.00
	EXTER POS	1.00	0.00	1.00
Ashe	EXTER PRE	2.33	0.58	2.00
	EXTER POS	5.00	1.73	6.00
Donovan	EXTER PRE	2.67	0.58	3.00
	EXTER POS	2.00	0.00	2.00
Perdita	EXTER PRE	2.67	2.08	2.00
	EXTER POS	3.67	1.15	3.00
Willie	EXTER PRE	2.33	2.31	1.00
	EXTER POS	2.00	1.73	1.00
Jerome	EXTER PRE	4.00	2.65	3.00
	EXTER POS	4.67	1.53	5.00
Bennett	EXTER PRE	2.00	1.00	2.00
	EXTER POS	5.33	1.53	5.00
Amotivational regulation (AMOTI)				
Langston	AMOTI PRE	1.00	0.00	1.00
	AMOTI POS	1.00	0.00	1.00
Ashe	AMOTI PRE	1.33	0.58	1.00
	AMOTI POS	2.00	0.00	2.00
Donovan	AMOTI PRE	1.33	0.58	1.00
	AMOTI POS	1.00	0.00	1.00
Perdita	AMOTI PRE	3.00	3.46	1.00
	AMOTI POS	1.00	0.00	1.00
Willie	AMOTI PRE	1.00	0.00	1.00
	AMOTI POS	1.00	0.00	1.00
Jerome	AMOTI PRE	1.33	0.58	1.00
	AMOTI POS	1.00	0.00	1.00
Bennett	AMOTI PRE	1.00	0.00	1.00
	AMOTI POS	1.00	0.00	1.00

Note. For instances in which the mean remained constant, no statistical results were calculable. Thus, the standard deviation is zero.

4.1.4 Motivational regulation (SMS-II Donovan): Descriptive statistics. Pre-intervention, Donovan consistently reported high intrinsic motivation: 6 (*corresponds quite a lot*) on the 7-point Likert scale inherent in the SMS-II (see Table 1). Post-intervention an equally unwavering increase to 7 (*corresponds completely*) was reported for intrinsic motivational regulation (M = 7.00, SD = 0.00). Although a distinct increment was reported as postulated, the standard deviation logically remained zero due to the lack of variance in the responses for each assessment. Further distinct increments in the projected direction were yielded post-intervention for identified motivational regulation (M = 4.33, SD = 0.58) and introjected motivational regulation (M = 5.67, SD = 2.31). A marginal increase in integrated motivational regulation was also yielded (M = 6.00, SD = 1.00) and thus supports the hypothesis. Also conformant with the hypothesis, a marginal decrease was reported post-intervention in the projected direction for external forms of motivational regulation (M = 2.00, SD = 0.00) and a minimal decrease was yielded for amotivation (M = 1.00, SD = 0.00).

4.1.5 Motivational regulation (SMS-II Perdita): Descriptive statistics. As can be seen in Table 1, post-intervention, Perdita reported a distinct increase in intrinsic motivation (M = 6.67, SD = 0.58) and a minimal increase in integrated motivational regulation (M = 7.00, SD = 0.00). Identified motivational regulation remained constant pre- and post-intervention (M = 6.67, SD = 0.58). Distinct increases were yielded for introjected (M = 6.67, SD = 0.58) and external (M = 3.67, SD = 1.15) motivational regulation; the reported increases were inconsistent with that which was hypothesised. However, as projected, subjectively perceived amotivation substantially decreased post-intervention (M = 1.00, SD = 0.00).

4.1.6 Motivational regulation (SMS-II Willie): Descriptive statistics. Contrary to the hypothesis, the sole substantial increase Willie reported post-intervention was for introjected motivational regulation (M = 6.33, SD = 1.15); the increment was thus not in the projected direction (see Table 1). Post-intervention, minimal decreases were reported for identified regulation (M = 4.00, SD = 1.73) and external motivational regulation (M = 2.00, SD = 1.73). The minimal decrease in identified motivational regulation does not support the hypothesis; the minimal decrease in external motivational regulation is, however, in the projected direction. Intrinsic motivational regulation (M = 5.67, SD = 0.58) and integrated regulation (M = 6.00, SD = 1.00) both remained consistently high pre- and post-intervention; amotivation remained consistently low (M = 1.00, SD = 0.00) both pretest and posttest.

4.1.7 Motivational regulation (SMS-II Jerome): Descriptive statistics. Contrary to the hypothesis, Jerome reported a substantial increase in introjected motivational regulation (*M* = 6.00, *SD* = 0.00) as well as a marginal increase in external motivational regulation (*M* = 4.67, *SD* = 1.53) as can be seen in Table 1. Unexpectedly, a distinct decrease was yielded for integrated motivational regulation (*M* = 5.33, *SD* = 1.15), a marginal decrease was reported for identified regulation (*M* = 6.00, *SD* = 0.00), and a minimal decrease came forth in intrinsic regulation (*M* = 6.00, *SD* = 0.00). The only result in the predicted direction post-intervention was the minimal decrease in amotivation (*M* = 1.00, *SD* = 0.00).

4.1.8 Motivational regulation (SMS-II Bennett): Descriptive statistics. While the projected increases in the more intrinsic forms of motivational regulation came forth for Bennett (see Table 1), unanticipated increases in less self-determined forms of motivational regulation eventuated as well. While substantial increases were reported in identified regulation (*M* = 5.33, *SD* = 0.58) and external regulation (*M* = 5.33, *SD* = 1.53), distinct increments were reported for intrinsic motivation (*M* = 7.00, *SD* = 0.00) and introjected motivational regulation (*M* = 4.67, *SD* = 2.52). In addition, a minimal increment was reported for integrated regulation (*M* = 6.67, *SD* = 0.58) post-intervention. Amotivation remained consistently low (*M* = 1.00, *SD* = 0.00) for both pre- and post-intervention assessments.

4.1.9 Locus of motivational regulation results: Recapitulation and generalisations. Whereas increases in intrinsic motivation were evident in all but two of the subjects and thus tended to support the hypothesis, increases in introjected motivational regulation which were manifested across six of the seven subjects negate the hypothesis with equal strength. Moreover, the reports of increased external motivational regulation in four athletes similarly cloud the results. Hence, unequivocally self-determined motivational regulation could not be confirmed across athletes posttest. Nonetheless, the evidence suggests that participants did in fact purposefully adopt performance enhancing behaviours and strategies.

4.2 Cognitive-Behavioural Performance Strategies

The *Test of Performance Strategies* (TOPS 2; Hardy et al., 2010) enabled a comprehensive assessment of the psychological performance strategies and skills each athlete employed pre- and post-intervention. As stated in the hypothesis, it was anticipated that subjects would report an increase in use of facilitative cognitive-

behavioural strategies for performance enhancement on all eight practice subscales post-intervention. This could not be completely confirmed. However, an increase in the use of positive self-talk was evident across all but one of the subjects subsequent to the intervention; in five out of seven athletes, increases were also reported for activation, imagery, and attentional control. Descriptive statistics including means, standard deviations, and median results are reported for each athlete in Table 2.

4.2.1 Performance strategies (TOPS 2 – Langston): Descriptive statistics. Comparison of pre- and post-intervention TOPS 2 practice results revealed a trend in the projected direction on all of the subscales, thus confirming the hypothesis, as can be seen in Table 2. Post-intervention, Langston experienced distinct subjectively perceived improvements in positive self-talk (M = 2.75, SD = 0.50), goal setting (M = 4.75, SD = 0.50), and activation (M = 5.00, SD = 0.00). Moreover, marginal improvements were reported in emotional control (M = 4.75, SD = 0.50), automaticity (M = 4.75, SD = 0.50), imagery use (M = 3.00, SD = 0.82), relaxation (M = 1.75, SD = 0.50), and attentional control (M = 5.00, SD = 0.00).

4.2.2 Performance strategies (TOPS 2 – Ashe): Descriptive statistics. An examination of Ashe's results (see Table 2) revealed subjectively perceived improvements post-intervention in six of the eight performance strategies in question. Specifically, a substantial increase was reported for imagery use (M = 4.25, SD = 0.50) and distinct increases in the predicted direction were reported in the use of self-talk (M = 3.75, SD = 0.50), automaticity (M = 3.75, SD = 0.50), and relaxation (M = 2.50, SD = 0.58). Furthermore, a marginal increase was reported for attentional control (M = 4.00, SD = 0.00) while activation yielded a minimal increase (M = 3.75, SD = 1.26). Finally, compared to pre-intervention, emotional control (M = 2.50, SD = 1.29) and goal setting (M = 3.75, SD = 0.50) were subjectively perceived as minimally less frequently employed post-intervention. Hence, the results do not conclusively confirm the hypothesis.

Table 2

Paired Samples Statistics: Practice Related Performance Strategies Pre-intervention (PRE) and Post-intervention (POS)

Subj.	Paired Samples	Mean Value	Standard Deviation	Median
Self-talk (SeTa)				
Langston	SeTa PRE	1.25	0.50	1.00
	SeTa POS	2.75	0.50	3.00
Ashe	SeTa PRE	2.75	0.96	2.50
	SeTa POS	3.75	0.50	4.00
Donovan	SeTa PRE	2.50	0.58	2.50
	SeTa POS	4.50	0.58	4.50
Perdita	SeTa PRE	3.25	0.50	3.00
	SeTa POS	4.75	0.50	5.00
Willie	SeTa PRE	3.75	1.26	4.00
	SeTa POS	2.75	0.50	3.00
Jerome	SeTa PRE	2.25	0.50	2.00
	SeTa POS	4.00	0.00	4.00
Bennett	SeTa PRE	3.00	0.82	3.00
	SeTa POS	4.00	0.00	4.00
Emotional control (EmCo)[a]				
Langston	EmCo PRE	4.00	0.00	4.00
	EmCo POS	4.75	0.50	5.00
Ashe	EmCo PRE	3.00	0.82	3.00
	EmCo POS	2.50	1.29	2.50
Donovan	EmCo PRE	3.00	0.82	3.00
	EmCo POS	3.50	0.58	3.50
Perdita	EmCo PRE	2.25	0.50	2.00
	EmCo POS	2.25	0.96	2.50
Willie	EmCo PRE	3.00	0.82	3.00
	EmCo POS	2.75	1.50	3.00
Jerome	EmCo PRE	2.75	1.50	3.00
	EmCo POS	2.75	0.50	3.00
Bennett	EmCo PRE	3.75	0.50	4.00
	EmCo POS	3.25	1.26	3.00
Automaticity (Au)[a]				
Langston	Au PRE	4.25	0.96	4.50
	Au POS	4.75	0.50	5.00
Ashe	Au PRE	2.75	0.96	2.50
	Au POS	3.75	0.50	4.00
Donovan	Au PRE	4.00	0.82	4.00
	Au POS	3.25	0.50	3.00
Perdita	Au PRE	2.50	0.58	2.50
	Au POS	3.00	0.00	3.00
Willie	Au PRE	3.25	0.50	3.00
	Au POS	4.50	1.00	5.00
Jerome	Au PRE	3.75	0.50	4.00
	Au POS	2.75	0.96	2.50
Bennett	Au PRE	3.25	1.50	3.00
	Au POS	3.25	0.50	3.00

Goal setting (GoSe)[a]				
Langston	GoSe PRE	3.75	0.96	3.50
	GoSe POS	4.75	0.50	5.00
Ashe	GoSe PRE	4.50	0.58	4.50
	GoSe POS	3.75	0.50	4.00
Donovan	GoSe PRE	2.00	0.00	2.00
	GoSe POS	4.00	0.00	4.00
Perdita	GoSe PRE	3.25	0.50	3.00
	GoSe POS	3.75	0.50	4.00
Willie	GoSe PRE	2.75	0.50	3.00
	GoSe POS	4.00	0.82	4.00
Jerome	GoSe PRE	4.50	0.58	4.50
	GoSe POS	4.00	0.00	4.00
Bennett	GoSe PRE	4.00	1.15	4.00
	GoSe POS	3.75	0.50	4.00
Imagery (Im)				
Langston	Im PRE	2.50	0.58	2.50
	Im POS	3.00	0.82	3.00
Ashe	Im PRE	2.50	1.29	2.50
	Im POS	4.25	0.50	4.00
Donovan	Im PRE	1.75	0.50	2.00
	Im POS	3.75	0.50	4.00
Perdita	Im PRE	2.50	1.29	2.50
	Im POS	3.75	0.50	4.00
Willie	Im PRE	3.00	1.15	3.00
	Im POS	3.00	1.15	3.00
Jerome	Im PRE	3.50	1.00	4.00
	Im POS	3.00	0.82	3.00
Bennett	Im PRE	2.75	1.71	2.50
	Im POS	3.00	0.82	3.00
Activation (Ac)[a]				
Langston	Ac PRE	4.00	0.00	4.00
	Ac POS	5.00	0.00	5.00
Ashe	Ac PRE	3.50	1.29	3.50
	Ac POS	3.75	1.26	4.00
Donovan	Ac PRE	2.25	0.50	2.00
	Ac POS	3.75	0.50	4.00
Perdita	Ac PRE	2.75	0.96	2.50
	Ac POS	3.00	0.00	3.00
Willie	Ac PRE	4.00	0.00	4.00
	Ac POS	4.75	0.50	5.00
Jerome	Ac PRE	3.50	0.58	3.50
	Ac POS	3.50	0.58	3.50
Bennett	Ac PRE	3.50	0.58	3.50
	Ac POS	3.50	0.58	3.50
Relaxation (Re)				
Langston	Re PRE	1.00	0.00	1.00
	Re POS	1.75	0.50	2.00
Ashe	Re PRE	1.00	0.00	1.00
	Re POS	2.50	0.58	2.50
Donovan	Re PRE	1.25	0.50	1.00
	Re POS	4.25	0.50	4.00

Perdita	Re PRE	3.75	0.50	4.00
	Re POS	4.00	0.00	4.00
Willie	Re PRE	2.00	0.82	2.00
	Re POS	1.75	0.50	2.00
Jerome	Re PRE	2.75	0.96	2.50
	Re POS	2.50	1.00	2.00
Bennett	Re PRE	3.50	1.29	3.50
	Re POS	2.25	0.50	2.00
Attentional control (AtCo)[a]				
Langston	AtCo PRE	4.25	0.50	4.00
	AtCo POS	5.00	0.00	5.00
Ashe	AtCo PRE	3.25	0.96	3.50
	AtCo POS	4.00	0.00	4.00
Donovan	AtCo PRE	2.25	0.50	2.00
	AtCo POS	4.00	0.00	4.00
Perdita	AtCo PRE	2.50	0.58	2.50
	AtCo POS	3.00	0.82	3.00
Willie	AtCo PRE	3.00	0.82	3.00
	AtCo POS	3.50	1.00	4.00
Jerome	AtCo PRE	3.75	0.50	4.00
	AtCo POS	3.00	0.00	3.00
Bennett	AtCo PRE	3.25	0.96	3.50
	AtCo POS	3.25	0.96	3.50

Note. For instances in which the mean remained constant, no statistical results were calculable. Thus, the standard deviation is zero.

[a]Negatively phrased statements are inherent in one or more items on this subscale. To present comparable results, which can be interpreted unambiguously across subscales, the scores for the items in question were inverted.

4.2.3 Performance strategies (TOPS 2 – Donovan): Descriptive statistics. As delineated in Table 2, Donovan experienced subjectively perceived increases across the majority of the practice subscales examined post-intervention; most notably, substantial increases were reported for self-talk (M = 4.50, SD = 0.58), goal setting (M = 4.00, SD = 0.00), imagery (M = 3.75, SD = 0.50), relaxation (M = 4.25, SD = 0.50), and attentional control (M = 4.00, SD = 0.00). Furthermore, whereas a distinct improvement came forth on the activation subscale (M = 3.75, SD = 0.50) a mere marginal increment was reported on the emotional control subscale (M = 3.50, SD = 0.58). In direct contradiction to the hypothesis that increases would be seen across all TOPS practice subscales, however, Donovan reported a marginal decrease in perceived automaticity (M = 3.25, SD = 0.50).

4.2.4 Performance strategies (TOPS 2 – Perdita): Descriptive statistics. As detailed in Table 2, Perdita reported clear subjectively perceived increases in the use of all but one of the eight performance strategies. Post-intervention, distinct increments were

reported for self-talk (*M* = 4.75, *SD* = 0.50) and imagery (*M* = 3.75, *SD* = 0.50). In addition, Perdita reported marginal increases for automaticity (*M* = 3.00, *SD* = 0.00), goal setting (*M* = 3.75, *SD* = 0.50), and attentional control (*M* = 3.00, *SD* = 0.82). Finally, minimal increases were reported for activation (*M* = 3.00, *SD* = 0.00) and relaxation (*M* = 4.00, *SD* = 0.00). The results on the emotional control subscale were the sole exception to the rule: The mean remained unchanged (*M* = 2.25, *SD* = 0.96); although, the median response on the emotional control subscale did in fact marginally increase post-intervention. The hypothesis was thus partially substantiated.

4.2.5 Performance strategies (TOPS 2 – Willie): Descriptive statistics. Both automaticity (*M* = 4.50, *SD* = 1.00) and goal setting (*M* = 4.00, *SD* = 0.82) were reported as having distinctly increased post-intervention (see Table 2). Moreover, Willie reported marginally increased use of activation (*M* = 4.75, *SD* = 0.50) and attentional control (*M* = 3.50, *SD* = 1.00). Imagery use remained unchanged pre- and post-intervention (*M* = 3.00, *SD* = 1.15). In stark contrast to both the hypothesis and the results of all other athletes examined here, Willie reported a distinct decrease in the use of self-talk post-intervention (*M* = 2.75, *SD* = 0.50). Furthermore, post-intervention Willie reported minimal decreases in emotional control (*M* = 2.75, *SD* = 1.50) and relaxation (*M* = 1.75, *SD* = 0.50).

4.2.6 Performance strategies (TOPS 2 – Jerome): Descriptive statistics. A substantial increase in self-talk (*M* = 4.00, *SD* = 0.00) was the sole performance increment Jerome reported (see Table 2); all other performance strategies were reportedly used less frequently post-intervention. Whereas a distinct decrease was reported in automaticity (*M* = 2.75, *SD* = 0.96), marginal decreases were reported for goal setting (*M* = 4.00, *SD* = 0.00), imagery (*M* = 3.00, *SD* = 0.82), and attentional control (*M* = 3.00, *SD* = 0.00). Further negating the hypothesis, relaxation also decreased minimally post-intervention (*M* = 2.50, *SD* = 1.00). While the standard deviation distinctly decreased post-intervention on the emotional control subscale (*M* = 2.75, *SD* = 0.50), mean scores for both emotional control and activation (*M* = 3.50, *SD* = 0.58) remained unchanged from pretest to posttest.

4.2.7 Performance strategies (TOPS 2 – Bennett): Descriptive statistics. Bennett reported a distinct increase in self-talk (*M* = 4.00, *SD* = 0.00) post-intervention (see Table 2). The only other increase, albeit minimal, was reported for imagery (*M* = 3.00, *SD* = 0.82). A distinct decrease was reported on the relaxation subscale (*M* = 2.25, *SD* = 0.50); emotional control decreased marginally (*M* = 3.25, *SD* = 1.26); and the reported use of goal

setting decreased minimally (M = 3.75, SD = 0.50). Although the standard deviation on the automaticity subscale decreased distinctly post-intervention, mean scores for automaticity (M = 3.25, SD = 0.50), activation (M = 3.50, SD = 0.58), and attentional control (M = 3.25, SD = 0.96) remained unchanged between pre- and post-intervention assessments.

4.2.8 Cognitive-behavioural performance strategies results: Recapitulation and generalisations. The TOPS 2 revealed evidence of an increased use of self-talk as a cognitive-behavioural strategy in practice settings for six of the seven participants. Moreover, the use of activation, imagery, and attentional control performance strategies increased for five of the seven athletes post-intervention, as well. Despite slight discrepancies across athletes, the increases in active employment and refinement of performance enhancing strategies are nevertheless presumed to be inherently related to an evolving mental disposition facilitative of discerning and performing within one's optimal mental performance states.

4.3 Dispositional Flow (LONG Flow–Physical)

Specifically addressing a multidimensional approach to examining flow as related to athletic performance contexts, the *LONG Flow–Physical* (Jackson et al., 2010) dimensional flow subscales facilitated a precise assessment of the respective athlete's propensity to experience each individual characteristic of flow. With the exception of the transformation of time dimension of flow, it was hypothesised that increases in subjective reports of flow characteristics would manifest themselves across each respective dimension of flow post-intervention; this was not confirmed. Descriptive statistics including means, standard deviations, and median results are reported for each athlete in Table 3. Moreover, to augment the subscale scores, the global flow construct calculable within the *LONG Flow–Physical* test allowed the assessment of each athlete's general disposition for flow in sports conducive to the experience. As put forth in the hypothesis, reports of subjectively perceived increases in global dispositional flow were anticipated post-intervention; the hypothesis was confirmed across five of the seven participants (see Table 4).

Table 3

Paired Samples Statistics: Dimensional Dispositional Flow Pre-intervention (PRE) and Post-intervention (POS)

Subj.	Paired Samples	Mean Value	Standard Deviation	Median
Challenge-skill balance (CHAL)				
Langston	CHAL PRE	4.50	0.58	4.50
	CHAL POS	5.00	0.00	5.00
Ashe	CHAL PRE	4.00	0.82	4.00
	CHAL POS	4.75	0.50	5.00
Donovan	CHAL PRE	3.00	0.82	3.00
	CHAL POS	4.00	0.00	4.00
Perdita	CHAL PRE	2.50	1.00	3.00
	CHAL POS	4.00	0.00	4.00
Willie	CHAL PRE	4.00	0.00	4.00
	CHAL POS	4.25	0.50	4.00
Jerome	CHAL PRE	4.25	0.50	4.00
	CHAL POS	4.50	0.58	4.50
Bennett	CHAL PRE	4.00	0.82	4.00
	CHAL POS	4.00	0.00	4.00
Merging of action and awareness (MERG)				
Langston	MERG PRE	4.25	0.50	4.00
	MERG POS	5.00	0.00	5.00
Ashe	MERG PRE	3.75	1.26	4.00
	MERG POS	4.50	0.58	4.50
Donovan	MERG PRE	3.00	0.00	3.00
	MERG POS	4.00	0.00	4.00
Perdita	MERG PRE	2.25	0.50	2.00
	MERG POS	4.00	0.00	4.00
Willie	MERG PRE	3.25	0.50	3.00
	MERG POS	4.25	0.50	4.00
Jerome	MERG PRE	4.00	0.82	4.00
	MERG POS	5.00	0.00	5.00
Bennett	MERG PRE	3.50	0.58	3.50
	MERG POS	3.25	0.50	3.00
Clear goals (CLEA)				
Langston	CLEA PRE	4.50	0.58	4.50
	CLEA POS	5.00	0.00	5.00
Ashe	CLEA PRE	4.75	0.50	5.00
	CLEA POS	4.50	0.58	4.50
Donovan	CLEA PRE	3.50	1.00	4.00
	CLEA POS	4.75	0.50	5.00
Perdita	CLEA PRE	2.50	0.58	2.50
	CLEA POS	4.25	0.50	4.00
Willie	CLEA PRE	4.00	0.00	4.00
	CLEA POS	4.00	0.00	4.00
Jerome	CLEA PRE	4.50	0.58	4.50
	CLEA POS	4.00	0.00	4.00
Bennett	CLEA PRE	4.75	0.50	5.00
	CLEA POS	4.00	0.00	4.00
Unambiguous feedback (UNAM)				
Langston	UNAM PRE	4.50	0.58	4.50
	UNAM POS	4.25	0.50	4.00
Ashe	UNAM PRE	4.50	0.58	4.50
	UNAM POS	4.75	0.50	5.00
Donovan	UNAM PRE	3.00	0.00	3.00
	UNAM POS	4.75	0.50	5.00
Perdita	UNAM PRE	2.25	0.50	2.00
	UNAM POS	4.00	0.00	4.00
Willie	UNAM PRE	4.00	0.00	4.00
	UNAM POS	4.00	0.00	4.00

Jerome	UNAM PRE	4.50	0.58	4.50
	UNAM POS	4.00	0.82	4.00
Bennett	UNAM PRE	4.50	0.58	4.50
	UNAM POS	4.25	0.96	4.50
Concentration on the task at hand (CONC)				
Langston	CONC PRE	3.75	0.50	4.00
	CONC POS	5.00	0.00	5.00
Ashe	CONC PRE	4.50	0.58	4.50
	CONC POS	4.75	0.50	5.00
Donovan	CONC PRE	2.25	0.50	2.00
	CONC POS	3.75	0.50	4.00
Perdita	CONC PRE	2.75	0.50	3.00
	CONC POS	4.00	0.00	4.00
Willie	CONC PRE	3.25	0.50	3.00
	CONC POS	4.00	0.00	4.00
Jerome	CONC PRE	3.75	0.50	4.00
	CONC POS	3.75	0.50	4.00
Bennett	CONC PRE	3.75	0.50	4.00
	CONC POS	4.00	0.00	4.00
Sense of control (SENS)				
Langston	SENS PRE	4.25	0.50	4.00
	SENS POS	5.00	0.00	5.00
Ashe	SENS PRE	4.75	0.50	5.00
	SENS POS	4.75	0.50	5.00
Donovan	SENS PRE	3.00	0.00	3.00
	SENS POS	4.00	0.00	4.00
Perdita	SENS PRE	2.75	0.50	3.00
	SENS POS	4.00	0.00	4.00
Willie	SENS PRE	4.00	0.00	4.00
	SENS POS	4.00	0.00	4.00
Jerome	SENS PRE	4.25	0.50	4.00
	SENS POS	4.00	0.00	4.00
Bennett	SENS PRE	3.00	1.42	3.50
	SENS POS	3.00	0.82	3.00
Loss of self-consciousness (LOSS)				
Langston	LOSS PRE	4.50	0.58	4.50
	LOSS POS	5.00	0.00	5.00
Ashe	LOSS PRE	3.00	0.82	3.00
	LOSS POS	4.50	0.58	4.50
Donovan	LOSS PRE	2.00	0.00	2.00
	LOSS POS	3.75	0.50	4.00
Perdita	LOSS PRE	2.00	0.00	2.00
	LOSS POS	4.00	0.00	4.00
Willie	LOSS PRE	3.00	0.00	3.00
	LOSS POS	3.25	0.50	3.00
Jerome	LOSS PRE	2.00	0.82	2.00
	LOSS POS	3.00	0.82	3.00
Bennett	LOSS PRE	3.25	0.50	3.00
	LOSS POS	3.50	1.00	4.00
Transformation of time (TRAN)				
Langston	TRAN PRE	2.75	0.50	3.00
	TRAN POS	2.50	0.58	2.50
Ashe	TRAN PRE	4.00	0.82	4.00
	TRAN POS	4.00	0.00	4.00
Donovan	TRAN PRE	3.00	0.00	3.00
	TRAN POS	3.00	0.00	3.00
Perdita	TRAN PRE	3.50	0.58	3.50
	TRAN POS	4.75	0.50	5.00
Willie	TRAN PRE	4.00	0.00	4.00
	TRAN POS	4.50	0.58	4.50
Jerome	TRAN PRE	4.00	0.82	4.00
	TRAN POS	1.25	0.50	1.00

Bennett	TRAN PRE	4.00	0.00	4.00
	TRAN POS	3.00	0.00	3.00
Autotelic experience (AUTO)				
Langston	AUTO PRE	4.75	0.50	5.00
	AUTO POS	5.00	0.00	5.00
Ashe	AUTO PRE	4.50	0.58	4.50
	AUTO POS	4.50	0.58	4.50
Donovan	AUTO PRE	3.25	0.50	3.00
	AUTO POS	5.00	0.00	5.00
Perdita	AUTO PRE	3.50	0.58	3.50
	AUTO POS	5.00	0.00	5.00
Willie	AUTO PRE	4.75	0.50	5.00
	AUTO POS	5.00	0.00	5.00
Jerome	AUTO PRE	4.25	0.50	4.00
	AUTO POS	2.75	0.50	3.00
Bennett	AUTO PRE	4.25	0.96	4.50
	AUTO POS	4.00	0.00	4.00

Note. For instances in which the mean remained constant, no statistical results were calculable. Thus, the standard deviation is zero.

Table 4

Paired Samples: Global Dispositional Flow Scores Pre-intervention (PRE) and Post-intervention (POS)

Subj.	Global Flow PRE	Global Flow POS
Langston	37.75	41.75
Ashe	37.75	41.00
Donovan	26.00	37.00
Perdita	24.00	38.00
Willie	34.25	37.25
Jerome	35.50	32.25
Bennett	35.00	33.00

4.3.1 Dispositional flow (LONG Flow–Physical – Langston): Descriptive statistics. From a dimensional perspective (see Table 3), Langston yielded a distinct increase in the projected direction for the concentration on the task at hand subscale (M = 5.00, SD = 0.00). Marginal increments were also reported for the challenge-skill balance (M = 5.00, SD = 0.00), merging of action and awareness (M = 5.00, SD = 0.00), clear goals (M = 5.00, SD = 0.00), paradoxical sense of control (M = 5.00, SD = 0.00), and loss of self-consciousness (M = 5.00, SD = 0.00). A minimal increase was reported for the autotelic experience dimension of dispositional flow (M = 5.00, SD = 0.00). Contrary to what was hypothesised, Langston reported minimal decreases on the unambiguous feedback subscale (M = 4.25, SD = 0.50) and the transformation of time (M = 2.50, SD = 0.58) subscale post-intervention. Considering all dimensions collectively (see Table 4), pre-intervention

Langston reported a global dispositional flow score of (37.75). Flow-like experiences were reported with greater frequency subsequent to the intervention (41.75), which thus substantiates the hypothesis.

4.3.2 Dispositional flow (LONG Flow–Physical – Ashe): Descriptive statistics. Post-intervention, Ashe reported a distinct increase on the loss of self-consciousness subscale (M = 4.50, SD = 0.58) (see Table 3). Marginal increases were reported for the challenge-skill balance (M = 4.75, SD = 0.50) and merging of action and awareness (M = 4.50, SD = 0.58). Moreover, minimal increases in the hypothesised direction were reported for the unambiguous feedback (M = 4.75, SD = 0.50) and concentration on the task at hand (M = 4.75, SD = 0.50) components of the flow experience. Conversely, contrary to that which was hypothesised, minimal post-intervention decreases were reported in his subjective perception of having clear goals (M = 4.50, SD = 0.58). Post-intervention, Ashe consistently reported a median score of 5 (*always*) on the paradoxical sense of control subscale (M = 4.75, SD = 0.50). Moreover, Ashe's experience of the transformation of time (M = 4.00, SD = 0.00) remained constant (at 4; *often*) both pre- and post-intervention. Additionally, reports of the autotelic experience (M = 4.50, SD = 0.58) were identical pre- and post-intervention. As reported in Table 4, Ashe commenced the intervention with a global dispositional flow score of 37.75. The post-intervention score of 41.00 reveals the anticipated increase in the frequency with which flow characteristics were subjectively perceived.

4.3.3 Dispositional flow (LONG Flow–Physical – Donovan): Descriptive statistics. Fully confirming the hypothesis, Donovan reported that increases were manifest for every dimension of flow post-intervention with the exception of the transformation of time (see Table 3). Substantial increases in the projected direction were reported for unambiguous feedback (M = 4.75, SD = 0.50), the loss of self-consciousness (M = 3.75, SD = 0.50), and the autotelic experience (M = 5.00, SD = 0.00). In addition, Donovan reported distinct increments for the challenge-skill balance subscale (M = 4.00, SD = 0.00), merging of action and awareness (M = 4.00, SD = 0.00), clear goals (M = 4.75, SD = 0.50), concentration on the task at hand (M = 3.75, SD = 0.50), and a sense of control (M = 4.00, SD = 0.00). Reports of the transformation of time dimension (M = 3.00, SD = 0.00) remained constant at 3 (*sometimes*) from pretest to posttest. In the broader context, Donovan commenced the intervention with a global dispositional flow score of 26.00 (see Table 4). As postulated, Donovan reportedly experienced a considerable increase (37.00) in the projected direction subsequent to the intervention.

4.3.4 Dispositional flow (LONG Flow–Physical – Perdita): Descriptive statistics. With the exception of the unanticipated report of a distinct increase in the transformation of time dimension of flow (*M* = 4.75, *SD* = 0.50), Perdita's results substantiate the hypothesis (see Table 3). Substantial subjectively perceived post-intervention increments were reported for merging action and awareness (*M* = 4.00, *SD* = 0.00), clear goals (*M* = 4.25, *SD* = 0.50), unambiguous feedback (*M* = 4.00, *SD* = 0.00), and the loss of self-consciousness (*M* = 4.00, *SD* = 0.00). Moreover, distinct post-intervention increments were reported for the challenge-skill balance (*M* = 4.00, *SD* = 0.00), concentration on the task at hand (*M* = 4.00, *SD* = 0.00), sense of control (*M* = 4.00, *SD* = 0.00), and the autotelic experience (*M* = 5.00, *SD* = 0.00). From a unidimensional perspective of dispositional flow, Perdita reported a fourteen-point increase in global flow post-intervention from 24.00 pretest to 38.00 posttest (see Table 4).

4.3.5 Dispositional flow (LONG Flow–Physical – Willie): Descriptive statistics. As detailed in Table 3, both pre- and post-intervention, Willie reported a consistently high subscale score (4; *frequently*) for clear goals (*M* = 4.00, *SD* = 0.00), unambiguous feedback (*M* = 4.00, *SD* = 0.00), (*M* = 4.00, *SD* = 0.00), and sense of control (*M* = 4.00, *SD* = 0.00). Posttest, a distinct increase was reported for merging action and awareness (*M* = 4.25, *SD* = 0.50). Furthermore, marginal increases were reported for concentration on the task at hand (*M* = 4.00, *SD* = 0.00) and (unexpectedly) for the transformation of time (*M* = 4.50, *SD* = 0.58). Finally, minimal increases came forth on the following subscales: challenge-skill balance (*M* = 4.25, *SD* = 0.50), loss of self-consciousness (*M* = 3.25, *SD* = 0.50), and the autotelic experience (*M* = 5.00, *SD* = 0.00). While Willie's global flow was reportedly 34.25 pre-intervention (see Table 4), a three-point post-intervention increase was yielded (37.25).

4.3.6 Dispositional flow (LONG Flow–Physical – Jerome): Descriptive statistics. Although his reports of concentration on the task at hand (*M* = 3.75, *SD* = 0.50) remained identical pre- and post-intervention (see Table 3), Jerome reported distinct increases in merging action and awareness (*M* = 5.00, *SD* = 0.00) and the loss of self-consciousness (*M* = 3.00, *SD* = 0.82). The only other increase reported in the projected direction post-intervention was a minimal rise in the challenge-skill balance (*M* = 4.50, *SD* = 0.58). Diametrically opposed to the hypothesis, a substantial decrease in the transformation of time (*M* = 1.25, *SD* = 0.50) and a distinct decrease in autotelic experiences (*M* = 2.75, *SD* = 0.50) were reported post-intervention. Jerome also expressed marginal

decreases in clear goals (M = 4.00, SD = 0.00) and unambiguous feedback (M = 4.00, SD = 0.82)—contrary to the projected direction. While a minimal decrease in the sense of control was reported post-intervention (M = 4.00, SD = 0.00), the experience thereof remained *frequent* (4) on the five-point Likert scale provided. And finally, post-intervention Jerome yielded a global flow score which was 3.25 points lower than pre-intervention and thus was not congruent with the projected direction (see Table 4).

4.3.7 Dispositional flow (LONG Flow–Physical – Bennett): Descriptive statistics. Bennett reported the dispositional subscale results which least supported the hypothesis (see Table 3). First, both pretest and posttest, Bennett reported a consistently high subscale score (4; *frequently*) on the challenge-skill balance (M = 4.00, SD = 0.00) although the standard deviation did decrease post-intervention. Moreover, while mean scores on the sense of control subscale remained consistently average pre- and post-intervention, the standard deviation and median score for sense of control slightly decreased post-intervention (M = 3.00, SD = 0.82). Merely two of the nine flow subscale scores increased minimally post-intervention: concentration on the task at hand (M = 4.00, SD = 0.00) and the loss of self-consciousness (M = 3.50, SD = 1.00). A distinct decrease in the transformation of time was reported post-intervention (M = 3.00, SD = 0.00) as well as a marginal decrease in clear goals (M = 4.00, SD = 0.00). Finally, Bennett reportedly experienced minimal decreases in merging action awareness (M = 3.25, SD = 0.50), unambiguous feedback (M = 4.25, SD = 0.96), and the autotelic experience (M = 4.00, SD = 0.00). Consequently, post-intervention Bennett reported a global flow score of 33.00 which is two points lower than what was reported pre-intervention (see Table 3); the results thus do not conform with the hypothesis.

4.3.8 Dispositional flow results: Recapitulation and generalisations. From a global perspective, five out of seven athletes increased their general tendency to experience flow-like characteristics post-intervention. Yet, while unidimensional flow scores avail one generalised information about the construct, multidimensional measures provide more rigorously detailed insight concerning the fundamental dimensions of flow. Unvarying results were not yielded across participants for all dimensions. One dimension was prominent, however: Every athlete reported increases in the loss of self-consciousness. Notably, post-intervention all but one athlete also reported more frequent experience of the challenge-skill balance (with the exception of Bennett), merging action and awareness (with the exception of Bennett), and concentration on the task at hand (with the exception of Perdita, who yielded a consistently high result pre- and post-intervention).

Because the psychometric test results lack statistical power and generalisability due to the small sample size, it was deemed advantageous to augment the pilot study with a qualitative means of inquiry based on interviews with a subset of the original cohort. The analysis and synthesis of their perceptions and experiences are detailed in the final report.

Whereas the psychometric test results conveyed in part one of this chapter detail the outcomes for the entire cohort in the pilot study, the focal point of part two is the results reported by three student-athletes who participated in follow-up interviews six months subsequent to the Flow-PST seminar. Their willingness and availability to participate in the interviews was the sole factor which determined their inclusion. As previously demonstrated in Tables 1-4, however, their reported results nonetheless adequately typify the cohort at hand. The fundamental premise which underlies and towards which all forthcoming themes converge in this final report is that cultivating flow by establishing a flow mindset is the result of a *gestational process*. As extrapolated from the student-athletes' characterisations of their experiences, gestation ought to designate an internal developmental process which is a foundation for wilfully setting the stage for optimal psychological performance states and flow. It is inherently a progression of evolving awareness of one's internal processes, individual needs, and means of fostering behaviours conducive to enhancing one's mental performance. The growing cognisance student-athletes experienced culminated in increasingly intentional cognitive-behavioural regulation and control. However, the extent of the opportunities for autonomy endowed to the Flow-PST participants was ascribed importance from diametrically opposed standpoints. Subsequent to raising each student-athlete's awareness of their respective needs and successively engaging in individualised cognitive-behavioural training, the student-athletes interviewed unequivocally identified mental strength and optimal mental performance as within their control. Most importantly, the participants portrayed establishing a flow mindset as possible by means of four essential cognitive-behavioural strategies which the student-athletes expressed the efficacy of and their confidence in consciously employing. Unequivocally, students deemed goal-related behaviours, arousal regulation, self-talk, and mental imagery as indispensable strategies to include in future seminars as they promoted a process oriented approach to wilfully cultivating optimal mental performance states.

4.4 An Analysis and Synthesis of Student-Athletes' Perceptions of the Controllability of Flow: Easy Little Things Facilitate Accessing It

A representative subset of the pilot study cohort was included in the second phase of the pilot study: structured interviews conducted six months post-intervention. The qualitative data analysis was indispensable for four key reasons. First, as the quantitative outcomes were inconclusive, the thematic analysis of the qualitative data set was essential to facilitate better understanding of the viability of teaching student-athletes to wilfully set the stage for and experience flow. Moreover, part two of the results of the pilot study served to both elucidate and substantiate the quantitative data where feasible. Finally, whereas deductive logic was essential to developing the research hypotheses—they emanate from a foundation of relevant existing theories—inductive reasoning was employed to establish patterns of meaning across the data set. Still, it remained of interest to determine to what extent the combined results converge. Thus, the forthcoming thematic analysis expands upon part one of the results and ought to be considered complementary in nature.

Beyond underscoring and serving to further explicate and interpret the psychometric test results, this qualitative analysis, based on structured interviews with three of the Flow-PST seminar participants, ought to elucidate the prevailing narrative of the data set and thereby the student-athletes' perceptions of the viability of wilfully evoking dispositional flow states. The fundamental research question guiding this pilot study was to what extent individualised autonomy-supportive Flow-PST is a means of fostering subjectively perceived optimal mental performance states, or dispositional flow. As previously detailed in Table 4, while the quantitative data analysis demonstrated that global, unidimensional dispositional flow scores increased post-intervention in not only the interviewees, but also the majority of participants in the pilot study, similar general tendencies were not demonstrable across the multidimensional measures of the flow construct. Nevertheless, it remained of interest to determine whether and to what extent the interviewees perceived changes in their ability to foster optimal mental performance states.

To facilitate a narrowed focus on the student-athletes who were the focal point of the qualitative data analysis, isolated visual representations have been provided which depict the changes in level the three interviewees (Langston, Ashe, and Donovan) reported via their psychometric tests. Figure 4 depicts the interviewee's pre- and posttest locus of motivational regulation, and Figure 5 portrays their reported use of the assessed performance strategies. While Figure 6 illustrates Langdon, Ashe, and Donovan's reported dispositional flow from a multidimensional perspective pretest and posttest, Figure 7 demonstrates their reported unidimensional propensity to experience flow pretest and

posttest. Rather than mere reiteration, the figures ought to serve as a general indication of the three athlete's patterns of responses in direct juxtaposition. By means of the interviews and subsequent thematic analysis, greater understanding was sought pertaining to what the eventual changes in behaviour (or lack thereof) were ascribed to. At this juncture it is essential to offer the following caveat: Although quantifying language is periodically used within this final report, the reader is herewith dissuaded from attributing meaning to the *frequency* of patterned responses. The decision to forgo quantification of students' responses ought to reflect cognizance of the limited informative value which can be gleaned from this small-scale pilot project and with the limited number of interviewees. Following the guidelines for reporting the results of a thematic analysis as suggested by Braun & Clark (2006, 2013), the determination of insightful features of the data set has been based upon two key criteria. They included the extent to which each respective theme or sub-theme elucidates a prominent narrative inherent in the data set and to what extent it is essential for addressing the research questions.

Two research foci remained of specific interest in this thematic analysis. These included (a) to what extent the interviewed student-athletes described the contextual conditions present in the Flow-PST seminar as autonomy-supportive and thus evoking more self-determined types of motivational regulation, and (b) which cognitive-behavioural strategies students identified as most conducive to the process of establishing and maintaining a flow mindset (the presumed precursor to volitional flow). Although the student-athletes did not categorically identify autonomy as a key factor in fostering flow via Flow-PST, they unreservedly described the successful, wilful cultivation of subjectively optimal mental performance states as both entirely possible and within their control. If interested in cultivating flow, evidently, one ought to bear in mind that it is a process. Wilfully evoking a subjectively optimal mindset transpires if one employs "leichte, kleine Dinge, mit denen man vielleicht [oder, offensichtlich] viel verändern konnte [und in Zukunft] *könnte* [Hervorhebung hinzugefügt]" (Murdock & Ashe, 2013, line 1110).

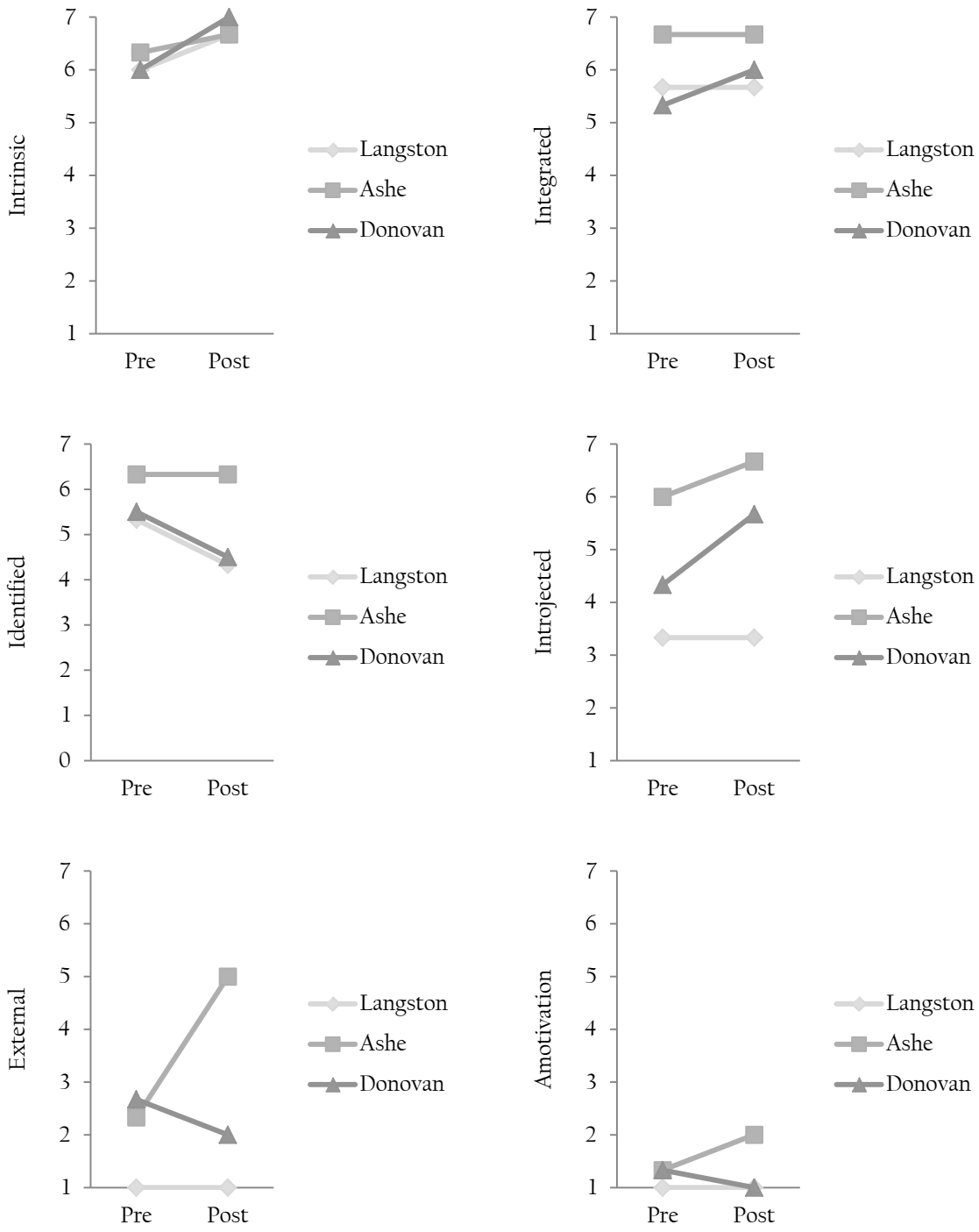

Figure 4. Interviewees' pre-intervention and post-intervention locus of motivational regulation. This figure illustrates the juxtaposition of each interviewed student-athlete's mean reported subscale scores on the Sport Motivation Scale (SMS-II; Pelletier et al., 2013). In these graphs, the ordinate represents responses to the diametrically opposed statements varying from does not correspond at all (1) to corresponds exactly (7) as described pretest and posttest (abscissa).

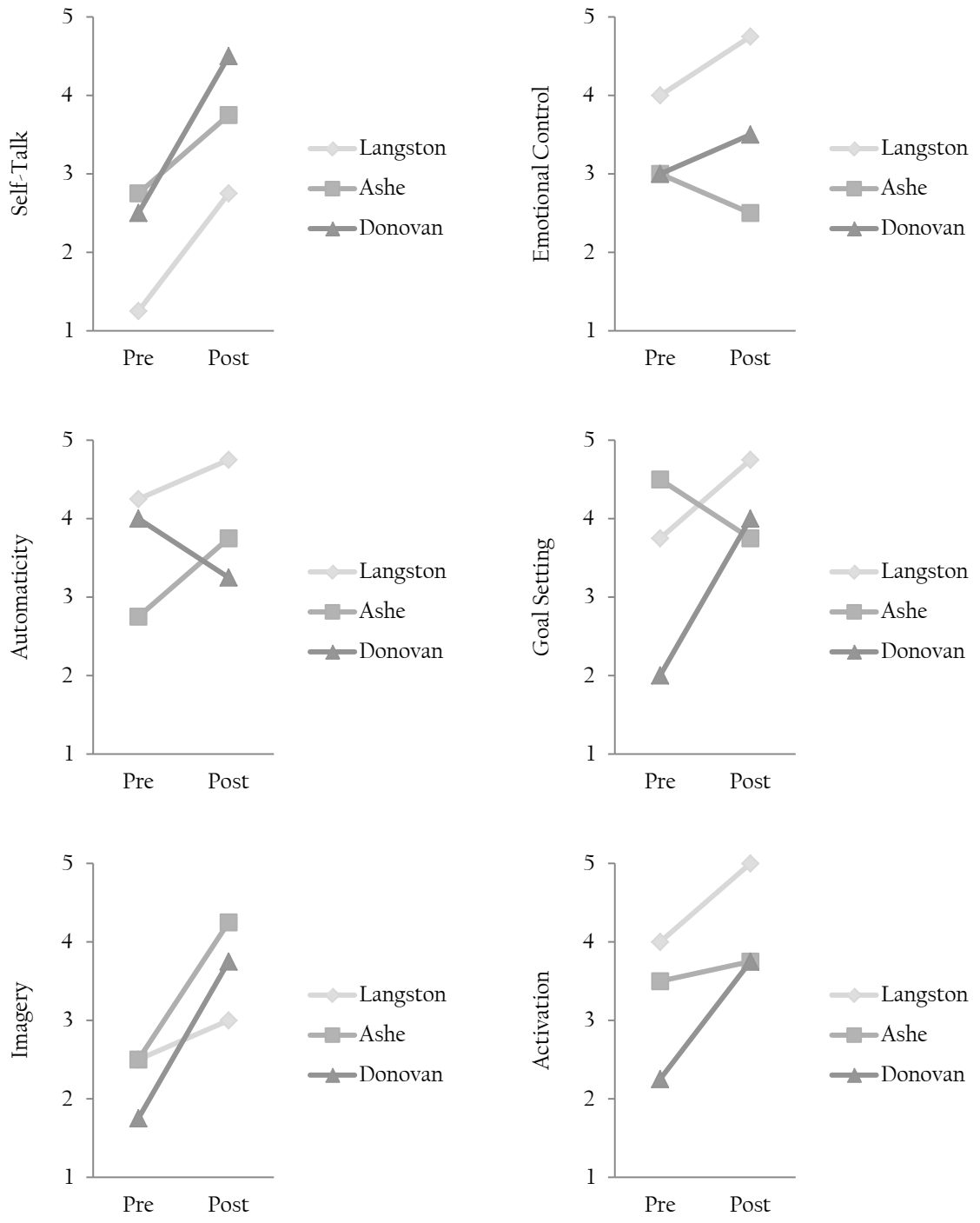

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Figure 5. Interviewees' performance strategies employed pre- and post-intervention. This figure illustrates the juxtaposition of the student-athlete's mean reported subscale scores on the revised Test of Performance Strategies (TOPS 2; Hardy et al., 2010). In these graphs, the ordinate represents responses to diametrically opposed statements indicative of frequency of usage anchored by never (1) and extending to always (5) as described pretest and posttest (abscissa).

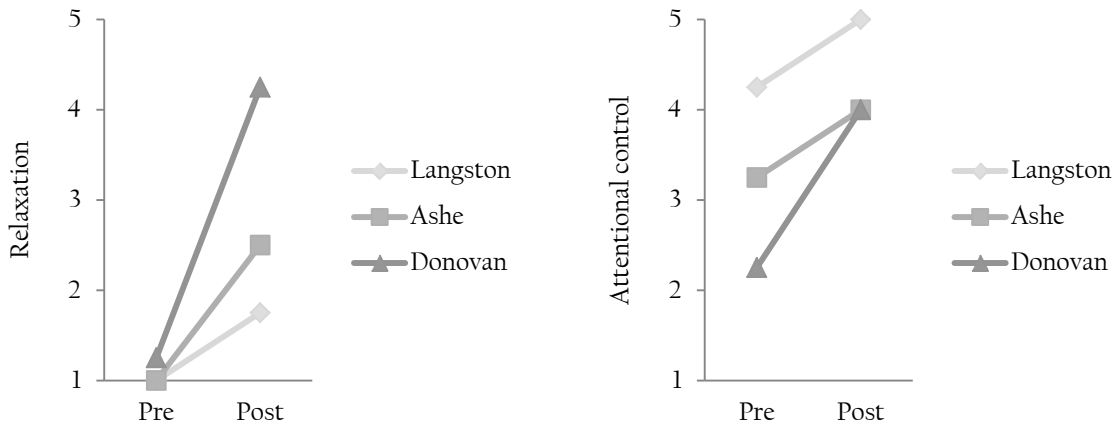

Figure 5— *(continued)*

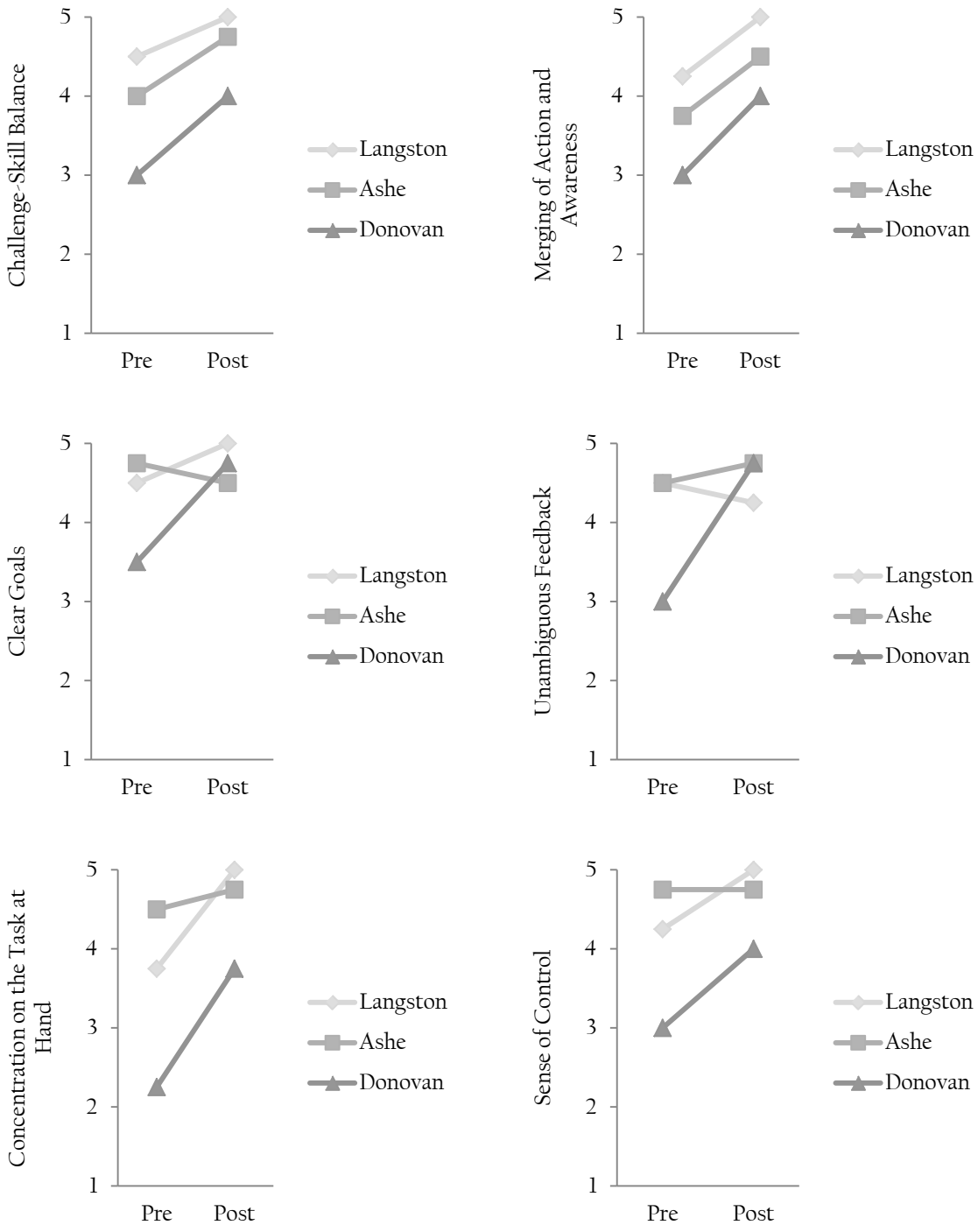

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Figure 6. Interviewees' pre-intervention and post-intervention dispositional flow. This figure illustrates the juxtaposition of each interviewed athlete's mean reported subscale scores on the LONG Dispositional Flow Scale (DFS-2)—Physical (Jackson et al., 2010). In these graphs, the ordinate represents responses to diametrically opposed statements indicative of frequency of experience ranging from never (1) to always (5) as described pretest and posttest (abscissa).

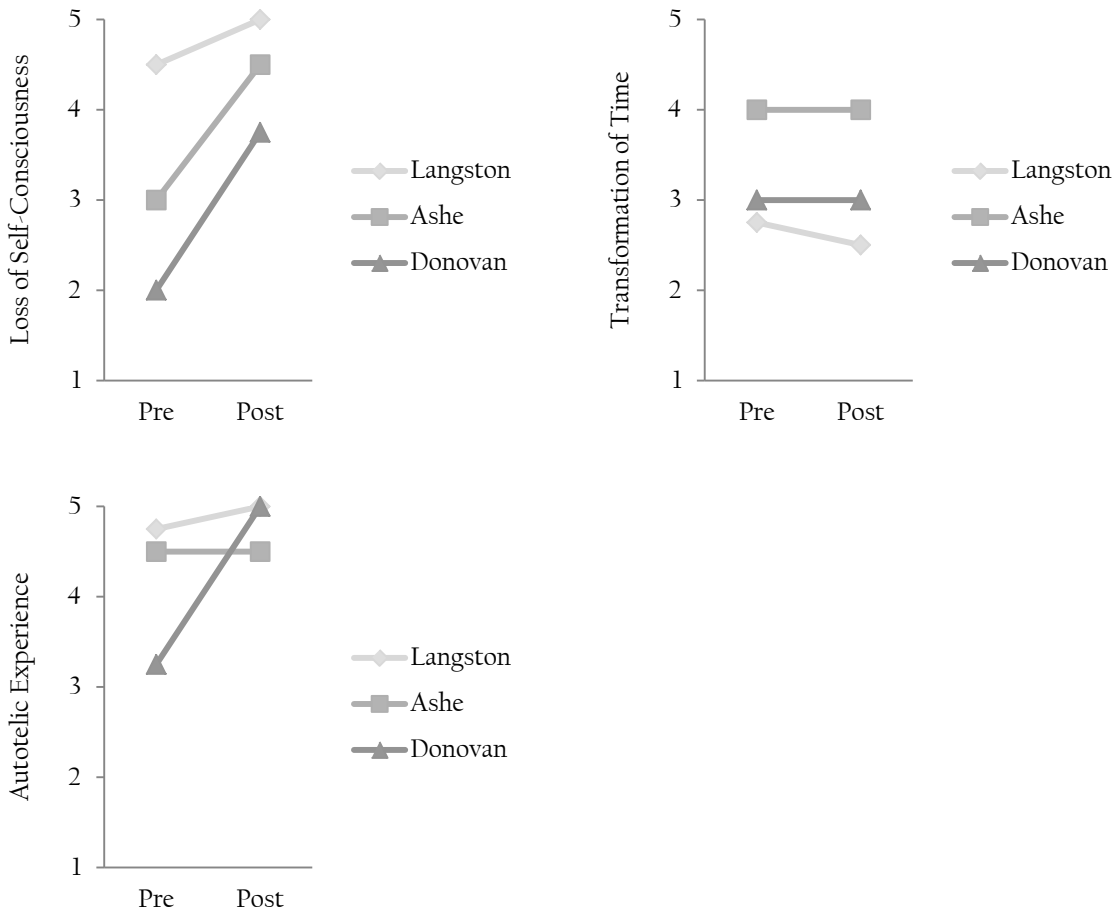

Figure 6— *(continued)*

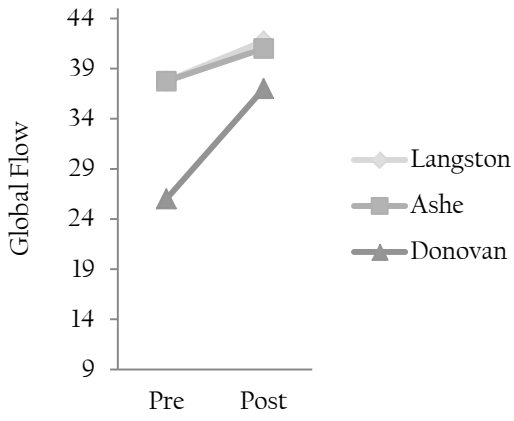

Figure 7. Interviewees' pre-intervention and post-intervention global flow. This figure illustrates the juxtaposition of each interviewed athlete's global flow scores on the LONG Dispositional Flow Scale (DFS-2)—Physical (Jackson et al., 2010). In this graph, the ordinate represents the global flow score. Global flow reflects the summation of the mean dimension scores for each respective subscale as calculated pretest and posttest (abscissa).

4.4.1 The gestational process of cultivating flow. The gestational process is a pervading concept which underlies and governs the entire narrative in this final report. The overarching conception is fundamental because it elucidates cultivating flow as the result of a deliberate process which entailed first raising one's self-awareness, individually determining process oriented mental performance goals, and progressively developing and acting on a desired plan of action to promote behavioural change. Flow-PST evidently eased students through a recursive learning process and fostered establishing the optimal mental performance mindset, which precedes flow. Derived based on insights from the student-athletes' narrations and expounded in the forthcoming themes and subthemes, the proposed model of gestation, as depicted in Figure 8, delineates seven essential facets of the process of learning to exercise and then maintain control over one's mental performance. In the current research context, this ought to be considered synonymous with wilfully cultivating the dimensions of dispositional flow. Through Flow-PST, students progressed from instinctual action towards increasingly deliberate self-regulation of behaviour.

Figure 8. Model of a gestational learning process for cultivating flow.

The seven facets of the gestational model for cultivating flow are interrelated and, arguably, build upon each other progressively. At the foundation, *desire* or, an impetus to vie for and foster change sets the process in motion; this reflects the conative dimensions of the learning process (Little, 1993), which precede the adoption and eventual systematic pursuit of a goal (Sheldon & Elliot, 1999). For instance, Ashe described feeling really up for it, "richtig LUST, richtig, also im Kopf halt ((...)) richtig Bock drauf" (Murdock & Ashe, 2013, line 664) as initiating the internal process he associated with engaging in Flow-PST. Ashe's desire inherently entailed curiosity and ambition to explore and experience new possibilities for enhancing performance; it denotes his motivational impetus for learning and engagement. In Flow-PST, initial engagement was fostered by encouraging students'

purposeful self-reflection. Donovan, for example, identified becoming more aware of his internal states as a foundation for engaging in mental training stating, "ich glaub der Hauptpunkt ist dieses, dass man sich intern beWUSSTer wird, ne? ((…)) also das heißt bewusster wird, wo sind eigentlich meine Probleme? Und wie geh ich dann auch mit diesen Problemen um?" (Murdock & Donovan, 2013, line 691). Once that foundation is established, one can determine and learn how to best address areas in need of improvement.

Delving into the scholarly foundation for each respective theme was designated an equally fundamental aspect of the gestational process, for raising students' *theoretical awareness* evidently served as a catalyst in the process of empowering students to foster behavioural change. Theoretical instruction afforded students a sound understanding of when, why, and how to foster change and initial tools to engage accordingly. For instance, when conveying what motivated him to invest time in mental training, Langston opined: "erstmal find ich, wenn ((…)) ich find das Thema erstmal theoretisch interessant, wenn mans theoretisch durcharbeitet, kann man viel besser drüber sprechen" (Murdock & Langston, 2013, line 1591). While delving into theory is beneficial because it leaves one feeling equipped to transfer their knowledge and engage in discussion of the practical application thereof, Langston's attitude concerning the learning process is simultaneously indicative of his desire to be actively involved in class. This corresponds directly with the findings of Massimini et al. (1988); as a teacher education student, Langston evidently had a vested interest in actively engaging in the learning process and, therefore, appreciated being intellectually engaged through supplementary reading material. Particularly for those who had heard of mental training however not yet taken action to learn more about how to foster subjectively optimal mental performance states, discussing and dealing with the theoretical material plausibly offered the necessary insight to spark greater motivation to engage. Yet, without question, the theoretical instruction did fill a knowledge gap. As described by Ashe:

> ja einfach schon alleine diese Auseinandersetzung mit dem Thema ((…)) da ((…)) man [hat] nie vorher, ich würde mir jetzt, [ich] hätte mir nie mal n Buch gekauft oder so sag ich mal ((…)) oder mal im Internet irgendwie weiß nich, ne? Und durch das Seminar is man erstmal darauf gestoßen sozusagen, [was] es gibt und wie wichtig das auch is ((…)) man hat zwar so mal gehört aber so richtig ((…)) wie gesagt, weil die Prioritäten auch woanders lagen ((…)) hat man sich jetzt nich damit beschäftigt so und [dann] ((…)) durch das Seminar konnte man eben dahinter, hinter die Kulissen sozusagen schauen. (Murdock & Ashe, 2013, line 347)

With greater theoretical understanding and eventually competent application thereof, one likely promotes psychological growth (Seligman, 2011). Thus, for the participants in the pilot study, particularly when already fuelled by interest, which is reflective of an intrinsically motivated desire to learn (Deci & Ryan, 2000), establishing a sound theoretical foundation for the themes introduced arguably satisfied initial curiosity and further promoted students' motivation to engage as a result of the perceived intellectual stimulation (Bolkan, 2011, 2015). Further substantiating the interpretation of this pattern of meaning, Pintrich and De Groot (1990) similarly describe that the intrinsic value attributed to engagement coupled with the motivation to learn leads to greater cognitive engagement. Most importantly, delving into the scholarly foundation for each theme helped students reflect on and understand their individual cognitive performance strengths and needs. Specifically, comprehension of strategies which will actively facilitate their respective optimal mental performance states, enabled the athletes to liberate themselves from debilitative mindsets. As described by Langston, mere cognizance was in fact synonymous with the capacity to intentionally offer self-support and foster positive change:

> Visualisierung beispielsweise und diese *positive self-talk* wie gesagt hab ich schon ich will jetzt nich sagen immer, aber schon jahrelang wahrscheinlich gemacht und mir war das aber gar nich so beWUSST ((...)), dass mir das, mich auch unterstützen kann und dadurch, dass mir das jetzt beWUSST ist und dass mir grad diese beiden Techniken viel Unterstützung geben denk ich ist das sehr gut, weil ich's bewusst jetzt auch einsetzen kann und sagen kann, okay, heute läufts NICH so gut und jetzt mach ich mal son *self-talk*, jetzt mal n bisschen plakativ gesprochen mach ich einfach mal n *self-talk* und denn klappt das schon wieder besser aber man hat Möglichkeiten mehr sich irgendwie son bisschen aus ner Trainingseinheit, die grad nich so gut läuft zu befreien vielleicht. (Murdock & Langston, 2013, line 2019)

The, albeit vaguely expressed, implementation intentions (Gollwitzer, 1999) are indicative of both Langston's understanding and ability to select effective cognitive-behavioural strategies as well as his purposeful progress towards and promotion of goal attainment. Awareness, cognizance, and the resulting ability to purposefully implement mental training strategies such as positive self-talk (Thomas et al., 1999; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Hardy et al., 2010) and motivational specific imagery (Munroe et al., 2000), for example, thus promoted Langston's positive feelings and greater sense of control over and trust in his mental performance state. Viewing this with the overarching gestational process of cultivating flow in mind, this pattern of meaning

demonstrates that through theoretical awareness and understanding combined with purposeful reflection, the student-athletes could actively foster greater self-awareness—an arguably important precursor to the wilful cultivation of flow states.

In the gestational model, *mindful self-awareness* signifies the process of engaging in ongoing purposeful self-reflection, which leads to self-regulation. As described by Pintrich and De Groot (1999), students motivated to learn as a reflection of their interest in the material at hand tend to be more self-regulating and persistent in their pursuits. Thus, subsequent to feeling *really up for it* and engaging in purposeful self-reflection, mindful engagement, characterised by one's awareness of and attentiveness to one's actions is herewith considered a segue between theoretical-awareness and the ability to determine goals and implement strategies for their attainment. Donovan defined such mindful behaviour in the context of having greater awareness and understanding of what will help him optimise his pre-performance game plan to foster more optimal mental states. He described, "wenn ich ruhig bin, das heißt vor so nem Match auch stundenlang meine Ruhe hab und meine Sachen bewusst mache, bewusst meine Tasche packe, bewusst duschen gehe, bewusst mich rasiere und und und, DANN spiel ich auch besser" (Murdock & Donovan, 2013, line 1475). Mindful self-awareness is indispensable for the determination of one's needs and facilitates the operationalisation of one's performance enhancement plan. Applying his knowledge from the theme through which the theoretical foundational for one's IZOF was operationalised via the optimal performance recall task, Ashe conveyed:

> ich hab doch auch geschrieben ((...)) [was] mich in diese *zone of optimal performance* bring[t] ((...)) und wenn ich das vorher so mache, vor meiner Trainingseinheit ((...)) dann hab ich [ein] wesentlich besseres Gefühl, ob ich nun schneller bin, das weiß ich gar nich un- unbedingt, aber ich FÜHL mich einfach besser und hab eben einfach das Gefühl, dass ich mehr bringen KÖNNTE oder mehr einfach mehr bringen kann sozusagen. (Murdock &Ashe, 2013, line 606)

Thus, analysing where his ideal mental performance state lies as well as what he requires to enter it was identified as conducive to fostering positive and optimistic feelings about one's capability to perform well. The ability to foster positive affect is the outcome of conscious awareness. As further identified by Langston:

> DAdurch, dass ich jetzt n bisschen mehr drüber nachgedacht hab, hab ich nochmal n bisschen mehr die Möglichkeit das auch zu steuern ((...)) weil's nich einfach kommt sag ich mal im Moment, sondern weil ich jetzt auch sagen kann, okay, jetzt denk ich mal ganz bewusst an was richtiges oder an was, was schon sehr gut geklappt hat

> zum Beispiel beim Krafttraining und das kann ich jetzt besser nutzen als vorher und das is natürlich sehr gut auch fürs Training, dass man jetzt nochmal eine Möglichkeit mehr hat, vielleicht n bisschen son gutes Gefühl zu transportieren. (Murdock & Langston, 2013, line 1850)

The catalyst for change was comprised of Langston's enhanced awareness of his performance needs combined with a theoretical foundation from which he could glean practical performance strategies to facilitate more optimal mental performance states. Unified, such experiences evidently foster what Fredrickson (2004) describes as broad-minded coping, which reciprocally fosters the positive emotions Langston hoped to recreate in future performance situations. Furthermore, broad-minded coping promoted awareness of the athlete's ability to initiate behavioural change and take deliberate action to this effect.

Goal setting and *action planning* are inherently linked, integral aspects of the gestational process. While delineated here as distinct entities, there is but a fine line between them. Within the framework of the gestational learning model, goal setting refers to the process of tangibly acknowledging and recording (Gould, 2001; Learner & Locke, 1995) one's desired aims. Only once goals have been established, action planning (Burton & Raedeke, 2008; Burton & Naylor, 2002; Burton et al., 2001; Burton et al., 1998; Vidic & Burton, 2010), in contrast, specifically refers to the process of developing and implementing goal achievement strategies. This would include considering, creating, and recursively revising actual pre-performance, performance, and post-performance plans of action as a reflection of one's ongoing needs assessments and goals. Thus, action planning implies operationalising the goals set. Both goal setting and action planning imply an ongoing feedback loop, which necessitated continued mindful reflection and refinement. Performance was hence enhanced as a reflection of the ineluctable task or process-goal related focus whilst the recurring feedback loop instilled reassurance, confidence, and self-trust (Burton et al., 1998; Burton & Weiss, 2008; Vidic & Burton, 2010).

The *exerting control* component of the gestational model infers tangibly vying for one's goals through the execution of one's refined and well-established action plans and actual implementation of cognitive-behavioural strategies. This will be delineated in the forthcoming themes *Now That I Am More Conscious, I Can Be Intentional* and *With Easy Little Things, One Could Change a Lot*, for example. In relation to Csikszentmihalyi's (1990) flow theory, however, the exerting control facet of the gestational model is theoretically synonymous with the paradoxical stage during which one mindfully exerts control in order

to relinquish it and experience a greater felt sense thereof. For students characterised adhering to and functioning within the gestational learning cycle as bestowing a sense of control over their performance. Thus, deliberately functioning within the gestational cycle conceivably reflects the type of engagement necessary to satiate a student-athlete's inherent need to feel and exert self-determination and competence (Deci & Ryan, 2008b; Ryan & Deci, 2000a, 2000b) in the pursuit of their goals (Deci & Ryan, 2000; Ryan & Deci, 2007).

The focus of the overarching gestational model and the forthcoming analysis and synthesis of prevailing themes thereunder pivots primarily around four main concepts. These include awareness, cognizance, purposeful refinement of one's mental skills, and the subsequent implementation of the mental performance enhancement strategies which the interviewed student-athletes identified as conducive to cultivating a flow mindset. This overarching theme is indispensable because of the insight it offers pertaining to the viability of a systematic approach to cultivating flow. Should the underlying presumptions inherent in the proposed gestational learning process hold true beyond this pilot study, this would further academic understanding of how psychological preparation fosters effective mental performance. Moreover, the identified patterns could have practical implications for future research and practitioners. Information gleaned from the students' narrative could contribute to operationalisation of how to teach student-athletes to wilfully cultivate and experience flow in similar academic learning contexts. The cumulative approach to fostering flow inherent in the model of the gestational learning process demonstrably facilitated the student-athletes' perceived ability to set the stage for flow. When given the opportunity, a keen desire to learn and engage initiated the process.

4.4.1.1 Really up for it. The theme *Really Up for It*, or "richtig Bock drauf" (Murdock & Ashe, 2013, line 669), highlights the onset of the gestational process and captures the essence of three key motivational forces which impelled students to take part in and actively engage during the Flow-PST seminar. The driving forces typified herein include desire, curiosity, and willingness to learn both what mental training consists of and how to use the inherent strategies to enhance athletic performance. *Really Up for It* is a key feature of the data set which addresses the underlying focus of this pilot study: the viability of engaging in Flow-PST to learn how to wilfully evoke flow. Specifically, this foundational aspect of the gestational process attests the prerequisites for successful engagement in a systematic process of fostering optimal mental performance states. Recognising and better understanding the determinants which prompted student-athletes to act is deserving of

attention because it ultimately informs how to further develop a revised Flow-PST intervention which can best capitalise on and foster these dynamics.

Fostering flow through cognitive-behavioural training evidently ensued as a reflection of students' aspirations to act. A self-determined goal to foster change was essential—even if initially lacking explicit precision. A representative feature of the data set is that participation in the mental training seminar symbolised a beacon of hope for the athletes. For example, Donovan expressed this sentiment when conveying his general dissatisfaction with his overall performance prior to Flow-PST and his resulting desperation to improve:

> also DASS ich mich engagiert hab für mich selber mental zu trainieren war eigentlich diese Verzweiflung, ((…)) weil natürlich macht mir Tennis gar keinen Spaß, wenn ich so [schlecht] spiele also dann, weil die Probleme des Aufschlags dann fangen mitm Aufschlag an und, weil man sich schlecht fühlt übersetzt sich das aufs ganze Spiel und irgendwann spielt man, ja, könnte man auch nach Hause gehen, also man verliert sowieso und von daher natürlich, weil das SEHR ‹‹lachend› unbefriedigend is› ((…)) hatte ich dann gedacht ‚okay, das is jetzt vielleicht ne Möglichkeit, wenn Du da mal Zeit investierst, Deine Aufschlagprobleme wieder gut in den Griff zu kriegen.' (Murdock & Donovan, 2013, line 1152)

As frustrating despair, waning fun, and Donovan's characterisation of himself as trapped in a spiral of pessimistic, negative self-talk, which had debilitative effects on his performance, were at the root of his motivation to put forth effort in Flow-PST, his interpretation suggests seemingly introjected motivational regulation (Pelletier et al., 2013) to be engaged. However, the simultaneously receptive mindset which underscores his recount render it more plausible that identified motivational regulation (Pelletier et al., 2013) played a greater role. For although Donovan portrayed his initial motivation as incited by the desire to avoid negative emotions and negative performance outcomes (clearly reflecting a less autonomous form of regulation), rather than succumbing to the voice of dejection, he evidently maintained a reason to persist and thus identified with the value of investing energy in the seminar. His desired success was inherently contingent upon that very open-minded approach.

Curiosity and receptiveness were central to the onset of the gestational process. For instance, Langston's curiosity about novel strategies is what led to his active participation. He described this stating: "naja, also es kommt aber auch daher, weil man immer was Neues gekriegt hat, auch Sachen, die man vielleicht noch NICH kannte und

denn sagt, ah ja das probier' ich mal aus" (Murdock & Langston, 2013, line 1544). When describing the reasons for which he decided to engage in Flow-PST, Ashe, in particular, discernibly conveyed similar curiosity and open-mindedness. Specifying the roots of his curiosity, he first reasoned, "weil man das ja vorher gar nich irgendwie kannte oder ((...)) einem gar nich bewusst war einfach" (Murdock & Ashe, 2013, line 1076). Moreover, Ashe subsequently described the associated attitude he felt as:

> dieses offen sein für Neues sozusagen, einfach Neues ausprobieren und dann mal gucken, weil man will ja auch irgendwo seine Leistung verbessern, ne? Und wenn das darüber geht, oder wenn das ein Punkt is womit man seine Leistung verbessern kann, ja warum nich, ne? (Murdock & Ashe, 2013, line 1080)

The receptive attitudinal response which underlies Ashe's willingness is an essential feature of this extract; it is exemplary of being *Really Up For* engaging in the cognitive-behavioural training. Although Ashe's elemental desire to improve was coupled with a mere reservedly expressed anticipation that engaging in mental training could reap benefit, his description reflects an inherently favourable evaluative outlook. The positive attitude portrayed is of importance because, as described in the theory of planned behavior (Ajzen, 1991, 2011), one's optimism and motivation is a determinant of one's behavioural intentions and eventual deliberate action thereupon (Bagozzi, 1992; Downs & Hausenblas, 2005; Hagger, Chatzisarantis, & Biddle, 2002). In this regard, Norman & Connor (2005) befittingly describe "a distinction between a motivational (i.e., predecisional) phase which culminates in the formation of an intention, and a volitional (i.e., postdecisional) phase" (p. 489) in which not just goal intentions, but clearly articulated implementation intentions (Gollwitzer, 1999) guide behaviour. Therefore, if one's positive attitude favourably influences one's response towards a situation and contributes to predicting adherence, this ought to be more purposefully fostered in future Flow-PST studies. The tenet that the intention to dedicatedly engage can be predicted as a reflection of one's favourable appraisal, perceived social pressure (or lack thereof), and perceived behavioural control, for example, has in fact been demonstrated in regard to sport training programs in particular (Downs & Hausenblas, 2005; Hagger, Chatzisarantis, & Biddle, 2002; Norman & Conner, 2005; Palmer, Burwitz, Dyer, & Spray, 2005; Theodorakis, 1994). Essentially, the underlying curiosity, desire, and willingness to turn to novel performance enhancement methods as a means of facilitating goal attainment is herewith interpreted as indicative of identified motivational regulation (Pelletier et al., 2013). This interpretation is loosely supported by Ashe's psychometric test results on the SMS-II: In contrast to his average

pretest scores, Ashe's reported identified motivational regulation decreased[4] post-intervention (see Figure 4). Even if Ashe's behaviour was reportedly at least partially regulated by identified motivation, Ashe evidently became less and less active. According to the self-determination theory, devoid of perceived self-determined behavioural control, the likelihood of one's ongoing engagement will decrease (Ryan & Deci, 2007; Sarrazin et al., 2007; Vallerand et al., 1997). And, correspondingly, at multiple junctures, Ashe arguably lamented about what he *could* have and *should* have done. In an exemplary instance of which, Ashe remarked:

> ja dieses Evaluieren sozusagen am Ende der Trainingseinheit. Was hat denn jetzt gut geklappt, [was] war nich so gut? Wo muss ich mich verbessern? Das wünscht ich mir mehr, dass ich das auch manchmal AUFschreiben würde ((…)) ich machs für mich jetzt so am Ende manchmal, wenn ich dann im Bus sitze nach Hause, ne? [So] ((…)) vom Studio meinetwegen oder von ner Trainingseinheit. Ich schreibs nich explizit auf, was glaub ich aber nochmal n Faktor wäre, um das zu fördern ne? [Weil] klar, alles, was man schwarz auf weiß da stehen hat irgendwo, ne? (Murdock & Ashe, 2013, line 433)

Ashe's retrospective expression of general regret and dissatisfaction concerning his self-described suboptimal engagement with mental training during and after the Flow-PST seminar attest to his dwindling engagement. In hindsight, Ashe was clearly aware of where he could have exerted more effort to be more engaged than he was. Despite initial curiosity, time constraints, other priorities, and the novelty of cognitive-behavioural training were Ashe's justification for his decreased engagement over time:

> also ich hab das wirklich [ein] paar Mal probiert im Training so, aber ich glaub ja irgendwie ((…)) andere Aspekte sind noch irgendwie wichtiger für mich im Training als noch diese [mentalen Trainingsstrategien], also ich nehm ja noch [selten] Zeit, um jetzt wirklich da mal am Ende vielleicht das zu evaluieren oder am Anfang nochmal in Ruhe einzukehren, ((…)) weil ja entweder is n für mich zum Beispiel auch n Zeitmangel NOCH, aber da muss man halt Prioritäten setzen dann ne? Da muss man dann wirklich sagen weniger ist dann mal mehr in [manche] Sachen. Lauf ich halt mal nen Kilometer mehr [oder] weniger und ((…)) [habe] dafür fünf Minuten am Ende ((…)) das hab ich glaub ich noch nich so ((…)) Ich weiß glaub ich, dass es recht wichtig is ((…)) [aber] ich hab, konnte noch nich so von der Priorität her sagen, dass ich jetzt mir wirklich diese Zeit nehme dafür, [und] nochmal explizit auf diese

[4] Ashe reported a decrease in identified motivational regulation; i.e., from $M = 6.33$, $SD = 1.15$ pretest to $M = 6.33$, $SD = 0.58$ posttest (see Table 1).

> mentale Stärke ((...)) eingehe. Aber da kann ich jetzt aber noch gar keinen Grund so richtig nennen ((...)) [weil's vielleicht] auch einfach neu ist noch. (Murdock & Ashe, 2013, line 238)

Clearly, Ashe's more intrinsically motived regulation to engage was lacking; in fact, posttest he reported increases in all less self-determined forms of motivational regulation. Ashe's post-intervention SMS-II results (portrayed in Figure 4) did in fact reflect marginal increases in introjected motivational regulation[5] and amotivation[6] as well as a substantial increase in extrinsic motivation.[7]

Thus, by extrapolation, primarily intrinsic forms of motivational regulation (Ryan & Deci, 2000a), which are herewith inferred from one's curiosity and openness to the possibilities of mental training, are imperative driving forces in the early stage of the gestational process. Evidently, the less intrinsically motivated one is, the less actively one will engage in Flow-PST. Consequently, how to better foster ongoing engagement by tapping into one's sense of curiosity, for example, is thus clearly worthy of consideration in a future study. Finally, an additional feature of the data set implicitly highlighted in Ashe's assertions is the faith participants put in mental training as a potentially viable means of enhancing performance—should they put in the effort. As delineated in the self-determination theory (Deci & Ryan, 1985a, 2000, 2008a; Ryan & Deci, 2000a, 2007), such belief in the value of one's actions is essential because without an underlying hope or faith in the efficacy of new methods of performance enhancement tested, it is less likely that students will demonstrate the requisite predominantly intrinsically motivated drive to engage.

Curiosity and more intrinsically regulated forms of motivational regulation were advantageous for the gestational process. Underscoring this notion, Ashe portrayed the onset of the internal process he associated with his mental training as excitement, a compelling desire to engage:

> wenn ich was Neues habe, ne neue Trainingseinheit und die dann meinetwegen dann hab ich richtig ja richtig LUST, richtig, also im Kopf halt richtig jetzt Bock zu trainieren sozusagen. Einfach was Neues auszuprobieren und gucken wie's

[5] Ashe reported a marginal increase in introjected motivational regulation; i.e., from *M* = 6.00, *SD* = 1.00 pretest to *M* = 6.67, *SD* = 0.58 posttest (see Table 1).
[6] Ashe reported a marginal increase in amotivation; i.e., from *M* = 1.33, *SD* = 0.58 pretest to *M* = 2.00, *SD* = 0.00 posttest (see Table 1).
[7] Ashe reported a substantial increase in extrinsic motivation; i.e., from *M* = 2.33, *SD* = 0.58 pretest to *M* = 5.00, *SD* = 1.73 posttest (see Table 1).

> funktioniert und ja einfach ja ich sag mal richtig, richtig Bock drauf ((...)) und [das] macht einfach son Glücksgefühl sag ich mal. Richtig motiviert, richtig, richtig daBEI sozusagen. Da kann mich dann auch schwer irgendwie was stoppen. (Murdock & Ashe, 2013, line 662)

Although the extract is not indicative of pure intrinsic motivation to engage per se, Ashe's enthusiasm reflects preparedness for volitional action which clearly involves feelings of anticipatory joy and pleasure (Jackson, 2000). While the positive emotion is evidently not the sole impetus for action, the desire and openness to experiment with mental training techniques further implies faith therein. Moreover, the perceived potential personal value attributed to engagement substantiates an identified form of motivational regulation to engage. When generalised for the academic setting in which a larger scale Flow-PST study ought to be conducted, the pattern of first being *Really Up For It* demonstrates the importance of fostering the drive which underlies student curiosity and engagement. Beyond students' fundamental motivation to engage, fostering flow requires transcending initial intuitive regulatory processes, which the student-athletes characterised as subconscious occurrences. In order to render subconscious behavioural patterns more transparent and deliberately exercise control over them, athletes must first become aware of their habitual behaviours, individual strengths, and areas in need of room for improvement.

4.4.1.2 Make way intuition; hello awareness. The student-athletes identified their evolving awareness as instrumental to cultivating flow. As captured in this theme, habitual behaviour prior to Flow-PST was described as rife with superficial awareness, or instinctual and subconscious, yet ineffective behavioural regulation and understanding thereof. Furthermore, the student-athletes described a prior lack of adequate self-reflection and understanding of how to exercise a facilitative influence over their mental performance states. As the participants progressively encountered and gained theoretical understanding of cognitive-behavioural training, however, it fostered the initiation of the self-reflective behaviour ineluctable to the self-regulatory process (Kirschenbaum, 1984) integral to Flow-PST. This theme hence discloses the necessity and interdependence of the student-athletes' evolving inner reflection and theoretical awareness; combined, they were indispensable for setting the stage for flow. Because the narrative herein further demonstrates the initial steps in the delineated gestational process, it further elucidates a potential means to wilfully evoke flow. In Langston's words, and similarly echoed by his peers, "durch das Seminar [ist mir] ja dann (...) viel *bewusst* [Hervorhebung hinzugefügt] geworden" (Murdock & Langston, 2013, line 1467). As such, the current theme, *Make Way*

Intuition; Hello Awareness ought to be understood as an intermediary between students' experiences of feeling *Really Up for It* and their increasing capability for intentional behavioural regulation as described in the subsequent theme *Now That I Am More Conscious, I Can Be Intentional*. When juxtaposed, the three themes are interconnected; they revolve around students' engagement and resultant evolving awareness of their internal processes and individual needs at the beginning of the Flow-PST seminar. Although each theme is in fact distinct, collectively, the themes reflect progressive development along the continuum suggested in the gestational model. By actively fostering incremental changes in their awareness, students took initial facilitative steps towards wilfully fostering optimal mental performance states.

If students are unaware of what mental training consists of or how to purposefully capitalise on their mental strengths, their fostering of optimal mental performance states is arguably regulated intuitively. For students' characterised their facilitative actions taken prior to Flow-PST as largely subconscious. As conveyed by Ashe, this was due to unfamiliarity and, by deduction, inexperience in mental training since "man das ja vorher gar nich irgendwie kannte oder einem gar nich bewusst war einfach" (Murdock & Ashe, 2013, line 1076). When asked to define mental strength in his own words, Ashe articulated his previous consideration thereof, describing, "is ja nich so, dass man noch nie was über mentale Stärke geHÖRT hat, aber man konnte sich halt auch nichts so richtig darüber, darunter vorstellen" (Murdock & Ashe, 2013, line 1091). Hence, previously, without formal instruction, true understanding of mental training or experience in deliberately promoting mental strength (Crust, 2007; Crust & Azadi, 2010; Jones, 2002; Jones et al., 2007) cannot be presupposed. A lack of procedural awareness, however, need not imply that mental strategies were non-existent for the athletes. Exactly that premise was substantiated by Langston. When describing his previous unrefined, instinctive behavioural regulation, he asserted:

> Techniken wie Visualisierung oder sowas, ne? Das hab ich alles schon mal gemacht gehabt, aber mir war das gar nich so bewusst, dass es jetzt mentales Trai- ich hätt nie gesagt ich MACH Techniken des mentalen Trainings vor dem Seminar. (Murdock & Langston, 2013, line 1489)

While deficient understanding prevailed and arguably rudimentary behavioural regulation may have taken place in the past, it ought not be inferred that the student-athletes demonstrated particular consciousness of their internal states before the Flow-PST. For instance, throughout our interview, Langston articulated a general lack of awareness of his

internal states prior to Flow-PST and expressed great difficulty conveying them. An exemplary explanatory description was put forth in the context of describing his cognizance of his actions, or internal experiences, when performing in his sport. Langston acknowledged:

> alles was mit intern is, is bei mir schon n bisschen schwierig beim Sport also ich MACH einfach so ungefähr ((...)) ich mach das einfach. Ich denk glaub ich gar nich so viel nach und bin vielleicht auch gar nich so bewusst wie andere Sportler denn, sondern ich spul mein Pensum runter und denn is das irgendwann vorbei und dann geh ich nach Hause, so ungefähr. (Murdock & Langston, 2013, line 1074)

Clearly, although Langston conceded that *other* athletes may be more attuned to their internal states than he, his method of figuratively flushing and forgetting his performance had proven successful *enough*. Ostensible justification for vying to fine-tune or alter his rudimentary mental performance strategies had simply not yet existed. As argued by Ashe, however, wilfully entering one's subjectively *optimal* mental performance states does in fact necessitate prior energy invested in the process. He contended, "ich glaub der [der] noch nie so mit, sich mit dem Thema auseinander gesetzt, der wird das nich können" (Murdock & Ashe, 2013, line 222). Both patterns of response have clear implications for the design and content of future seminars, for Flow-PST ought to help students perceive, understand, and exercise control over their cognitive-behavioural regulatory processes. Whereas flushing and forgetting is certainly a possible superficial approach to athletic performance, it does little to foster the active and meaningful engagement which leads to the subjectively optimal experiences Flow-PST ought to evoke. When students are encouraged to become more aware of what constitutes their subjectively optimal mental performance states, they learn to refine and capitalise on previously instinctual, subconscious behaviour. For even those, such as Langston, who previously experienced little ostensible need to engage in mental training did in fact learn to actively foster a more optimal performance mindset through small incremental advances towards greater self-awareness.

Participants described completing the battery of questions in the psychometric tests as a beneficial means of raising initial theoretical awareness; it prompted their active reflection on their sport-related behaviour and on their individual mental performance needs. In the context of commending fundamental aspects of the Flow-PST seminar which ought to come forth in future, Ashe characterised his experience responding to the psychometric test questions as a preliminary eye-opener:

> ich fand am Anfang diese Fragebögen super. Wirklich ((...)) am ANFANG einfach um n Einstieg zu finden, um was geht es denn überhaupt? Um einfach fragen, einfach sein Training zu evaluieren. Das fand ich super, weil ja irgendwie das hat mir geholfen. (Murdock & Ashe, 2013, line 1610)

Building upon the theme *Really Up for It*, the participants' drive, curiosity, and willingness to engage were clearly further stimulated through initiatory self-reflection about their motivational regulation (by means of the SMS-II; Pelletier et al., 2013), commonly employed performance strategies (via the TOPS; Hardy et al., 2010), and propensity for dispositional flow experiences (based on the DFS-2—Physical; Jackson et al, 2010). This feature of the data set is important from a didactical perspective, for, immediately immersed in and thereby generating basic awareness of the underlying themes inherent in the aforementioned psychometric tests, students evidently benefited from the inadvertent introduction to the forthcoming theoretical information. The psychometric tests thus fostered the progression from intuitive behavioural regulation and understanding to a greater awareness thereof.

Engaging in performance profiling (Butler & Hardy, 1992; Butler & Raedeke, 2008; Jones, 1993; Taylor & Taylor, 1995; Weston et al., 2011) was an additional key preliminary means of raising the student-athletes' self-awareness. Donovan illustrated this persuasively while describing his experiences during the Flow-PST seminar. Briefly digressing when expressing his enthusiasm for what he found works particularly well, Donovan advocated:

> was ich NOCH jedem Raten würde, der mental trainiert, wäre eben sich mit sich selber auseinander zu setzen. Also sich seiner Stärken und Schwächen bewusst sein – das was ich im Prinzip auch gemacht hab. Ganz genau zu gucken, okay, wo sind meine Stärken und Schwächen, wo sind meine negativen Gedanken und wo meine positiven? Und die eben auch aufzuschreiben. Also ich bin immer [ein] Fan vom Aufschreiben. DAS auf jeden Fall machen. (Murdock & Donovan, 2013, line 554)

Gaining self-awareness and theoretical understanding are ineluctably and intricately related. The raised awareness of individual strengths and areas in need of improvement Donovan references provided the foundation for a more deliberate approach to engagement with the theoretical information to be conveyed. As argued by Donovan, this basic understanding is what constitutes (and fosters) mental strength: "also ich glaub der Hauptpunkt dabei ist, dass man sich seiner selbst sehr bewusst ist. Also das heißt, weiß, was kann ich, was kann ich nich so gut, dass man das reflektiert; genau weiß" (Murdock

Donovan, 2013, line 11). Because of the conviction with which Donovan references his own preferential behaviour of employing the cognitive learning strategy of notating key information, the initial extract conceivably highlights an integrated form of motivational regulation (Deci & Ryan, 2008a; Pelletier & Sarrazin, 2007) to engage. For extolling the strategy through his unsolicited advice offers evidence that Donovan clearly adopts and has thoroughly internalised the value of performance profiling. Attributing intrinsically regulated value to one's actions has proven to be associated with both the described self-regulatory behaviour and independent use of cognitive learning strategies (Pintrich & De Groot, 1990). Notably, the underlying perceived value conveyed is entirely conformant with the findings of Weston et al. (2011): Profiling evidently fostered the participants' greater self-awareness and promoted a process goal focus which involved the identification of one's individual goals as well as clearly defining, recursively monitoring, and evaluating their progress towards the fulfilment thereof. Thereby, as envisioned, employing performance profiles facilitated exercising control over one's performance enhancement process and thus advantageously contributed to the student-athletes' motivation to improve (Butler & Hardy, 1992; Jones, 1993; Vealey, 2007).

As defined by Csikszentmihalyi (1988), awareness "designate[s] all those processes that take place in consciousness after a bit of information is attended to" (p. 19). Because students were encouraged to reflect on their unique behaviours, thoughts, performance needs, and what ultimately constitutes their subjectively optimal mental performance states, they could learn to refine and capitalise on previously instinctual, subconscious behaviour. Beyond mindfulness of one's individual needs (Ahrne & Moran, 2011; Brown & Ryan, 2003; Kee & Wang, 2008), however, the process required greater awareness and understanding of what psychological skills training is, entails, and how to integrate it into one's training program (Weinberg & Gould, 2015; Weinberg & Williams, 2001). To address the reciprocal relationship between theory and its practical application, the theoretical information systematically imparted during Flow-PST thus not only facilitated students' self-reflection and evolving awareness, it offered the requisite "scientific basis for the effective development of psychological skills" (Weinberg & Gould, 2003, p. 244).

The theme *Make Way Intuition; Hello Awareness* thus allows the current research questions to be addressed from three key perspectives. First, one can glean that when learning to set the stage for flow, integrated motivational regulation (or a more autonomous form of external regulation) is in fact fostered through performance profiling because it raises one's awareness of their needs thereby fostering the planning of one's forthcoming behaviour towards goal implementation. Furthermore, Donovan's previous

parenthetical reference to notating one's weaknesses and strengths is significant because it implies making *use* of, *acting on* that information. As, even if not explicitly stated, "mit sich selber auseinander zu setzen" (Murdock & Donovan, 2013, line 556) must imply further consideration and action beyond making mere notes. Drawing a connection to the overarching theme of gestation, the extracts offer evidence that the importance of considering Flow-PST a process had been internalised. Evidently, it is a process which *is* in one's control, particularly if one commences with and embraces self-reflective and process-oriented self-regulatory behaviours (Bagozzi, 1992; Kirschenbaum, 1984; Kirschenbaum, Owens, & O'Connor, 1998; Ravizza, 2001; Robazza et al., 2004) promoted through performance profiling (Butler & Hardy, 1992; Taylor & Taylor, 1995) and then establishing, and adhering to an action plan, (Burton & Raedeke, 2008; Orlick, 2000; Taylor & Taylor, 1995) for instance. Hence, keys to fostering dispositional flow states conceivably include first capitalising on one's initial curiosity and desire, raising one's self-awareness, and establishing fundamental theoretical and practical understanding of the behavioural regulation process and strategies which facilitate vying for flow. Combined, these are evidently antecedents to effective conscious and intentional behavioural regulation.

4.4.1.3 Now that I am more conscious, I can be intentional: Flow is in the realm of possibility. As a reflection of combining their theoretical knowledge and practical experience, students broadened their awareness of their ability to initiate behavioural change. Evolving beyond the theme *Make Way Intuition; Hello Awareness*, the theme *Now That I Am More Conscious, I Can Be Intentional* delves into the student-athletes' portrayal of their increasingly deliberate, selective, and purposeful behavioural regulation using the cognitive-behavioural strategies introduced during the Flow-PST seminar. In Langston's words, "Dadurch ((...)), dass man's jetzt bewu- oder dass ICH'S [mentales Training] bewusster mache hab ich mehr Möglichkeiten das auch beWUSST einzusetzen" (Murdock & Langston, 2013, line 1880). This theme discloses students' perceptions that only through raised consciousness can one purposefully implement learned techniques and strategies. In the context of this narrative, conscious behaviour refers to the purposive, situational implementation of facilitative performance enhancement strategies with the intention of facilitating ideal mental performance states. As previously outlined in the gestational learning process, conscious behaviour implies (a) an acute awareness of one's current mental state and (b) an understanding of what one's ideal mental state encompasses. The latter of which implies awareness of one's proximity towards that target state. Moreover, conscious implementation of mental performance strategies simultaneously implies (c) prior knowledge of and specific selection of strategies deemed subjectively viable and (d) practical experience with and an understanding of not just

which strategies to best employ but how and when to employ them, in order to foster one's desired mental performance state in a given situation. The featured descriptions of the student-athletes' conscious and intentional behaviour presented in this theme entail four key commonalities: They highlight both students' underlying awareness of their needs and the intentional action taken. Most importantly, the intentional behaviours recounted not only resulted in subjectively perceived positive behavioural outcomes and affective states (Hardy, Hall, & Alexander, 2001), they additionally bore essential characteristics of flow. This theme thereby addresses the research question of the perceived controllability of flow states. *Now That I am More Conscious, I Can Be Intentional* is indispensable to the narrative of the data set because it offers tangible support for the hypothesis that dispositional flow is susceptible to one's will—as a reflection of the purposeful use of cognitive-behavioural strategies. The students' narrative offers evidence that by addressing their needs, student-athletes could actively harness their mental strength and cultivate optimal mental performance states when the will to do so arose.

Clearly, the student-athletes perceived increased consciousness as an instrumental precursor to taking deliberate action. Befittingly summarising the central idea underlying this theme, Langston recognised and acknowledged the importance of this, confirming, "dadurch, dass man's jetzt bewu- oder dass ICH'S bewusster mache hab ich mehr Möglichkeiten das [die mentalen Trainingsstrategien] auch beWUSST einzusetzen und das is halt n Vorteil" (Murdock & Langston, 2013, line 1884). Intentionally engaging in behaviours conducive to fulfilling the prerequisites for flow is the result of conscious awareness. As previously described, within the theme *Really Up for It*, students characterised their awareness of their need to take action as embedded in a desire to foster constructive change and thus avert continued poor performance. This held true whether as a spontaneous yet deliberate reaction or as a new habitual means of approaching performance situations. For instance, driven by integrated motivational regulation (Pelletier et al., 2013) in the face of discontent and awareness that improved performance was contingent upon actively intervening and employing one's mental strengths, Donovan described the value of his developing mental strength and increasing ability to consciously intervene as rooted in the ability to initiate premeditated action and thereby "immer wieder rausfinden aus diesem ‹‹lachend› Mist quasi›" (Murdock & Donovan, 2013, line 385). More optimal experiences were possible by first respecting the importance of decelerating (Bohl, 2009) directly prior to one's forthcoming performance; this evidently enabled approaching one's performance with mindfulness (Aherne & Moran, 2011; Brown & Ryan, 2003; Kee & Wang, 2008).

Donovan described unmistakeably: "dadurch, dass ich stärker geworden bin im akzeptieren meiner Fehler und stärker geworden bin im mentalen ((...)) kann ich auch häufiger in diese [optimale] Zone reinkommen" (Murdock & Donovan, 2013, line 393). Purely based on students' recounts, it can be concluded that wilfully cultivating—evoking—the occurrence of flow was possible. Donovan delineated an archetypical example of how the awareness of his needs led him to consciously implement his chosen performance strategies advantageously. Distinguishing what made this particular performance situation noteworthy, Donovan summarized:

> DA hatte ich mich sehr sauber auf diese Matches eben auch vorbereitet, also wirklich viertel Stunde vorher bin ich aufs Klo gegangen, weil man sonst keine Ruhe findet ((...)) und hab dann wirklich mich drauf eingestimmt, mich hingesetzt in Ruhe, nachgedacht, konzentriert und und und [et cetera], und ich war sehr fokussiert. (Murdock & Donovan, 2013, line 1347)

It is herewith deduced that Donovan deemed the conscious process of setting the state for optimal mental performance as one which fundamentally necessitated the convergence of at least five core dimensions of flow (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). For *clean* preparation most certainly implies establishing a sense of control over one's mindset as well as the existence of a clear goal. Moreover, mentally preparing, becoming attuned to how he vied to perform, is arguably indicative of fostering the merging of action and awareness. In addition, based on the clear references to his mindful regard for harnessing his thought processes (the described reflecting, concentrating, focusing), it may also be inferred that both concentration on the task at hand and the loss of self-consciousness were promoted through these foundational preparatory actions which Donovan characterised as central to his having set the stage for flow.

Recounting a situation in which his mental training worked, a situation in which the awareness of the need to better regulate his arousal levels and pre-performance mindset enabled him to successfully exert deliberate control over his performance, Donovan described:

> ich schlag mich immer ein ((...)) zu früher der Unterschied war heute [beziehungsweise an dem Tag] eben, dass ich dann wirklich mir diese zehn fünfzehn Minuten Zeit genommen hab DIREKT vorm Match und erstmal *one breath relaxation* gemacht hab, das heißt mich entspannt hab, weil ich schon höheres Aufgeregtheitslevel dann hab vor nem Match, also ich bin dann schon so, dass ich innerlich so ne Unruhe n bisschen spür, aufgeregt bin ne? ((...)) DANN mir diese

> sechs sieben Sätze, die ich mir mal aufgeschrieben hab fünf, sechs Mal in Folge gesagt hab ((...)) und dann ganz bewusst mir vorgestellt hab wie die einzelnen Schläge ((...)) ins Feld kommen ((...)) und dann aufn Platz gegangen und eben auch das umgesetzt mit viel Ruhe. (Murdock & Donovan, 2013, line 1362)

As exemplified in Donovan's narrative, the most striking feature of how students consciously implemented their strategies for behavioural regulation is that the students' actions reflect the application of students' knowledge of their individual mental performance needs. The previous extract offers evidence that Flow-PST thus fostered understanding of how to purposefully employ both somatic and cognitive techniques to regulate their behaviour and thereby foster optimal arousal (Hanin, 2000) prior to performance. Intentionally decelerating to take time for quality mental preparation as a supplement to one's physical warmup is an arguably minor change in behaviour. Yet, this fundamental new aspect of Donovan's game plan was later epitomised as the essential difference from performance situations in which mental preparation had not yet been incorporated. This seemingly inconsequential behavioural change implies prior endeavour to first consider one's performance needs, progressively determine and refine essential components of a subjectively optimal pre-performance plan, and sufficient experience putting it into action. As the described volitional engagement was evidently continued outside of the Flow-PST seminar setting, by deduction, it can be deemed the result of developing integrated forms of motivation regulation (Pelletier et al., 2013), as, here, Donovan demonstrated commitment to and belief in the value of engaging in mental training. By means of the implied effort put forth to create and refine a pre-performance game plan to adhere to, and the more autonomous form of motivational regulation which arguably propelled his actions, Donovan's desire to set the stage for optimal performance could come to fruition.

The implied game plan implemented played a key role in Donovan's underlying goal: setting the stage for optimal mental performance states. That game plan was arguably as effective as it was because it included the use of three specific strategies: arousal regulation-relaxation (Thomas et al., 1999; Hardy et al., 2010) and a combination of positive self-talk (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Hardy et al., 2004; Thomas et al., 1999; Weinberg & Gould, 2003) and cognitive general imagery (Pavio, as cited in Hall, 1998; Munroe et al., 2000). Both positive self-talk and cognitive general imagery are widely recognised as fundamental cognitive-behavioural performance enhancement strategies (Hall et al., 1997; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Cumming, Nordin, Horton, & Reynolds, 2006; Landin & Hebert, 1999).

To further substantiate the facilitative role of the three aforementioned strategies, it is noteworthy that Ashe delineated a similar patterned response. Reportedly, during a situation in which he noticed that his mental training made a tangible difference, Ashe's conscious decision to intervene in pursuit of a clear process goal entailed opting to first:

> Selbstgespräche geführt ((...)) mich nochmal neu motiviert und nochmal eigentlich [gesagt], wirklich dieses Selbstbewusstsein wieder, dass ich eigentlich viel besser bin als er [mein Gegner], weil ich IMMER gewonnen hab ((...)) und dann hab ich ein, zwei Schläge nochmal evaluiert und gesagt, ‚wenn er das jetzt nochmal spielt ((...)) machste das so und so' ((...)) ja und einfach dann nochmal kurz, n bisschen die Augen geschlossen und einfach mal in Ruhe an nix gedacht einfach dann mal ja nochmal tief geatmet und dann bin ich wieder hin. (Murdock & Ashe, 2013, line 1367)

While Ashe claimed to have closed his eyes and ceased to entertain conscious thoughts, because self-talk and visual representations are interconnected (Annett, 1996; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001), it is herewith argued that no matter how fleetingly or minutely perceived, his conveyed actions are in fact simultaneously indicative of a combination of cognitive specific, cognitive general, and motivational general-mastery imagery (Munroe et al., 2000). Ashe characterised the use of cognitive specific imagery, as he envisioned both the technical rehearsal and successful attainment of his process goal "machste das so und so" (Murdock & Ashe, 2013, line 1378) as well as the successful execution of his desired strategy (cognitive general imagery). Moreover, the extract conveys how Ashe coped with the situation. Employing motivational general-mastery imagery, Ashe vied to reinforce confidence and facilitate a positive mindset by reminding himself of subjectively perceived facts about his performance ability through the facilitative reminders that he has been victorious in the past because he is, in reality, better than his opponent. Thus, while tactical and instructional self-talk enhanced self-confidence (Hatzigeoriadis, Zourbanos, Mpoumpaki, & Theodorakis, 2009; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Zinsser, Bunker, & Williams, 2001), mental images must have played an underlying yet nonetheless conjoint role. Being consciously in tune with his needs enabled Ashe to deliberately turn his performance around. Intentionality, therefore, preceded success.

Experiencing that implementing the strategies learned in Flow-PST led to tangible results and flow-like mental performance states fostered the participants' self-trust and motivation. Thus, a further prominent feature of the data set worthy of highlighting was illustrated by Ashe. In later describing the outcome of his behavioural regulatory actions

as enabling him to feel "neu motiviert" (Murdock & Ashe, 2013, line 1393), Ashe essentially credited his action as inciting the confident expectation that engaging in mental training will in fact lead to the fulfilment of his desire to improve his performance. So too does Donovan characterise his pre-performance actions as triggering "IMmer wieder diese Hoffnung ((...)) das wird schon" (Murdock & Donovan, 2013, line 1397). The inherent trust conveyed is unequivocally related to much of what is required to set the stage for flow. Trust has been identified as a key source of self-confidence (Hays, Maynard, Thomas, & Bawden, 2005; Vealey & Chase, 2008). And the situational confidence, focused concentration and composure (Moore & Stevenson, 1994) which develops as a result of employing one's mental skills are existentially linked to (a) having had a clear behavioural goal, (b) responding to somatic and cognitive feedback, (c) taking time to foster merging one's action and awareness, as well as (d) promoting concentration on the task at hand, which in turn leads to (e) having a sense of control over one's actions and, finally, (f) a loss of self-conscious thoughts (Csiksentmihayli, 1990; Jackson, 1999).

To further support the conception that the experiences conveyed in this theme are not merely the result of the conscious implementation of strategies learned in the Flow-PST seminar but were in fact simultaneously flow-like in nature, Donovan's rich supplementary description of his previously described noteworthy performance situation is instrumental. He vividly characterised the performances as ones in which he was:

> in gewisser Weise versunken in dem was ich tat ((...)) allerdings wars trotz alledem beWUSST, wie ich gespielt hab ((....)) also [mit] versunken mein ich, dass ich DA war ((...)) also wirklich aufm Platz ((...)) wirklich im Jetzt ((...)) versunken in dem Moment. [Ich] hab nur Tennis gespielt in dem Moment ((...)) allerdings war das nich als wenn ich träume sondern es war ne beWUSST alle Entscheidungen, die ich in dem Moment getroffen hab, waren bewusst. Spiel ich die Vorhand jetzt cross oder spiel ich sie longline ((...)) LAUF ich jetzt und RUTSCHE ich am Ende oder laufe ich und sprinte, also laufe aus, also das sind jetzt so technische Feinheiten, ne? aber es war beWUSST was ich tat ((...)) also es wär dann so, ich hatte ne hohe Kontrolle über das was ich getan habe. (Murdock & Donovan, 2013, line 1521)

The acute awareness and sense of control which Donovan characterised as central aspects of his experience are clearly conformant with the experiences characteristic of flow states as described in other scholarly work (Jackson, 1996; Jackson et al., 1998). Furthermore, both Ashe and Donovan clearly identified the performance situations in which they noticed that their mental training was helping them set the stage for optimal mental performance as inherently positive in nature. Ashe described, for instance:

> dann hat das auch noch so geklappt, ne? da denkt man, ja, das geht doch gar nich aber ja das war wirklich ne feine Sache da ja einfach ja die Fähigkeit einfach dieses Erlernte auszuprobieren ((...)) und tatsächlich dann auch Erfolgserlebnisse ((...)) dafür zu bekommen. So das fand ich, das hat das so besonders gemacht ((...)) ja das fand ich so ((...)) das fand ich so gut. (Murdock & Ashe, 2013, line 1586)

Essentially, the experience was notably satisfying for Ashe because it underscored that after determining and implementing an effective strategy, actively engaging in mental training, and employing mental plans should in fact result in more optimal performance. Furthermore, his successful use of his mental strength offered Ashe tangible experiential evidence that his mindset and performance were within his control. Such tangible proof gleaned from one's positive experiences is essential when vying to facilitate learning processes; it prompts one to similarly engage in future. Precisely as predicted by Csikszentmihalyi (1990), "when we choose a goal and invest ourselves in it to the limits of our concentration, whatever we do will be enjoyable. And once we have tasted this joy, we will redouble our efforts to taste it again. This is the way the self grows" (Csikszentmihalyi, 1990, p. 42). Comparatively, an exemplary characterisation of not just momentary feelings of success but of the self-trust evoking and thus intrinsically rewarding characteristics of his experience was expressed by Donovan when he befittingly described:

> diese beiden Spiele, die ich da gespielt hab, waren auch sehr hohem Niveau, also das war dann schon schon wirklich gut und das hat mir eben gezeigt, dass ich da spielen kann, ((...)) wenn ich mich sauber vorbereite und gut konzentriert arbeite und auch das Feedback von meinen Spielern und Mitspielern und auch vom Trainer war, dass ich eben mal konSTANT gespielt hab, also ((...)) nich dieses FALLEN, wegfallen hatte. Ich hab immer mal n Satz sehr sehr gutes Tennis gespielt, aber da hab ich wirklich zwei Matches auf gleichem Niveau das ganze Match lang durchgespielt ((...)) und das ja war schon stark, also das war schön. (Murdock & Donovan, 2013, line 1399)

It can herewith be argued, therefore, that intentionally following a mental plan contributes to facilitating more consistent performance and the flow mindset (Burton & Raedeke, 2008) conducive to setting the stage for flow. Naturally, an equally viable alternative interpretation is that, in the previously outlined situation, Donovan was in fact performing on the threshold of flow—at the very least. The essential and indisputable finding is that

Donovan's conscious and intentional use of mental skills plausibly rendered the occurrence and continuance of more consistent optimal mental performance states possible.

Clearly conformant with what Csikszentmihalyi (1990) argues is the *importance* of flow, having set the state for flow by following a mental plan rendered Donovan's described situational experiences more enjoyable and fostered "the self-confidence that allows us to develop skills" (Csikszentmihalyi, 1990, p. 42). This view is substantiated in Donovan's matter-of-fact portrayal when he was asked how the experience felt:

> ((lacht)) gut natürlich ((...)) nee, das war schon, also das klar ich hab trotzdem die beiden Matches verloren, also ich hätte ganz gerne natürlich eins davon gewonnen, das wär dann die Krönung ((...)) trotz alledem hats sich gut angefühlt und is auch bis heute gut als Erinnerung geblieben, dass ich weiß, ich kann da spielen, wenn ich eben ((...)) mich gut vorbereite also dieses, diese Selbstverständnis, was ich vorhin ansprach und das Selbstvertrauen is dadurch schon gestiegen, weil ich weiß, das is (nun), also das liegt in meinem Möglichkeitsrahmen. (Murdock & Donovan, 2013, line 1423)

Undeterred by the performance outcome, it is essential to recognise that Donovan conveys a clearly intrinsically rewarding experience as the result of consciously and intentionally employing his mental skills. He essentially characterises the type of special and lastingly memorable experience commonly associated with peak experiences (Jackson, 2000; Jackson & Roberts, 1992). It is through these remarkably positive self-affirming experiences that student-athletes foster continued engagement (Cooke, Trebaczyk, Harris, & Wright, 2014), whilst not only building self-confidence, but also fostering a greater sense of self, or complexity in consciousness, and thereby growth (Csikszentmihalyi, 1990). Thus, surprised that Donovan persistently deemed the experience merely *good* whilst positively beaming, I could not help but prompt him to further describe how he felt about the experience. To that he initially responded "ich hätte auch großartig sagen können" (Murdock & Donovan, 2013, line 1450). It was not his initially less evocative word choice, but the fact that a clear emotional experience was visibly recounted that prompted my follow-up question. For the cumulative effect of becoming more conscious of his needs and how to meet them, then successfully implementing his preferential behavioural regulation strategies and thereby fulfilling multiple prerequisites for flow evidently did in fact culminate in what Donovan characterised as flow-like mental performance states and exhilaratingly rewarding experiences. Substantiation of that interpretation can in fact be found in Donovan's reported increase in his experience of the

autotelic dimension of flow.[8] And, as similarly described by both Jackson and Csikszentmihalyi (1999) and Orlick (2000), such remarkable optimal experiences are most commonly the result of prior preparation, which enables one to feel relaxed and in control of performance. Responding to my follow-up enquiry, Donovan explained from his perspective, that:

> also das is eben so ne gewisse Ruhe, ne? Und deswegen hab ich vielleicht auch gestrahlt, also ((...)) also, wenn ich ruhig bin, das heißt vor so nem Match auch stundenlang meine Ruhe hab und meine Sachen bewusst mache ((...)) DANN spiel ich auch besser ((...)) also von daher deswegen hab ich vielleicht auch gestrahlt, also DAS zu wissen gibt mit eben ne gewisse Gelassenheit, ne? ((...)) zu wissen, dass ich da auch wieder spielen KANN. (Murdock & Donovan, 2013, line 1468)

Beyond fostering a sense of control and trust, following a mental plan fostered Donovan's overall belief and confidence in his ability to set the stage for flow and thereby perform within subjectively optimal states again and again as he deems fit. Arguably, the calm Donovan conveyed is tantamount to the pre-competition composure Langston specified as a mental strength which sets him apart from other athletes:

> die Ruhe insgesamt ((...)) ich denke, dass ich da im Normalfall vorm Wettkampf immer der ruhigste bin und mir gar nich so viele Gedanken mach was die anderen jetzt machen oder was weiß ich fahr da einfach raus und fahr das Ding runter und denn wars das. Mach mir da gar nich so den Stress. (Murdock & Langston, 2013, line 1196)

Moreover, Langston subsequently specified:

> ich kann nur ruhig sein, wenn ich weiß ich bin gut vorbereitet. So im Normalfall bin ich aber gut vorbereitet und wenn ich jetzt nich krank bin oder sonstwas, ne? Dann is natürlich ne Ausnahme. Aber ((...)) wenn ich gesund bin, dann bin ich auch immer gut vorbereitet, weil ich da halt auch sehr viel wert drauf lege, dass die Vorbereitung stimmt. Und dann bin ich immer sehr gelassen, ne? Und das hängt ja irgendwie miteinander zusammen. Man is ja nich von ungefähr irgendwie gelassen. (Murdock & Langston, 2013, line 1216)

[8] Donovan's reported experience of the autotelic dimension of flow increased from *M* = 3.25, *SD* = 0.50 pretest to *M* = 5.00, *SD* = 0.00 posttest; see Table 3 and Figure 6.

In the context of flow in athletic domains in particular, habitual behaviours, prior preparation, and calm, in particular, are reportedly essential for controlling flow (Chavez, 2008); moreover, the described behaviours are directly linked to four requisite dimensions of flow: having underlying clear goals and enabling action and awareness to merge through concentration on the task at hand and the loss of self-consciousness (Jackson & Csiksentmihayli, 1990). Albeit not unequivocally attributable to Flow-PST, it is reasonable to deduce that Langston's firmly established unselfconscious behaviour (Jackson et al., 2010), emotional control, and arousal regulation skills (Thomas et al., 1999) all freed mental capacity (Abernethy, 2001) and thus facilitated establishing a flow mindset, or at the very least, preceded establishing the requisite task-relevant attentional focus. Moreover, one can glean from the extract that underlying clear goals, calm, and self-trust were deemed clear requisite precursors to automaticity of performance devoid of conscious control (Abernethy, 2001; Hardy et al, 2010; Thomas et al., 1999). Both trust and calm, in particular, inhibit debilitative reactions such as stress, which both Donovan and Langston reportedly learned to evade expertly. And that is the very objective of Flow-PST. In essence, the athletes' narrative suggests that establishing and adhering to individualised, clearly delineated mental plans fosters self-trust, self-confidence, and the motivation to persist. While the resultant positive mindset promoted the participants' mental strength, following one's mental plan was plausibly at the root of the described intrinsically rewarding experiences. And as demonstrated in their unidimensional flow scores, depicted in Figure 7, the athletes all reported an increase in their experience of dispositional flow from pretest to posttest.[9] As such, fostering flow must be equally within the control of a student-athlete—if they are willing to engage accordingly.

4.4.1.4 If I wanted to, I could! *If I wanted to, I could* elucidates both increasing mental strength and performance within subjectively optimal zones of mental functioning as prospects which are within an athlete's control. They are equally characterised as susceptible to change as a result of what was learned during the Flow-PST. The theme is an exploration of students' candid self-reflections about their experiences and resultant perceived capacities for influencing their cognitive states. As a reflection of combining theoretical knowledge and increasing practical experience, students broadened their awareness of their ability to initiate behavioural change. The interviewed student-athletes conveyed their belief that they *could* in fact promote, or trigger performance in optimal zones of functioning and set the stage for flow—if they *wanted* to. This sub-theme captures the participants' assured suppositions that optimal mental performance is something

[9] As previously delineated in Table 4, Langston reported an increase in unidimensional flow from 37.75 pretest to 41.75 posttest; Ashe reported an increase from 37.75 pretest to 41.00 posttest; and, Donovan reported an increase in global flow from 26.00 pretest to 37.00 posttest.

which can in fact be triggered with sufficient deliberate practice followed by deliberate action. The conditional conjunction *if* is of essential importance here. Unequivocally, the student-athletes conveyed their perception that the underlying requisite understanding of flow-conducive behaviours and facilitative strategies is part of their knowledge base as a result of Flow-PST. Yet, this ought not imply that students actually engaged as they *could* have. Ashe highlighted this prospective expectation asserting:

> also ich glaub für mich is das jetzt nich willkürlich, ich könnte das, wenn ich mir die Zeit nehm kann ichs machen ((...)) weiß ja auch wies geht ((...)) oder wüsste ich was ich [tun] könnte, sag ich mal so ((...)) mich einfach damit zu beschäftigen und so. (Murdock & Ashe, 2013, line 313)

With key knowledge as to how to set the stage for optimal mental performance at one's disposal, merely increased deliberate and purposeful engagement is required. Further conveying his understanding of exactly what he *could* quite easily do, Ashe affirmed:

> ich glaub schon, also, weil ich hab ((...)) jetzt paar Hinweise gelernt, also wie man sowas machen kann im Seminar ((...)) und ich glaub, wenn ich mir jetzt wirklich die Zeit nehme und sage ich probier das jetzt mal aus diese Muskelrelaxation oder *one breath* Methode oder einfach sich das aufschreiben, wie komm ich denn in diese individuelle *zone of optimal performance* zum Beispiel, dass wär jetzt für mich kein Problem ((...)) also ich wüsste ganz genau, ich könnte aufschreiben, hier, das und das müsste ich tun, da bin ich gut ((...)) oder diese Selbstgespräche nochmal, dieser Auszeit nehmen und ((...)) zu evaluieren nochmal. (Murdock & Ashe, 2013, line 280)

Ashe's recount of the importance of engaging in self-regulatory behaviours such as arousal regulation or employing self-talk is indicative of his belief that these strategies clearly facilitate cultivating a flow mindset. While Ashe's description affirms the prospective controllability of flow, it simultaneously presents an unavoidable yet equally unsatisfactory extrapolation. Comprehension of which performance strategies are most conducive to a student-athlete's pursuit of optimal mental performance are a mere first step. It was hypothesised, however, that the participants' autonomous forms of motivational regulation to engage and actively vie to foster optimal mental performance states would increase as a result of Flow-PST. The perpetual use of the conditional tense inherent in the extract implicitly attests to Ashe's retrospective subjectively perceived *inadequate* action during Flow-PST; here, the hypothesis hence remained unsupported. Still, it is his twofold referenced awareness of the need to devote *time* to mental training and actually consider,

determine, and notate action plans to follow which is most noteworthy for the current narrative. Whether inferred from experiential evidence or based on conjecture, investing time or prior preparation is predominantly characterised as a key factor which enabled the participants of the pilot study to wilfully perform within optimal mental performance states.

Before one embarks on a mental training journey, a conscious decision to dedicatedly engage in the process is paramount. The decisional aspect hence extends beyond what was previously described in the theme *Really Up for It*. The student-athletes' typified such a sincere and determined choice as engendering tangible changes in behaviour. This lends strength to the notion that one *can* deliberately set the stage for optimal mental performance should one wish to do so:

> dass ich mental STÄRker werde, das is natürlich komplett bewusst beeinflussbar indem ich trainiere. ((...)) durch Training, das wär ja ne Entscheidung, wenn ich mich jetzt vorher hinstelle und sag ich will stärker werden, dann is das ne Entscheidung, dann trainier ich und bin stärker. Das geht schon ((...)) ich kann entscheiden, dass ich STÄRker werde ((...)) zum Beispiel bei MIR war's so, dass ich immer wieder in diese Löcher reinfiel beim Tennis ((...)) dann ham wir damit angefangen [im Seminar mental] zu trainieren und dann hab ich mich entschieden okay du nimmst das ernst und machst das mal wirklich ((...)) und hab diese LÖCHer schon seit längerer Zeit nich mehr so stark gehabt ((...)) sondern die werden geringer. Also DA ((...)) bin ich mental stärker und hab beWUSST mich entschieden mental stärker zu werden. (Murdock & Donovan, 2013, line 304)

Conviction in the efficacy of one's behaviours is essential; an athlete must actively engage in mental training with earnest to reap the desired benefits. By definition, the resolute action evidenced here is the product of, at the very least, identified motivational regulation (Pelletier et al., 2013) and thus gravitates towards a more autonomous form of behavioural regulation. Subsequent behavioural action is dependent upon the value a student-athlete places upon action, the afore described desire to engage, and a commitment to continue taking action.

The student-athletes designated deliberate and habitual adherence to a pre-determined routine as a fundamental feature of what was perceived as having potential to help them wilfully cultivate flow. As suggested by Langston:

> also am meisten denk ich trägt da erstmal Routine zu bei ((...)) wenn man immer das gleich macht, immer denselben Ablauf hat, vorm Wettkampf jetzt beispielweise, immer zu nem ähnlichen Zeitpunkt alles vorbereitet hat, dass man dann seine Ruhe hat, dass man dann rausgeht, nochmal sich entsprechend warm macht, rechtzeitig am Start liegt, und so weiter, das trägt natürlich schon mal sehr viel bei, also ((...)) diese Vorbereitung denk ich is zum Beispiel eine Sache, die man machen kann, damit man diese [optimale] Zone überhaupt erreichen kann. (Murdock & Langston, 2013, line 188)

Awareness of one's needs, how to meet them, and extensive prior preparation are ineluctably implicit in what Langston conveyed as precursors to entering subjectively perceived zones of optimal performance.

Compelling yet conflicting reports existed in terms of the extent to which the deliberate cultivation of flow is possible, however. In conformance with the speculative conditional notion emphasised in this theme, unequivocal awareness of what is necessary to beget one's optimal mental performance states existed. The athletes made an essential distinction, however. Provided one is not only aware of but also actively *engages* in the process of satisfying one's individualised mental performance needs, one can foster mental *strength* (Mahoney et al., 2014). Interestingly, Donovan contended, for example, that one *cannot* similarly initiate or trigger setting the stage for optimal mental performance states:

> DAS is ja jetzt n Unterschied ((...)) für mich diese *optimal zone of functioning* is wirklich da wo ich AN meinem Limit spiele ((...)) also DA bin ich in dieser optimalen Zone ((...)) wo ich optimal funktioniere, wo alles fließt und und und ((...)) DAS is ja, also meiner Meinung nach is das son State, was man nich immer hinkriegen KAnn ((...)) sondern das sind Trigger, die dann ablaufen und irgendwann bin ich so fokussiert, weil ich vielleicht merke ich KANN gewinnen und ich muss mich jetzt nur genau fokussieren und dann schaff ichs. Aber, dass ich mental STÄRker werde, das is natürlich komplett bewusst beeinflussbar indem ich trainiere. (Murdock & Donovan, 2013, line 285)

As previously described in the *Literature Review* chapter, in contrast to Chavez (2008), who offered evidence that a substantial number of athletes do in fact deem flow controllable, Donovan's recount reflects what Jackson (1992) surmised: While the athletes in her study reportedly did not believe that flow was in their control, per se, they believed that they could increase the likelihood of its occurrence if the appropriate psychological skills are

employed. However, the application of one's psychological skills and resultant mental strength are without question established and "important determinants of sport performance" (Smith, Schutz, Smoll, & Ptacek, 1995, p. 380) which unequivocally dictate one's ability to facilitate optimal mental performance states for performance (Chavez, 2008; Jackson & Csikszentmihalyi, 1999; Kimiecik & Stein, 1992; Mahoney et al., 2014; Orlick, 2000; Vealey, 2007; Weinberg & Gould, 2015). Furthermore, clear evidence exists that the experience of the perquisite dimensions of flow does in fact precipitate the occurrence of flow-like or optimal experiences (Csikszentmihalyi, 1990; Jackson et al., 1998; Jackson & Csikszentmihalyi, 1999). Therefore, one must merely consider what Donovan emphasised in the previous extract. Despite his overt assertion to the contrary, the described *triggers* which ensue are both fundamental to cultivating flow and unequivocally within one's control. For triggers represent habitual actions "wie Zähneputzen am morgen" (Murdock & Ashe, 2013, line 528) which precipitate an underlying aim or planned behaviour; they are effectively the requisite, precise target of one's process-related focus (Burton et al., 2001; Kingston & Hardy, 1997; Weinberg & Gould, 2003; 2011, 2015) when vying for flow. This is ultimately synonymous with concentration on the task at hand (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999). Furthermore, such attention implies attending to specific steps in a plan or aspects of performance—the pursuit of a clear (process) goal. And it is the merging of action and awareness which stimulates everything coming together "wo alles fließt" (Murdock & Donovan, 2013, line 293). The *culmination* of said unwavering task specific focus and intentional engagement *is* (instrumental to) the process of cultivating flow. As previously described in this final report, to achieve it, one must first transcend becoming more *conscious and intentional* to then adhering to the *easy little things* with which one can reportedly foster optimal performance states. However, by definition, the multidimensional (Jackson et al., 2010) experience of flow itself necessitates experiencing precisely all nine characteristic dimensions simultaneously—even if to varying degrees. Nonetheless, a decisive argument can be put forth and is substantiated in both Donovan's assertions and within this sub-theme: Through prior preparation and sufficient practice, the participants do indeed maintain that they know how to lay the groundwork for and initiate optimal experiences; thereby, they *can* trigger and cultivate a flow mindset.

One must clearly demarcate the experience of exhibiting optimal mental strength as distinct from performing within optimal mental performance states. For one can decide to increase mental strength and succeed. Experiencing flow, conversely, does not include a conscious decision—unless the decision is to increase mental strength so as to vie to establish and maintain a flow mindset. Presuming the two entities are inherently related,

yet distinct, Donovan argued that limits exist as to what a student-athlete can achieve with sheer determination and prior preparation. As further argued by Donovan, while one can decide to increase one's mental *strength* and foster it through training. From his perspective:

> diese *optimal zone of functioning* is für mich eben das da wo ich unGLAUBlich spiele, also da wo ich auch Spieler schlagen kann, die vielleicht eigentlich besser sind als ich und in DIEse Zone kann ich mich nich 100% bewusst entscheiden, ich geh aufn Platz und sach heute krieg ich das ((...)) das is für mich s- ja momentabhängig. (Murdock & Donovan, 2013, line 335)

The all-encompassing experience of complete mental absorption unique to optimal mental performance states is in fact of indefinite duration and potentially readily identifiable only when one has been deeply engrossed in flow (Chavez, 2008; Tenenbaum et al., 1999). Yet, here, the focal point ought to be the importance of deep engagement rather than inaccurately implying that participants are potentially unable to recognise their flow experiences. Accepting the notion that the multidimensional experience of flow can be considered a linear continuum (Tenenbaum et al., 1999) on which not only the complexity (Csikszentmihalyi, 1975) thereof but the extent to which the experience of each dimension varies (Jackson, 1996; Tenenbaum et al., 1999; Jackson et al., 2010), one may deduce two things. First, an underlying conclusion which can be yielded from the narrative is that even decidedly autonomous forms of motivational regulation evidently had little influence on the complexity, depth, or level of flow experienced. For a participant's active engagement alone was characterised as neither an indicator of nor tangible precursor to flow itself. What can simultaneously be gleaned from the students' pattern of response, however, is that while the participants were convinced that one cannot necessarily impel flow, the mental strength which precedes and enables deep involvement, and thereby one's malleable capacity to experience each respective dimension of flow, is unequivocally determinable. It *can* be cultivated by the performer. Adhering to performance plans which trigger optimal behaviours, and thereby optimal performance states, facilitates the process.

If I wanted to, I could hence addressed the research question of the perceived controllability of flow states. Successful intentional implementation of the performance enhancement strategies introduced enabled the student-athletes to experience and exert competence during the learning process. Beyond fostering the interviewees' self-determined forms of motivation, the essential mental skills developed arguably fostered the mental toughness (Jones, 2002; Jones et al., 2007; Mahoney, et al., 2014) essential for

optimising one's performance. Evidence exists that the satisfaction of one's basic psychological needs (Deci & Ryan, 2004) is positively associated with both enhanced performance, mental toughness and positive outcomes such as increased effort and perceived controllability of one's actions, and mastery—all of which contribute to positive affect (Vansteenkiste et al., 2004). By actively addressing their needs, student-athletes could fulfil the prerequisites needed to set the stage for their subjectively ideal performance states. As a result, Flow-PST not only facilitated the participants' attempts to cultivate flow, based on their descriptions, participants were reportedly successful in *having* flow-like experiences. Thus, in a similar academic setting, when aware of their performance needs and able to consciously determine how to foster cognitive-behavioural change, the narrative of the data set infers student-athletes' belief that they *can* set the stage for optimal mental performance—if they *want* to. While the primary focus of the current narrative pivots around the constructs of awareness, cognizance, and purposeful implementation of mental training techniques, the techniques and strategies themselves are of ineluctable importance.

4.4.1.5 With easy little things, one could change a lot. As described by Ashe, the most beneficial mental training strategies were anything but incredibly challenging techniques, rather "[es] waren ja leichte, kleine Dinge, mit denen man vielleicht viel verändern konnte" (Murdock & Ashe, 2013, line 1110). The comprehensive theme *With Easy Little Things, One Could Change a Lot* specifically highlights students' characterisations of their use of the cognitive-behavioural performance strategies they lauded as most beneficial when vying to set the stage for flow. Accordingly, the theme provides insight relevant to the research question of the most conducive performance strategies which ought to come forth in future Flow-PST seminars. Even though the narrative herein partially reflects students' responses to direct enquires concerning cognitive-behavioural performance enhancement strategies they would recommend for future Flow-PST seminars, the analysis of the data, in its own right, demonstrated virtually the same findings. The student-athletes conveyed five easy little things which they believe facilitated cultivating flow. Four of which, goal setting, arousal regulation, imagery, and self-talk, were expressly identified as indispensable for vying for optimal mental performance success. Adopting a related sentiment from Ashe, they are ineluctable to mental training and "einfach so dazuhör- gehört wie das Zähneputzen am Morgen" (Murdock & Ashe, 2013, line 528). The student-athletes' designations largely correspond with and therefore substantiate the scholarship of Thelwell & Greenless (2001, 2003), which advocates the four aforementioned cognitive-behavioural strategies as effective for regulating and enhancing optimal psychological performance states and performance in sport. To commence, the

sub-theme *Forget Mere Goal Intentions, Implement Plans* unites the referenced goal oriented practices and demonstrates the implicit predominance of regulatory behaviours which foster adherence to one's goals. The sub-theme predominantly illustrates the categorisation of and student's confidence in goal oriented practices, and the use of mental plans in particular, as essential means to setting the stage for optimal mental performance. Thereafter, *No Matter What I Do, I Always Start with Arousal Regulation* illustrates arousal regulation-relaxation strategies as an integral component of students' endeavours to foster optimal mental performance states. Moreover, two predominant patterns in students' imagery use are captured in the sub-theme *I Envision It, So I Visualise It*. These features include positive imagery to foster general motivation and the use of cognitive specific imagery (Hall, 1998, 2001; Munroe et al., 2000) to facilitate technical performance improvements. In the sub-theme *Talk the Talk and You Can Walk the Walk*, emphasis is placed on the prominent role and function positive motivational self-talk (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001) had for the student-athletes as they dealt with mistakes, strove to push their performance limits, and motivated themselves to keep moving forward. Finally, the fifth sub-theme *Audio-Supported Mental Training Is Not for Me... But I Still Find It Important*, illustrates students' categorical, paradoxical opinion of audio-supported mental rehearsal via Dr. Terry Orlick's CDs (2003a, 2003b, 2003c, 2003d) as the epitome of mental training and essential to include in future Flow-PST seminars—albeit clearly not favoured for each respective athlete's individual use.

Although *With Easy Little Things, One Can Change a Lot* captures the nuanced ways in which students' deliberate application of the highlighted mental training strategies led to subjectively perceived enhanced optimal performance states, the theme typifies everything *coming together*—from dual perspectives. Students primarily *combined* their mental training strategies instinctively and thus mental performance *developed* as desired. Hence, an essential feature of the theme and sub-themes herein is the characterisation of the techniques as used in conjunction, "immer zusammen ((...)) [wie] so ne Art Verbindung" (Murdock & Donovan, 2013, line 1776). The characteristic merging of techniques often rendered students' implementation of singular strategies indistinguishable as distinct performance enhancement strategies per se, however. Thus, this broader theme ought to simultaneously be understood metaphorically. For it delves into students recounts of how everything developed, or *came together*, as desired with the proverbial butterflies flying in formation (Hanton & Jones, 1999), when their strategies of choice were intentionally employed in actual performance settings. Whether employed simultaneously or in logical succession, the strategies were clearly interrelated. The theme is essential in that it

demonstrates students' conjoined use of multiple mental training strategies which the participants specifically deemed conducive to cultivating flow.

4.4.1.5.1 Forget mere goal intentions, implement plans. Uniting goal-specific regulatory behaviours, students described the implicit predominance of clear goals and the explicit use of strategies to foster three key things: self-awareness, awareness of desired optimal mental performance states, and process goal fulfilment related to achieving the flow mindset sought. The theme illustrates students' categorisation of and confidence in the goal-related practices as an essential means of setting the stage for optimal mental performance. Labelled here as *goal-related practices*, the participants unequivocally identified *goal setting* as an indispensable strategy which they employed and recommend for future seminars. What participants predominantly characterised as goal setting, however, pertained to ongoing attention, employment of, and adherence to cognitive-behavioural strategies and expressed goal implementation intentions (Gollwitzer, 1999), which facilitated process goal attainment. Nevertheless, prior and/or ongoing engagement in methodological goal setting (Burton & Naylor, 2002; Burton et al., 2001; Learner & Locke, 1995; Weinberg & Gould, 2015) is presupposed as an ineluctable precursor to addressing and attending to one's goal related needs in the current context. The specific regulatory practices commended included first raising awareness through both the (a) psychometric tests administered and performance profiling, as described in the earlier theme *Make Way Intuition; Hello Awareness*. Thereafter, attending to one's needs by means of (b) action planning, and, finally, (c) employing one's predetermined pre-performance and performance game plans constitute the remaining facets of what students characterised as goal setting.

Completing the psychometric tests and performance profiles offered an essential foundation for students' goal related activities. Engaging in performance profiling, in particular, reportedly facilitated raising the students' awareness of their specific performance needs. Donovan for example, described the initial individualised process of considering one's strengths and areas in need of improvement as "ganz entscheidend" (Murdock & Donovan, 2013, line 1700), for one logically "erstmal wissen muss wo LIEgen überhaupt meine Stärken und Schwächen ((...)) um dran arbeiten zu können" (Murdock & Donovan, 2013, line 1829). Seemingly a statement of the ostensible, this is noteworthy because participants signified the psychometric tests and performance profiling as awareness raising tasks which constituted the foundation of their goal setting process:

> was ICH persönlich ganz wichtig fand, waren die Zielstellungen. *Short [term] goals* ((…)) *long term goals*, weil das einfach absolut ja wichtig is. Viele Leute wirklich glaub ich umherlaufen und einfach gar kein Ziel haben so richtig ((…)) oder sich auch noch nie damit auseinandergesetzt haben und ich glaub das kann helfen. (Murdock & Ashe, 2013, line 1699)

The inclusion of goal setting as an essential theme to maintain in the Flow-PST program is an indication that athletes realised, or internalised (Pelletier et al., 12013; Ryan & Deci, 2007), the importance thereof. Although herewith touted as a strategy of choice, Ashe surprisingly reported a *decrease* in his use of goal setting[10] subsequent to the intervention (see Figure 5). The reported decrease in Ashe's use of goal setting was also demonstrated on the DFS-2[11] (Jackson et al., 2010; see Figure 6). Despite this evident contradiction between usage and praise thereof, it is equally surprising that the goal setting process itself was largely implicitly understood rather than explicitly delineated. Albeit conjecture, this potentially occurred because, in the minds of the participants, the need to vie for a clear goal is arguably implicit when vying to set the stage for optimal mental performance states—the subjectively perceived optimal mindset *is* the goal. Accepting this as a plausible interpretation, it is then noteworthy that the participants implicitly deemed action planning, or establishing and adhering to game plans, as goal setting. For if one's goal is to set the stage for optimal mental performance states, it is essential to first consider, become aware of, and plan specifically how to establish subjectively optimal conditions through which to cultivate flow. As conveyed by Donovan, it is important:

> dass ich GANZ sicher weiß, was muss ich vorher machen um dann *gut* [Hervorhebung hinzugefügt] zu spielen ((…)) weil ich glaub das wissen viele gar nicht, also die kommen dann denken dann ah ich geh nochmal schnell das Auto tanken und waschen und geh dann schnell zum Punktspiel und und und. Ich glaub das machen viele so und dann denken sie 'das wird schon.' Das is, denk ich, auf jeden Fall diese *game plan*, dass ich mich beWUSST auf das vorbereite, was kommt. (Murdock & Donovan, 2013, line 1607)

Donovan's portrayal of athletes who perform *well* as those who minimise performance inconsistencies by focusing on following game plans clearly maps onto related academic knowledge. For comprehensive mental training is recognised as an ineluctable precursor

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[10] Ashe's use of goal setting reportedly decreased from $M = 4.50$, $SD = 0.58$ pretest to $M = 3.75$, $SD = 0.50$ posttest on the TOPS (see Table 2).

[11] Ashe reported a decrease on the DFS-2 goal setting subscale; i.e., from $M = 4.75$, $SD = 0.50$ pretest to $M = 4.50$, $SD = 0.58$ posttest (see Table 3).

to *consistent* performance excellence in sport (Burton & Raedeke, 2008; Orlick, 2000; Rushall, 1989; Suinn, 1989/1986; Taylor & Taylor, 1995; Weinberg & Gould, 2015; Weinberg & Williams, 2001). Furthermore, Donovan's characterisation is that of a pre-emptive game plan which functions as a process-oriented goal setting measure (Burton & Naylor, 2002) and thereby facilitates behavioural regulation. Naturally, such plans are possible only if created, implemented, and revised in advance of employing them in a performance situation. Donovan's narration thus additionally serves as implicit evidence of prior engagement in goal- related practices.

Students' pre-performance game plans (Burton & Raedeke, 2008; Orlick, 2000) created to foster flow ultimately entailed a combination of mental training strategies. Participants described consistently taking time to first attune themselves to their planned actions as of pivotal importance. Based on his own experiences, Donovan touted the importance of such habitual behaviour as fundamental for any pre-performance routine:

> WAS dazu gehören würde, auf jeden Fall wär, dass ich VORM Training mental arbeite, also vor JEdem Training, ich würde jedem RAten ((...)) wirklich zu sagen mein Training beginnt nich um sechs, sondern um zehn vor sechs ((...)) und diese zehn Minuten nutze ich um denk vielleicht noch auch nochmal über Sachen überm Tag nach und hak die dann ab und dann entspann ich mich, konzentrier mich und geh dann aufn Platz. (Murdock & Donovan, 2013, line 1681)

While this substantiates the importance of performance routines as advised by Boutcher and Rotella (1987), Donovan's palpable enthusiasm for the positive benefits to be reaped as a result of adhering to the afore described pre-performance strategy is of importance here. Because this feedback was solicited, one could surmise that Donovan merely *recognised* the importance and positive benefits of his behaviour and exemplifies herewith identified motivational regulation (Pelletier et al, 2013). However, when combined with his professed desire to share his valuable knowledge with the masses, "jedem raten" (Murdock & Donovan, 2013, line 555), the extract arguably more befittingly exemplifies Donovan's internalisation of the value of his actions and is thus demonstrative of an integrated form of motivational regulation (Pelletier et al., 2013; Ryan & Deci, 2007). For the enthusiasm underlying Donovan's endorsement strengthens the asserted confidence in his described means of setting the stage for optimal performance states. Both potential analyses find support in Donovan's psychometric test results, however. As assessed via the SMS-II

(Pelletier et al., 2013), a distinct increment was yielded in identified motivational regulation[12] and Donovan's integrated motivational regulation increased marginally.[13]

Donovan's previous recount is simultaneously in accordance with key antecedents to flow states in sport contexts (Jackson 1992, 1995; Jackson & Csikszentmihalyi, 1999). As, his response provides evidence that he vied to relinquish control over his imminent performance by setting aside debilitative thoughts and employing an arousal regulation technique to narrow his concentration prior to performance. These behaviours are essential for allowing one's actions and awareness thereof to merge—as is requisite for flow (Csikszentmihalyi, 1990). Furthermore, it is logical to extrapolate that prior to engaging in the plan Donovan conveyed with conviction, clear goals had been determined and underlay his actions. Correspondingly, consideration was evidently given to his prior experiences; his pre-performance plan clearly reflected his evaluation of his mental performance needs and adoption of measures to ensure that they are met. Evidence that Donovan's propensity towards fulfilling the aforementioned dimensions of dispositional flow is inherent in his reported DFS-2 (Jackson et al., 2010) results; increments were demonstrated across all five respective subscales. As portrayed in Figure 6, Donovan specifically reported distinct increments in his sense of control,[14] substantial increases in loss of self-consciousness,[15] and distinct increments in concentration on the task at hand.[16] Moreover, Donovan also reported distinct increments on both the merging of action and awareness subscale,[17] and the clear goals subscale.[18] Hence, Donovan's narrative clearly supports the performance increments reported in his psychometric test results. Essentially, the previous interpretive extrapolations ought to further the current narrative of the data set in two ways. As outlined in the gestational learning cycle, what Donovan described reflects the transfer of theoretical knowledge and application of what is gleaned during *mindful self-reflection*. Moreover, juxtaposed with the theme *Make Way Intuition; Hello Awareness*, Donovan demonstrated undeniable cognizance of how the components and

[12] Donovan reported a distinct increase in identified forms of motivational regulation; i.e., from *M* = 5.33, *SD* = 0.58 pretest to *M* = 4.33, *SD* = 0.58 posttest (see Table 1; for a visual representation, see Figure 4).
[13] Donovan reported a marginal increase in integrated forms of motivational regulation; i.e., from M = 5.33, SD = 1.53 pretest to M = 6.00, SD = 1.00 posttest (see Table 1).
[14] Donovan's sense of control subscale scores increased distinctly; i.e., from *M* = 3.00, *SD* = 0.00 pretest to *M* = 4.00, *SD* = 0.00 posttest (see Table 3).
[15] Donovan reported a substantial increase on loss of self-consciousness subscale; i.e., from *M* = 2.00, *SD* = 0.00 pretest to *M* = 3.75, *SD* = 0.50 posttest (see Table 3).
[16] Donovan reported distinct increments on the concentration on the task at hand subscale; i.e., from *M* = 2.25, *SD* = 0.50 pretest to *M* = 3.75, *SD* = 0.50 posttest (see Table 3).
[17] Donovan reported distinct increments in the merging of action and awareness; i.e., from *M* = 3.00, *SD* = 0.00 pretest to *M* = 4.00, *SD* = 0.00 posttest (see Table 3).
[18] Donovan reportedly experienced distinct increments on the clear goals subscale; i.e., from *M* = 3.50, *SD* = 1.00 pretest to *M* = 4.75, *SD* = 0.50 posttest (see Table 3).

deliberate application of a pre-performance plan leads to more optimal mental and physical readiness.

4.4.1.5.2 No matter what I do, I always start with arousal regulation. Arousal regulation-relaxation strategies were reportedly an integral component of students' endeavours to foster subjectively optimal mental performance states. Correspondingly, all three athletes interviewed reported increases in their use of relaxation as a performance strategy when responding to the TOPS-2 (Hardy et al., 2010). For instance, as illustrated in Figure 5, not only Donovan reported substantial increases in his use of relaxation as a performance strategy,[19] so too did Ashe.[20] Langston, in turn, reported a marginal increase on the relaxation subscale.[21] As such, once again, the narrative of the data set reflects and corroborates the outcomes of the students' psychometric test results. The participants characterised the regulation of their arousal levels as directly related to their ability to regulate their emotional responses. Specifically, their narrative demonstrated that the combined employment of arousal regulation-relaxation and emotional control strategies facilitated fostering trust and hope (Moore & Stevenson, 1991, 1994). For some athletes, engaging in one breath relaxation (Orlick, 2003a), for example, was a foremost preparatory step in setting the stage for optimal performance. As conveyed by Donovan when describing a situation in which he advantageously utilised his mental training strategies, he described the importance of designating time for arousal regulation:

> also zu früher der Unterschied war heute eben, dass ich dann wirklich mir diese zehn fünfzehn Minuten Zeit genommen hab DIREKT vorm Match ((...)) und erstmal *one breath relaxation* gemacht hab, das heißt mich entspannt hab, weil ich schon höheres Aufgeregtheitslevel dann hab vor nem Match, also ich bin dann schon so, dass ich innerlich so ne Unruhe n bisschen spür, aufgeregt bin ne? (Murdock & Donovan, 2013, line 1364)

This is noteworthy in the context of this sub-theme because Donovan herewith exemplified his refined awareness of which arousal level is most conducive to his subjective optimal mental readiness. Therefore, Donovan's acknowledgement offers insight into his perceived refined ability to attend to his physiological feedback cues (Burton & Raedeke, 2008; Orlick, 2000; Smith, 2001; Weinberg & Gould, 2003; 2011, 2015), successfully

[19] Donovan reported a substantial increase in his use of relaxation; i.e., from $M = 1.25$, $SD = 0.50$ pretest to $M = 4.25$, $SD = 0.50$ posttest (see Table 2).
[20] Ashe reported a substantial increase in his use of relaxation; i.e., from $M = 1.00$, $SD = 0.00$ pretest to $M = 2.50$, $SD = 0.58$ posttest (see Table 2).
[21] Langston reported a marginal increase in his use of relaxation; i.e., from $M = 1.00$, $SD = 0.00$ pretest to $M = 1.75$, $SD = 0.50$ posttest (see Table 2).

regulate (lower) his arousal level (Hardy et al., 2010; Suinn, 1989/1986; Thomas et al., 1999), and calm his mind, or decelerate (Bohl, 2009), as needed. Donovan specifically characterised the combination of one breath relaxation and positive imagery as a fundamental mental training strategy "weil ich erst DArüber in diesen Moment komme wirklich konzentriert zu arbeiten" (Murdock & Donovan, 2013, line 452). Especially during the previously described competitive performance in which he recognised that actively implementing his cognitive-behavioural strategies was making a difference, Donovan's ability to concentrate on the task at hand (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999) and thus take control of his performance by aptly regulating his arousal levels was revered as paramount, for he explained:

> manchmal war ich früher eben auch unruhig, ich hab dann Fehler gemacht und bin eher NOCH schneller wieder zum neuen Punkt gegangen, was natürlich gerade ‹‹lachend› falsch is› also DAS hab ich dann nich mehr gemacht, sondern dann gerade bewusst umgedreht, rausgelassen was drin war, aber dann auch wieder fokussiert auf den nächsten Punkt und IMmer wieder diese Hoffnung gehabt, das wird schon. (Murdock & Donovan, 2013, line 1390)

Although characterising himself as unskilled in this regard in the past, what Donovan described as having unleashed his feelings, or "rausgelassen was drin war" (Murdock & Donovan, 2013, line 1395), is indicative of his heightened awareness and ability to assess his needs and exercise greater emotional control (Hardy et al., 2010; Thomas et al., 1999). Therefore, his emotional control was ineluctably linked to the employment of both arousal regulation and self-talk. And intentionally exercising control over establishing a flow mindset evidently bestowed Donovan with a greater sense of confidence. Essentially, what he designated as persistent hope implied invoking the mental skill of trust (Moore & Stevenson, 1991; 1994). When examined sequentially, persistent hope transpired subsequent to taking active control of his thoughts and actions. Hence, trust, engendering confident hope through positive thinking (self-talk) and simultaneous arousal regulation ought to be considered an essential step in vying to cultivate flow. Confidence is fostered by letting go of conscious control, or fostering an overall greater paradoxical sense of control (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999), whilst simultaneously maintaining the belief that one may rely on automatic processes when refocusing and moving forward (Moore & Stevenson, 1994). In an arguably reciprocal manner, exercising emotional control strengthens if not enables the establishment of the aforementioned trust in one's abilities; such trust lends support to the regulation of emotional states (Herwig et al., 2010; Robazza et al., 2004). Notably, Donovan identified

his developing ability to foster changes in his regulatory mechanisms, during competition in particular, as a clear result of Flow-PST:

> gut ich hab davor auch schon manchmal so mentale Ansätze gehabt aber richtig angefangen das [mentales Training] mal auszuprobieren ja erst mit unserem Kurs ((…)) das heißt ja erst seit nem dreiviertel Jahr und ((…)) was ICH nur merke bei den Punktspielen, die ich bis jetzt hatte, war, dass ich MITTELmäßiger quasi, also dass ich nich mehr so weit RUNterfalle also dass ich AUSgeglichener spiele. (Murdock & Donovan, 2013, line 237)

In essence, the deliberate cessation of other mental activity in order to first become cognizant of and regulate his arousal level and emotional response, and then refocus and retain hope is what enabled Donovan to establish equilibrium in his performance, and plausibly, within his challenge-skill balance (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999) more consistently. By deduction, through Flow-PST students thus learned to effectively attune themselves to performing within their zone of optimal functioning (Hanin, 2000; Orlick, 2000) by establishing optimal arousal states and vying to maintain an optimistic, equanimous mindset.

When flow-conducive internal states acted in concert, a greater sense of equanimity ensued. Langston, for example, identified the sense of equilibrium he ascribed to feeling calm as inherently linked to arousal regulation: "mit Ruhe meinte ich ((…)), dass ich bin SO wie ich denke, wies fast optimal is, ne? Also nich ZU angespannt, ((…)) und nich ENTspannt, ne?" (Murdock & Langston, 2013, line 1324). Correspondingly, Donovan essentially designated his newfound ability to exercise greater emotional control as reciprocally fostering calm when faced with adversity. He described:

> dass ich eben nich mehr so tief reinfalle, also selbst wenn ich GANZ schlecht spiele dann kommt mal n Ausraster, wo ich so ‹‹vorgespielte Frustration› oh aragh›, aber danach bleib ich *cool*, also dann sag ich mir ‚okay Du spielst jetzt weiter' ((….)) und ich weiß, dass ich irgendwann wieder DA bin, also, dass ich wieder mein Tennis an mein Limit bringe, wo ich spielen kann ((…)) DAS denk ich is STÄRker geworden, also insgesamt [seit dem Seminar]. (Murdock & Donovan, 2013, line 867)

What is most meaningful here is that exercising emotional control was characterised as synonymous with re-establishing a flow mindset and thus underlies Donovan's ability to experience trust in his capability to regulate his emotional state (Robazza et al., 2004) and *reset* the stage for optimal performance. Chavez (2008) similarly reported that emotional

and arousal regulation are in fact factors which can help an athlete restore the experience of flow should the need arise. Whereas Donovan conveyed positive self-talk rather than a specific arousal regulation exercise as primarily fuelling self-encouragement to regain focus and a calm demeanour, purposeful, mindful self-reflection evidently fostered maintaining equilibrium in a similar fashion.

Comparable to arousal regulation-relaxation, other forms of inner reflection foster self-awareness and thus facilitate the regulation of arousal states. Ashe characterised his unique method of arousal regulation, albeit donned stretching, as one which involved both inversion and introspection. He explained:

> mir war's vorher zum Beispiel gar nich so bewusst, dass *stretching* jetzt auch ne mentale Fähigkeit is so, ne? Und dann ((...)) hat man sich erstmal wieder damit auseinander gesetzt, dass man ja eigentlich wirklich damit sein Wohlbefinden wieder n bisschen runterfährt einfach vom Kopf her n bisschen so richtig dieses gute Gefühl, wenn sich einfach ne, ne Spannung in der Muskulatur löst ((...)) einfach dann auch n bisschen besser hineinfühlen, ne? Anstatt so da hat man sich halt immer so mehr oder weniger dann einfach gedehnt. (Murdock & Ashe, 2013, line 878)

Beyond merely stretching, in a literal sense, it is herewith extrapolated that introversion and introspection were used as an arousal regulation strategy akin to that described by (Herwig et al., 2010) which entails "making aware and focusing on current emotions and bodily feelings" (p. 735). Decelerating and fostering the self-assessment of his thoughts and feelings is what enabled Ashe to optimise his thought processes or "runterf[ahren] einfach vom Kopf" (Murdock & Ashe, 2013, line 884). This plausibly resulted in Ashe's ability to feel more mindful, better attuned to his needs and thus regulate momentary physical and emotional states. Both Aherne et al. (2011) and Kee and Wang (2008) have demonstrated that an athlete's ability to adopt the skill of mindfulness is related to their ability to experience flow. Moreover, Brown and Ryan (2003) similarly deduced and could find evidence that mindfulness is indeed a means of self-regulation which promotes the regulation of one's emotional states and fosters emotional well-being.

In the context of relaying what was memorable about the key situation he described in which his mental training had made a difference, Ashe argued that his perceived enhanced mental strength subsequent to the Flow-PST seminar and his unique arousal regulation strategy in particular, inherently bestowed:

> die Fähigkeit sich eine Pause zu nehmen und an seine Stärken zurückzuerinnern ((...)) den Kopf vielleicht kurz frei zu machen und ((...)) nochmal in sich gehen und zu sagen was kann ich machen, um das [Match, mein Performance] vielleicht noch zu wieder zu retten. (Murdock & Ashe, 2013, line 1555)

The self-regulatory process delineated reflects Ashe's increased ability to take intentional action post Flow-PST, as Ashe's description implies fundamental cognizance that an intermission is in fact needed. Furthermore, introversion implies engaging in an evaluative assessment of one's internal states and needs; in this particular context, Ashe demonstrated having learned that positive instructional self-talk (Hardy et al., 2010; Hardy, Gammage, & Hall, 2001) including a behavioural, task-oriented cue must follow to *continue* fostering or reinstate (Chavez, 2008) a flow mindset. Delineating his distinctive arousal regulation strategy of introversion and introspection while stretching as an ability which distinguishes him from other athletes, Ashe further speculated:

> im Gegensatz zu anderen glaub ich schon, dass mir dieses *stretching*, was ich wirklich regelmäßig mache, auch einfach hilft so einfach auch dann härter trainieren zu können, ne? ((....)) ich hab das getan was mich was mir hilft sozusagen, um eben auf höchstem Niveau vielleicht dann für MICH auch meinem höchsten Niveau zu agieren. (Murdock & Ashe, 2013, line 775)

By extrapolation, what Ashe deemed stretching may have been exactly that—in a literal sense. However, it simultaneously entailed active introversion and introspection and was thereby a means of fostering physical and mental relaxation, increased inner awareness and arousal regulation. *Because* introversion and introspection *transcended* the primarily physical component of progressive relaxation techniques, it was thus preferential for Ashe. He explained: "ich würd halt immer das [Introversion und Introspektion, oder, *stretching*] bevorzugen zum Beispiel ((...)) anstatt so diese progressive Muskelrelaxtion oder autogenes Training ((...)) [weil] *stretching* ((...)) hat für mich noch bessere Effekte" (Murdock & Ashe, 2013, line 492). Describing the positive effect, Ashe shared: "ich fühl mich danach besser. Wesentlich besser. Auch vom Kopf her einfach, umso leichter einfach n Wohlbefinden is einfach mehr da" (Murdock & Ashe, 2013, line 464). It is the clarity of thought, or ease of mind to which Ashe alludes, which further attests to the comprehensiveness inherent in the arousal regulation strategy Ashe differentiated as stretching. Subsequent to the Flow-PST seminar, Ashe's more comprehensive stretching strategy gained substantial personal importance for him; he reported his habitual use thereof evocatively, stating: "das is absolut schon drinne, und ich glaub da hab ich auch

diese Verhaltensänderung so schon vollzogen sozusagen, dass es einfach so dazuhör-gehört wie das Zähneputzen am Morgen, ne?" (Murdock & Ashe, 2013, line 525). Unsurprisingly, the perceived improvements expressed were confirmed in his results on the respective TOPS 2 (Hardy et al., 2010) subscale; as depicted in Figure 5, post-intervention Ashe reported distinct increases in relaxation.[22] Having evidently internalised the personal value of his actions (Pelletier et al., 2013; Ryan & Deci, 2007), Ashe clearly demonstrated integrated motivational regulation to engage in arousal regulation by means of introversion and introspection as a fundamental regulatory strategy. Whether to regulate somatic responses, foster greater composure, or a positive attitude, the findings of Hardy, Gammage, and Hall (2001) as well as Hardy, Hall, and Alexander (2001) held true for the student-athletes in the study: Positive forms of self-talk frequently *accompanied* successful arousal regulation.

4.4.1.5.3 Talk the talk and you can walk the walk. Positive, instructional, and motivational self-talk played a prominent role for student-athletes. Commensurate to what is described in the leading literature (Hardy et al., 2010; Thomas et al., 1999; Hardy, Gammage, & Hall, 2001), students habitually employed the strategy to deal with mistakes, push their performance limits, and motivate themselves to remain persistent. From a rudimentary perspective, positive self-talk was identified as fostering a fundamentally optimistic outlook and belief in oneself and one's preparation. Substantiating findings posited by Hatzigeorgiadis et al. (2009), the student-athletes characterised pre-performance positive self-talk as something they employed to foster confidence and facilitate achievement of their goals. For example, Donovan described employing positive self-talk as instrumental in fostering the mental strength needed to persevere when feeling challenged in competition, arguing:

> ich kann weit HINten liegen aber ich kann noch AUFholen und wieder gewinnen, also spielt die körperliche Fitness natürlich viel mit rein, weil wenn ich mich dann schon körperlich schwach fühle, dann werd ich auch nich mehr den Glauben an mich haben ((....)) also ich kann ja meine körperliche Fitness in dem Moment nich ändern. Aber wenn ich in dem Moment positiv denke ((...)) dann kann ich vielleicht darüber noch alles rausholen, also ((...)) von daher glaub ich schon, dass das DESwegen so entscheidend is, weil wenn ich jetzt ja wie gesagt, wenn ich nur an körperlich[e Stärke] glaube aber in dem Moment mich schwach fühle bin ich verloren quasi, ne?

[22] Ashe reported a distinct increase in his use of arousal regulation as a performance strategy; i.e., from M = 1.00, SD = 0.00 pretest to M = 4.25, SD = 0.50 posttest (see Table 2).

> Wenn ich aber dieses positive Denken beibehalte, dann kann ich vielleicht sogar ne körperliche Schwäche damit ausgleichen. (Murdock & Donovan, 2013, line 189)

From Donovan's perspective, Flow-PST thus facilitated learning to replace negative thought patterns with positive self-talk. And, most essential for fostering a flow mindset, positive self-talk was characterised as important for regaining focus and emotional control (Herwig et al., 2010; Robazza et al., 2004) when dealing with perceived adverse situations. Langston similarly demonstrated the use of positive self-talk to foster an optimistic mindset. He did so by adhering to a three-step procedure prior to the performance of novel tasks, as introduced during Orlick's (2003c) *The Role of Imagery* audio-supported mental training exercise. Langston described:

> beim Krafttraining nehm ich dieses wa- was wir hatten, dass man sich erstmal so sagt okay, irgendwie Du kannst, also irgendwas kann ich GUT such ich mir immer was raus, was an dem Tag schon ganz gut geklappt hat und dann sag ich mir ‚okay, jetzt versuchst Du das und das klappt jetzt auch.' So. Das mach ich hau- ganz oft beim Krafttraining, wenn ich, grad wenn ich Gewichtssteigerungen hab oder meine neuen Übungen ausprobiere, die vorher nich unbedingt geklappt hat. (Murdock & Langston, 2013, line 470)

Positive self-talk was therefore employed to foster motivational drive (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001) and vie for greater achievement as well as to recall and reinforce previous beneficial actions. Langston continued by offering an illustrative example of the content of his motivational self-talk as he recounted, "also wenn ich jetzt KNIEbeugen mache, dann sag ich mir vorher, ‚ja, beim Kreuzheben warst Du heute viel stärker als sonst und jetzt kannst Du auch nochmal ne Scheibe rauflegen beim Kniebeugen, das klappt ganz bestimmt'" (Murdock & Langston, 2013, line 487). Similar to Langston's recount, Ashe also reminisced, describing his use of "diese positiven Selbstgespräche, [um] sich selber nochmal so zu pushen" (Murdock & Ashe, 2013, line 676) and as a means of reminding himself "dass man's ja eigentlich kann sozusagen" (Murdock & Ashe, 2013, line 680). Ashe described the process as conducive to mustering confidence to forge ahead "VOLL MOTIVIERT so nach dem Motto" (Murdock & Ashe, 2013, line 693). Further manifesting a positive attitude, Ashe additionally portrayed using motivational mastery self-talk (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001) to encourage himself to refocus and simultaneously remind himself "‚also jetzt greif ich nochmal an' sozusagen ‚ich vergess' mal was jetzt passiert is, dass ich die paar Punkte da abgegeben hab ((...)) jetzt gehts wieder von neues los'" (Murdock & Ashe, 2013, line

695). Furthermore, Ashe designated his now refined ability to use positive motivational self-talk as a means of fostering a relaxed, self-confident, and positive mindset as something which sets him apart from other athletes of similar athletic ability. As an illustration, he described:

> also dieses Selbstgespräch im Wettkampf ((...)) ich glaub ich bin recht selbstbewusst sag ich mal und kann mir das dann immer wieder vorhalten so wie ich will nich sagen wie großartig, aber wie *outstanding*, ne? Sozusagen ((...)) also ich glaub das kann ich ganz gut irgendwie so dass, dass ich dann Punkte finde, einfach für mich im Kopf, wo ich einfach besser bin ((...)) und mir die dann vorsage. Ob das nunmal so ist, dass weiß ich gar nich immer, aber ((...)) *talk the talk*, *walk the walk*, ne? (Murdock & Ashe, 2013, line 750)

What is decisive here, is that both the confident attitude Ashe ascribes to himself in performance situations as well as his purposeful use of relevant cue expressions evidently fostered his desired confident, focused, and optimistic flow mindset (Burton & Radeke, 2008). Moreover, Ashe's reference to the in-class exercises *Walk the Walk* and *Talk the Talk* are indicative of his adoption of the Muhammed Ali-like confident attitude imparted and fostered therein. Hence, embracing and embodying the calm, self-assured attitude associated with being prepared and in control, as conveyed in the exercises, was conceivably conducive to setting the stage for flow. As conceded by Ashe through his somewhat speculative assertion, "ob das nunmal so ist" (Murdock & Ashe, 2013, line 761), in regard to the lack of objective facts to support his confident attitude, tangible proof of performance excellence is not decisive. Rather, one must commit oneself to employing positive self-talk to *facilitate* self-trust (Moore & Stevenson, 1991) and an optimal self-affirming mindset. Interestingly, Langston correspondingly based his perceptions of the efficacy of his instructional self-talk on intuitive positive affect (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001), reflecting, "ob's wirklich was hilft kann man schwer sagen, weil man ja nich den Vergleich hat, aber ich hab auf jeden Fall n gutes Gefühl dabei und von daher denk ich wirds auf jeden Fall nich schaden" (Murdock & Langston, 2013, line 621). Although ostensibly expressing uncertainty in the value of his actions (akin to Ashe's previous speculative assertion), the described good feeling Langston experienced as a result of employing instructional self-talk evidently prompted its recurrent use. Hence, Langston's recount does in fact imply an underlying confidence in or subjectively perceived logic in employing the strategy.

Instructional self-talk is indispensable to Flow-PST because it has direct implications for an athlete's performance in competition. For Ashe, this became evident in a particularly memorable situation in which his mental training efforts were yielding the desired results. In his recount thereof, Ashe described:

> naja ich hab zum Beispiel gesagt den Einschlag ((...)) da weiß ich nich mehr er [mein Gegner] is immer ziemlich nah ans Netz gekommen ((...)) da hab ich gesagt, ‚wenn er jetzt nochmal rankommt, dann spielst Du n Lupfer,' also n *lob* ((...)) und dann, das hab ich auch gemacht dann, dann ((...)) ich sach[te], ‚wenn der jetzt nochmal angreift ((...)) dann spiel ich n Lupfer' ((...)) so diese Sachen. Ja und gerade im Selbstgespräch halt wirklich, das hab ich mir immer vorgehalten, dass ich immer gewonnen hab eigentlich ((...)) dass ich immer besser war und ich weiß jetzt gar nich warum das jetzt andersrum sein sollte heute. (Murdock & Ashe, 2013, line 1416)

In accordance with the findings of Hatzigeorgiadis (2006), while the exemplified self-talk is comprised of task-related executional instruction, technical direction, and strategical guidance, it nonetheless served a motivational function. Self-talk was instrumental for Ashe's ongoing efforts to cultivate optimal mental performance states. The importance of instructional self-talk for fostering technical performance refinement in particular has been similarly demonstrated in other scholarship (Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004; Hatzigeorgiadis, 2006) and, after developing the skill through Flow-PST, was employed and elucidated in detail by Donovan as follows:

> ich hab dann zum Beispiel mal, als ich meine Aufschlagprobleme hatte, vier fünf Trainingseinheiten mich hingestellt, [und] ne stunde Aufschlagtraining gemacht. Aber nich wie sonst, dass ich gesagt hab ich mach heute 200 Aufschläge ((...)) ich hab nur 50 gemacht vielleicht, aber hab davor mental immer gearbeitet. Das heißt ich hab genau DEN Aufschlag rausgepickt, mit dem ich Probleme hatte ((...)) mich hingestellt und mir vorher immer vorge- also vorgestellt wie sieht die Bewegung aus und wie mach ich den Aufschlag? Und hab mich dann hingestellt und mir gesagt, ‚Du kannst den Aufschlag.' Also und hab auch dann gesagt welchen Effekt hätte der auf den Gegner ((...)) ‚Du kannst den Aufschlag und DER wird Deinem Gegner Probleme bringen.' Und hab DANN mich hingestellt und hab nur drei Aufschläge gemacht vielleicht und wieder das Gleiche. Also das war von der Quantität der Aufschläge dann ganz gering aber von der Intensität viel höher. (Murdock & Donovan, 2013, line 586)

Deliberate mental rehearsal employing instructional self-talk (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Weinberg & Gould, 2003) subsequent to cognitive specific technical imagery (Hall, 1998, 2001; Munroe et al., 2000) was herewith characterised as instrumental in contributing to enhancing the quality of technical practice. As similarly conveyed in the findings of both Rushall, Hall, Roux, Sasseville, and Rushall (1988) and Hatzigeorgiadis et al. (2004), the task-specific instructional self-talk delineated by Donovan attests to the cognitive specific value thereof for skill development and execution (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001). Essentially, as demonstrated across the data set and illustratively outlined by Donovan in the previous extract, multiple types of self-talk for diverse purposes converged. While tactical and strategical instructions were paramount, the identified self-talk also entailed a cognitive general focus (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001) as it transcended mere facilitation of performance improvement and included a focus on the execution of strategy (game plans). For Donovan's strategy was deliberately chosen with the aim to evoke a specific "Effekt ((...)) auf den Gegner" (Murdock & Donovan, 2013, line 607). As such, Donovan's description ultimately delineated a refined awareness of his performance needs and his ability to evaluate, determine, and effectively implement the cognitive-behavioural strategies he subjectively perceived as most conducive to fostering his desired behavioural changes. Furthermore, it is equally noteworthy that by reassuring himself "Du kannst den Aufschlag" (Murdock & Donovan, 2013, line 609); Donovan's self-talk simultaneously signified an underlying desire to foster motivational drive (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001), or general self-affirming encouragement. The positive thought pattern which underlies such an affirmation exemplifies the fundamental ability to foster self-confidence and thereby a more flow-conducive mindset (Burton & Raedeke, 2008) which students reportedly developed during Flow-PST. Thus, unsurprisingly, Donovan identified his more purposeful use of self-talk and his positive, optimistic mindset as a clear newfound strength subsequent to Flow-PST, describing:

> ja [ich] bin mir meiner Fähigkeiten dann so sehr bewusst, dass ich egAL wies steht das Gefühl hab ich gewinne irgendwie im Endeffekt ((...)) also DAS bin ich mir sicher, also, dass ich da relativ stark bin, weil, ja wie gesagt, also ich bleib mir ((...)) meiner Fähigkeiten sicher und bleibe positiv und denke ‚Du schaffst das schon.' (Murdock & Donovan, 2013, line 856)

Donovan's confident assertions are conceivably a reflection of his engaging in the Flow-PST gestational learning process. As similarly demonstrated in other research (Chavez, 2008), heightened awareness of one's strengths and fostering unwavering confident belief

that, when recruiting those strengths, one can perform optimally, is in fact the key to unlocking one's capability to establish, maintain, and reinstate a flow mindset as needed. Yet, as with the construct of flow itself, employing self-talk to set the stage for optimal performance inevitably includes the coalescence of multiple factors.

When analysing the data set, clearly distinguishing the consequence and students' use of one strategy from that of another was challenging at best. As mentioned previously, blurred lines existed; the strategies were most commonly used in combination. The pattern of the student-athletes' deliberately employed self-talk in this pilot study was multidimensional, served multifaceted purposes, and was combined with other performance strategies. The student-athletes primarily employed a combination of motivational positive self-talk (Hanton & Jones, 1999; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Lerner et al., 1996; Thomas et al., 1999; Weinberg & Gould, 2003) and imagery to promote establishing an optimal mindset prior to performance (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Munroe et al., 2000). Whether by means of self-talk in the form of repetitive suggestions (Orlick, 2000) or a personal litany (Orlick 2000, 2003c), recitation of a personal mantra during or after a relaxation phase was evidently an important aspect of students' pre-performance game plans. Although previously exemplified in part, it is worthy of reiteration, from a different vantage point, that Donovan described an instance of his combined use of self-talk and imagery by explaining:

> das heißt mich erstmal entspannt hab DANN mir diese sechs sieben Sätze, die ich mir mal aufgeschrieben hab fünf, sechs Mal in Folge gesagt hab ((...)) und dann ganz bewusst ((...)) vorgestellt hab, wie meine Schläge kommen also wie sie ins Feld kommen. Ja im Prinzip das und das hat so zehn, fünfzehn Minuten insgesamt gedauert und dann [bin ich] aufm Platz gegangen und eben auch das umgesetzt mit viel Ruhe. (Murdock & Donovan, 2013, line 1374)

Clearly, the individual cognitive-behavioural strategies employed were experienced as transpiring in smooth transition from one to the next; yet, a slight overlap is presumed. Disputably, the initial reference to visualisation of successful tennis serves is indicative of motivational specific imagery (Hall, 1998, 2001; Munroe et al., 2000). Because the mental image described is both one of successful performance and the attainment of the actual performance goal: a legal service which successfully lands on the diagonally opposite side of the opponent's tennis court. Still, although a strategy is not explicitly delineated and thus renders the forthcoming alternative interpretation distinctly speculative, one could more convincingly contend that cognitive general imagery (Hall, 1998, 2001; Munroe et al.,

2000) is at play, for, as previously described, Donovan is a competitive athlete with years of experience. It is thus reasonable to extrapolate that in the afore described situation, an expert performer would vie for more than merely a successful service which purely lands in the opponent's court. Rather, to complete his 15-minute pre-performance game plan, it is only logical that Donovan would vie to set the stage for optimal performance by visualising the *strategical placement* of solid, strong cannon-like, *refined* serves. Therefore, Donovan's recount must be indicative of cognitive general imagery (Hall, 1998; Munroe et al., 2000).

As surmised by the participants, employing cognitive-behavioural strategies such as self-talk unequivocally facilitated more sophisticated mental performance than experienced prior to Flow-PST. Here, the students' narrative corresponds to the yielded psychometric results: While Langston and Ashe reported distinct increments on the self-talk subscale of the TOPS-2,[23] Donovan[24] reportedly increased his use of self-talk substantially post-intervention; a juxtaposition of those reported results can be found in Figure 5. Not only was the frequency and quality of their overall performance enhanced, the students' characterisation of their experiences are indicative of how the strategic use of self-talk and imagery instilled confidence in their overall performance abilities. When summarising his recount of when he first noted that mental training was yielding the desired results, Donovan described "diese beiden Spiele, die ich da gespielt hab, waren auch [auf einem] sehr hohem Niveau, also das war dann schon schon wirklich gut. Und das hat mir eben gezeigt, dass ich da spielen kann" (Murdock & Donovan, 2013, line 1399). Having experienced the ability to control optimal mental performance states has demonstrably been cited by athletes as a reason to vie to do so again (Grove & Lewis, 1996; Jackson & Eklund, 2004). Corresponding with what Donovan conveyed, both Grove and Lewis (1996) and Jackson and Eklund (2004) found that the athletes in their studies similarly reported faith in their ability to succeed in doing so as a result of having performed in flow. The sense of self-trust that one *can* perform in an optimal mental zone, if one appropriately sets the stage to do so, therefore, inherently implies the belief that one can in fact replicate the experience. It is plausible that the student-athletes thus deemed harnessing one's thoughts as essential to Flow-PST because they experienced their positive, instructional, and motivational self-talk as advantageously influencing their performance. Ultimately, *talking the talk* is a determinant of one's ability to *become* the potential one sees in oneself.

[23] Langston reported a distinct increase in his use of self-talk; i.e., from $M = 1.25$, $SD = 0.50$ pretest to $M = 2.75$, $SD = 0.50$ posttest. Ashe also reported a distinct increase in self-talk; i.e., from $M = 2.75$, $SD = 0.96$ pretest to $M = 3.75$, $SD = 0.50$ posttest (see Table 2).

[24] Donovan reported a substantial increase in his use of self-talk; i.e., from $M = 2.50$, $SD = 0.58$ pretest to $M = 4.50$, $SD = 0.58$ posttest (see Table 2).

4.4.1.5.4 I envision it, so I visualise it. This sub-theme "ich stell mir das vor, also stell ich's mir auch vor" (Murdock & Langston, 2013, line 853) captures two predominant patterns in students' imagery use: the inclusion of positive imagery to foster general motivation as well as cognitive specific imagery to facilitate technical performance improvements. The student's narrative thus suggests that employing imagery to fulfil these purposes ought to receive special attention in an eventual larger-scale study. Conformant with the postulated *gestational learning process*, the theme underlying all others in this analysis, positive imagery is identified as a key cognitive-behavioural strategy one can use only after one has become cognizant of one's performance needs.

The participating student-athletes specifically described the use of cognitive imagery (Hall, 1998, 2001; Munroe et al., 2000) with three objectives. Cognitive specific technical imagery was employed (1) to raise awareness of the desired performance goal by reminding themselves of the correct and desired execution pattern and (2) to refine a motor skill and actively facilitate instigating a technical change in movement execution. Moreover, cognitive general imagery was used (3) to reinforce the desired execution of the motor skill immediately prior to performance. Using Langston as a prime example, prior to the Flow-PST seminar, imagery had reportedly indeed been used, albeit instinctively: "Visualisierung beispielsweise ((...)) hab ich schon ich will jetzt nich sagen immer, aber schon jahrelang wahrscheinlich gemacht und mir war das aber gar nich so beWUSST ((...)), dass mir das ((...)) auch unterstützen kann" (Murdock & Langston, 2013, line 2019). What is of substantial importance for this particular theme is the described nescience. It implies both Langston's lack of knowledge and understanding of this key mental training strategy yet also his logically corresponding prior inability to regulate his performance-related behaviour. While how and when imagery was employed prior to the seminar was not the subject of discussion, it is herewith presumed that imagery had been subconsciously implemented in an indiscriminate and thus unrefined manner. Essentially, years of instinctive, unsophisticated imagery use had not facilitated Langston's desired performance refinements despite unequivocal cognitive awareness and procedural understanding of precisely how the motor skill in question ought to be executed. In this regard, the Flow-PST seminar was conveyed as disseminating required theoretical and practical knowledge needed to augment imagery use which had once been indistinct. Moreover, the seminar offered a framework within which one could learn to intentionally and consciously regulate and enhance performance:

> also wenn ich [früher] UNbewusst mir das schon mal vorgestellt hab oder was zu mir gesagt hab dann war das wahrscheinlich auch schon erstmal richtig so ABER

> DAdurch, dass ich jetzt n bisschen mehr drüber nachgedacht hab, hab ich nochmal n bisschen mehr die Möglichkeit das auch zu steuern. Also ich kann das jetzt besser nutzen als vorher, weil's nich einfach kommt, sag ich mal, im Moment, sondern weil ich jetzt auch sagen kann, ‚okay, jetzt denk ich mal ganz bewusst an was richtiges oder an was schon sehr gut geklappt hat,' ((...)) das kann ich jetzt besser nutzen als vorher. (Murdock & Langston, 2013, line 1845)

Thus, revisiting and refining imagery use in a formalised manner during Flow-PST led not only to the ability to consciously make use of the strategy post-intervention, but also to the strategical and purposeful implementation thereof. While Langston reportedly did not experience a key moment in which more optimal mental performance states ensued as a result of employing his cognitive-behavioural training strategies, his increased awareness did lead to more conscious behavioural regulation as needed. According to Langston, only with conscious implementation of cognitive specific imagery rehearsal did the desired technical change in his rowing stroke begin to transpire. For instance, he explained:

> also ich hab ja jetzt n bisschen Revue passieren lassen. Das waren eher halt so kleine Sachen [die besser wurden], ne? ((...)) beim Visualisieren dass ich jedes Mal gemerkt hab, okay, das hilft mir mich daran zu erinnern ((...)) den Arm gestreckt zu lassen. (Murdock & Langston, 2013, line 1753)

Prior to Flow-PST, experiencing his efforts to refine his technical execution as a fruitless pursuit left Langston with the belief that "wenn ich jetzt NICH dran denke mach ich von alleine sowieso nich ne?" (Murdock & Langston, 2013, line 1022). Certainly, his prior efforts cannot be deemed an exercise in futility. However, Langston herewith demonstrated the recognition that even with great expertise in his sport and coupled with more autonomous forms of motivational regulation to make desired changes, the cognitive-behavioural tools to fine-tune his performance were missing. Langston's cognitive specific imagery use inherently involved maintaining a process based task focus (Hall, 1998, 2001; Munroe et al., 2000). As such, it simultaneously fostered fulfilling the prerequisites for both Csiksentmihayli's (1990) clear goals and focus on the task at hand dimensions of flow. Moreover, both competent application of cognitive specific imagery and reaping the desired benefits thereof increased the participants' confidence in their ability to foster performance improvements.

Langston described his cognitive specific imagery use as instigating a progressive improvement in his technical execution: "also [die] Resultate [ist, dass mein] Arm is immer noch krumm aber nich mehr so krumm. Also er wird schon lockerer insgesamt ((...)) also

ich bin da aufm richtigen Weg" (Murdock & Langston, 2013, line 558). When engaging in and exercising their newfound competence in employing cognitive specific imagery, student-athletes inherently fostered central criteria for dispositional flow experiences. Fundamentally, the bridge between raised awareness and the desired outcome of improving technical performance yet also cultivating flow is forged by intentionally putting conscious thought into planning and *seeing* the successful execution of one's desired actions prior to their actual execution:

> mich unterSTÜTZT [Visualisierung] dabei das so zu machen wie ich's machen möchte einfach nur, weil ich dran denke. Es ist ja erstmal ne Grundvoraussetzung, wie gesagt ich Ruder ja jetzt schon seit 16, 17 Jahren [ich] habs jahrelang nich perfekt gemacht [und] wills jetzt ändern. Dann is [es] natürlich immer n bisschen schwierig wenn mans jahrelang falsch gemacht hat DANN anders zu machen. Wenn ich jetzt NICH dran denke mach ich von alleine sowieso nich ne? Dann bleibt der [Arm] immer krumm. Das heißt, dieses dran denken, dieses VORstellen. (Murdock & Langston, 2013, line 1011)

Here too, evidence of the presumptive gestational learning process is apparent: Langston's desire to improve his inaccurate technical execution motivated him to take action when the Flow-PST opportunity presented itself. Awareness of what one aspires to do and employing cognitive specific imagery to take intentional action is inherently linked to one's locus of motivational regulation. Langston's reference to the subjectively perceived less than ideal quality of his performance is associated with twofold acute awareness. He is both aware of his technical skill level and room for technical improvements. Moreover, beyond the overt indication of a desire to change, the attitude underlying his ostensible determination or drive to initiate action—as a final resort—speaks volumes. Adopting a polemic stance: Having attained an unparalleled level of athletic success, (it eventually became clear that Langston was a national champion in his sport), he indisputably placed higher demands on his performance and the effort put forth in class than most other participants in the pilot study—with merely the exception of Donovan. Therefore, Langston is arguably conveying a form of identified motivational regulation to act (Pelletier et al., 2013; Ryan & Deci, 2007). As the determination to instigate change was impelled by implicit subjective demands: the desire to break a cycle and demonstrate greater competence by improving incorrect technical execution. So too can a case be made for integrated forms of motivational regulation, however. *Because* Langston is a high-performance athlete, he can be perceived as someone who generally puts forth volitional effort in his sport; the value of such sustained and tenacious effort was likely not only

internalised, it also reflects the grit associated with achievement (Duckworth, 2016; Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Gross, 2014). This is of relevance in the current context and pertinent to future research because one's willingness to engage leads not only to greater satisfaction but is also associated with flow (Peterson, Park, & Seligman, 2005). Such grit is thus plausibly directly linked to the wilful evocation of flow states. Culin, Tsukayama, and Duckworth (2014) have in fact demonstrated a positive association between engagement, persistence, and the predominantly self-determined forms of motivational regulation which presumptively underlies grit. Hence, as sustained effort towards a superordinate goal (Duckworth & Gross, 2014) is indicative of a clear personal commitment to facilitating goal achievement, Langston's engagement reflects more integrated than identified motivational regulation. External pressure is neither articulated nor presumed; internal drive to fulfil his self-directed and self-imposed performance demands prevailed. Furthermore, based on Langston's narrations, he must also belong to the type of high-achieving student Nakamura (1988) suggests is naturally inclined to actively seek challenges and thus continuously recruits and further develops their highest skills. Essentially, while it can be argued that Langston wavered between two types of motivational regulation to engage, change evidently remained visionary without systematic effort using imagery.

In an illustrative example indicative of the content of his mental imagery, Langston described:

> beispielsweise hab ich den Arm immer n bisschen krumm beim Durchzug und nich ganz gerade und ich stell mir dann beim Vorrollen schon immer nen ganz geraden Arm vor und streck ihn dann meistens auch ganz gut und, naja. Mal klappt's mal klappt's nicht, aber ich bilde mir ein, dass es ganz gut is, wenn ich da dran denke, dass es dann auch BESSER klappt, als wenn ich gar nich dran denke. Und deshalb stell ich mir das dann doch schon relativ häufig vor bei der Technik. (Murdock & Langston, 2013, line 504)

While articulating uncertainty as to the efficacy of his actions due to inconsistent successful outcomes, the referenced frequent use of cognitive specific imagery as a behavioural regulation strategy nevertheless provides evidence that Langston had in fact internalised the ostensible value of using mental and kinaesthetic imagery. In combination, he characterised them as a viable means through which a student-athlete can actively refine and recreate desired movements accurately. Having further developed and begun to *intentionally* implement imagery as a cognitive-behavioural performance enhancement

strategy, Langston later evocatively explained "ich stell mir das vor, also stell ich's mir auch vor" (Murdock & Langston, 2013, line 853). Moreover, by recurrently purposefully visualising the correct technical execution of the skill in question and then vying to emulate that performance more habitually, Langston experienced trust in his perceived newfound ability to foster the desired change towards achievement of his performance execution goal. He expressed:

> ich denk schon, dass mich ((...)) das dabei unterstützt, wenn ich mir das vorstelle jetzt mal den Arm und auch im Kopf, wenn ich mal die Augen ab und zu zu mache und mir das richtig vorstelle, wie der Arm aussehen MÜSSTE, wenn er gerade ist, [ich denke schon,] dass mir das denn hilft den [Arm] wirklich gerade zu lassen. (Murdock & Langston, 2013, line 831)

Further, Langston reported the aforementioned behavioural change as consistent, albeit minimally:

> dieses Visualisieren mit dem gestreckten Arm, das funktioniert, weil in dem Moment hab ich den Arm einfach gerade solange ich dran denke 100%, wenn ich wieder nich dran denke kommt wieder Automatismus, [es] wird schlechter. Insgesamt, jetzt mit der Zeit [ist es] schon besser als bevor ich da jetzt bewusst dran gearbeitet hab. (Murdock & Langston, 2013, line 1787)

Langston's perceived intermittent improvement corresponds with his psychometric test results. As depicted in Figure 5, in which the pre- and post-intervention TOPS 2 (Hardy et al., 2010) scores were conveyed, he reported mere marginal improvements for automaticity.[25] From an information-processing perspective of attentional processes and the limits to its capacity (Abernethy, 2001), Langston presumably returned to control processing (Boutcher, 2008) characterised by unadept technical execution as a reflection of the conscious attentional processes associated with learning, or, in this case, refining, a motor skill. Because deliberate attention was needed, automatic processes were interrupted by necessity. Essentially, while cognitive specific imagery use required a deliberate attentional focus on finite performance elements, thus interrupting automatic processes, Langston's use thereof, however, fostered the concentration on the task at hand dimension of dispositional flow. This too was substantiated in Langston's psychometric

[25] Langston reported marginal improvements on the automaticity subscale of the TOPS-2; i.e., from $M = 4.25$, $SD = 0.96$ pretest to $M = 4.75$, $SD = 0.50$ posttest (see Table 2).

test results: As portrayed in Figure 6, Langston reported a distinct increase in concentration on the task at hand[26] post-intervention.

In accordance with Csikszentmihalyi's (1990) theory of flow, in the absence of a task-oriented focus in pursuit of a clear goal, optimal mental performance is less likely. Langston's experience, hence, substantiates the postulation that optimal performance states cannot ensue without adequate concentration on the task at hand. Moreover, the tenable consequence is that cognitive specific forms of mental imagery in particular must be regarded as offering student-athletes a means to generate the ineluctable task goal focus requisite for flow states. It is essential to recognise, however, that flow is characteristically the result of a lack of overt control of performance (Munroe et al., 2000) and engaging in cognitive specific imagery is indeed a controlled act. As students' reported imagery use in the current research context primarily focused on technical execution and movement correction (Hall, 1998, 2001; Munroe et al., 2000), these interpretations refer to merely such contexts. Nonetheless, it is herewith posited that when vying to set the stage for optimal mental performance states, a necessary concession one must accept is the brief interruption to automatic attentional process (Boutcher, 2008) which are not in accordance with one's task-related performance goals pertaining to the execution of a motor skill. Along those lines, yet from a neurocognitive vantage point, Dietrich (2004) proposed that, when in flow, one recruits a highly efficient, *implicit* information processing system, which is not a part of one's conscious awareness, yet is directly related to the automatic execution of motor skills, for example. Conversely, the *explicit* information processing system, pertaining to that of which one is in fact aware, is plausibly inhibited when one is in flow. Dietrich further argued: "We must enlist the help of the explicit system to improve performance" (2004, p. 757). This is precisely what was reflected in Langston's experience. Adopting Dietrich's (2004) framework, it is the switchover from implicit to explicit information processing which is detrimental for the quality of one's technical execution, or, here, which substantiates why attention is or can no longer be optimally directed during the performance of even highly internalised skills. Despite the interruption to effortless, implicit information processing, by consciously employing cognitive specific imagery, Langston could facilitate the performance of more cognitively demanding tasks including the rehearsal, refinement, and reinforcement of the technical execution of his rowing stroke.

[26] As detailed in Table 3, Langston reported a distinct increase in concentration on the task at hand; i.e., from $M = 3.75$, $SD = 0.50$ pretest to $M = 5.00$, $SD = 0.00$ posttest.

Albeit previously analysed as a key example of student-athletes' use of self-talk, Donovan's recount of how he approached improving his tennis serve also offers a clear example of not just how cognitive-behavioural strategies were instinctively combined but also how the cognitive and motivational functions of his imagery use converged:

> also [es] gibt im Tennis verschiedene Techniken und EINE Technik war immer mein Problem und [ich] hab genau DIEsen Aufschlag genommen, mich hingestellt und mir vorher immer vorge- also vorgestellt wie sieht die Bewegung aus und wie mach ich den Aufschlag? Und hab mich dann hingestellt und mir gesagt, ‚Du kannst den Aufschlag.' Also, und hab auch dann gesagt welchen Effekt hätte der auf den Gegner? ((...)) ‚Du kannst den Aufschlag und DER wird Deinem Gegner Probleme bringen.' (Murdock & Donovan, 2013, line 599)

The content and function of Donovan's referenced imagery is of relevance here. Engaging in visual rehearsal of the (a) specific skill and movement sequence and actually seeing the (b) execution of the planned strategy as (c) specifically related to the pursuit of his performance goal unambiguously reflects Donovan's use of three types of imagery: to fulfil cognitive specific technical, cognitive-general, and motivational-specific functions of imagery (Hall 1998, 2001; Munroe et al., 2000), respectively. Furthermore, here, the extract demonstrates that an athlete's self-talk is inevitably linked to images in the mind. From theoretical (Annett, 1996) and functional (Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001) perspectives, the performance enhancement strategies are therefore ineluctably related. It is thus only logical that the use of multiple strategies occurred in conjunction, as proposed in other research as most conducive to enhancing performance (Cumming et al., 2006; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001; Hall, Moore, Annett, & Rodgers, 1997; Landin & Hebert, 1999). This pattern suggests that in future studies, attention ought to be given to specifically addressing how, when, and why student-athletes can benefit from combining the cognitive-behavioural strategies introduced with even greater intentionality.

4.4.1.5.5 Audio-supported mental training is not for me; yet, I still find it important. Audio-supported mental training was resoundingly characterised as a double-edged sword. In completion of and as a complement to the overarching theme *With Easy Little Things, One Could Change a Lot*, the final sub-theme, *audio-supported mental training is not for me; yet, I still find it important*, captures students' advocacy for audio-supported mental training as the quintessence thereof albeit categorically unfavoured as of personal importance for the interviewed participants. As unequivocally expressed by Ashe, for instance: "Für mich

wäre das jetzt nichts gewesen" (Murdock & Ashe, 2013, line 1645). Although favourably regarded as offering a unique perspective of mental training and thus worthy of inclusion in future seminars, the student-athletes simultaneously portrayed audio-supported mental training as a necessary evil which they would personally prefer to avoid in future. Moreover, the narrative bears great importance because it discloses students' willingness to disregard or forsake enjoyment in deference to what they tenably deduce as higher order learning objectives (Anderson, Krathwohl, Bloom, 2001; Krathwohl, 2002). Through their narrative, it became clear that the student-athletes perceived *enjoying* their engagement as subordinate to gaining experience in terms of this particular strategy. Thus, the inclusion of the discourse surrounding audio-supported mental training is essential to the narrative of the data set because, despite personal reservations, the strategy was nevertheless clearly defined as a key component worthy of inclusion in future seminars.

Audio-supported mental training was considered the perfect embodiment of and ineluctable to psychological skills training. In their definitions of mental training, however, the students characterised an assumed dichotomy rather than a mutually reciprocal relationship between mental and physical processes, or how mental rehearsal facilitates enhancing physical performance (Feltz & Landers, 1983; Munzert, Lorey, & Zentgraf, 2009; Richardson, 1967a, 1967b). Langston emphasised, for instance, "*reines* [Hervorhebung hinzugefügt] mentales Training ((...)) hätt ich jetzt so definiert ((...)) also wirklich, dass man dann da hauptsächlich die Zeit auf den mentalen Schwerpunkt legt und nich so auf das körperliche" (Murdock & Langston, 2013, line 356). Langston's underlying logical deduction, therefore, designated pure, unadulterated mental training as restricted to time intentionally dedicated to primarily cognitive rather than physical engagement. Early in the interview, when describing to what extent he engaged in what he deemed mental training, Langston revealed:

> okay da muss ich ehrlich sagen, dass ich beWUSST in dem Sinne nich wirklich mentales Training mache wie ich jetzt, also jetzt mal, wie ich normal trainiere mach ich ((...)) fürn Körper viel Training ((...)) aber menTAles Training an SICH beWUSST fast gar nichts so würd ich jetzt sagen, ne? (Murdock & Langston, 2013, line 297)

Moreover, Langston later similarly professed: "also da dieses wirklich hinsetzen und wirklich NUR mental irgendwie zu arbeiten jetzt CD anhören, autogenes Training oder irgendwie sowas, das passiert gar nich, würd ich jetzt mal so sagen" (Murdock & Langston, 2013, line 426).

Although the enquiry concerning what mental training practices he engages in was potentially slightly misinterpreted, these extracts bear importance beyond the mere exclusion of audio-supported mental rehearsal in one's overall training plan subsequent to Flow-PST. Langston's admission substantiates his designation of mental rehearsal as reliant upon conscious, unilateral engagement in behaviours conducive to performance, as opposed to what it indeed ought to be: Something which complements and augments one's training. As Langston further explained, "dass ich jetzt wirklich mich hinsetze und denn ne HALBE Stunde in dem Sinne nur menTAL trainiere und beispielsweise dieses *Terry Orlick* oder was auch immer mach, das wär jetzt nich so der Fall" (Murdock & Langston, 2013, line 346). Mental training, in general, had thus been mistakenly considered as synonymous with engaging in audio-supported mental rehearsal. It is plausible that this mistake is a reflection of the emphasis placed on engaging in an audio-supported mental training exercises as a conclusion to each of our seminar sessions.

In the context of suggesting what ought to come forth in future seminars, Ashe clumsily referenced Dr. Terry Orlick's audio mental training exercises (2003a, 2003b, 2003c, 2003d) as fundamental. He reminisced: "ja zum Beispiel, dann fällt mir jetzt grad ein, wir haben ja viel Praxis auch gehabt mit ((...)) diese CDs sag ich mal (Murdock & Ashe, 2013, line 1844). At that juncture, the follow-up request was made that he indicate which specific themes he deemed worthy of retaining in the seminar in future. In response, Ashe described three key strategies, all introduced via audio exercises conducted in class, as integral practical exercises for future student-athletes to engage in: "dazu gehört dann eben diese Sachen Entspannung, Selbstgespräche, Visualisieren von neuen Bewegungen, so diese Sachen" (Murdock & Ashe, 2013, line 1818). Here, it is worthy of reiteration that Donovan also identified arousal regulation or "dieses *one-breath relaxation* mit Bildern verbunden" (Murdock & Donovan, 2013, line 459) as the foundational practical exercise upon which all of his mental training is based. Although the source of Donovan's arousal regulation strategy was not conveyed as Orlick's (2003a) *One-Breath Relaxation* audio-supported exercise, which was introduced, practiced, and discussed in the seminar, for example, the participants' consistent implicit references to audio-supported mental rehearsal conveyed the method of cognitive-behavioural rehearsal as not just a component of but *the* unadulterated form of mental training students conceived.

Although unequivocally advocating the universal merit of audio-supported mental training, an underlying antipathy permeated the students' recounts. For example, Langston conveyed this typical feature of the sub-theme explaining: "an sich liegt's auf ner

anderen [Ebene], deshalb find ich das eigentlich relativ gut das in so nem Seminar zu integrieren, auch wenns mir persönlich jetzt nich so viel bringt" (Murdock & Langston, 2013, line 2104). For Langston, audio-supported mental training was less revered because he simply felt "[es hat] mich dann persönlich nich ganz so berührt ((...)), ne?" (Murdock & Langston, 2013, line 2316). Further examples of the students' disinclination to independently use the strategy included "für mich wär das jetzt nichts gewesen" (Murdock & Ashe, 2013, line 1645) and "ich komm da ((...)) gar nich mit klar so richtig" (Murdock & Langston, 2013, line 2088). Clearly, the strategy offered little personal appeal. The students' evident disdain is precisely what makes it remarkable that they nonetheless suggested the inclusion of the mental training method in future.

Remarkably, although not adopted for individual use, all athletes interviewed had ostensibly internalised the inherent importance of audio-supported mental training, even if it was clearly framed as favourable for *others* to engage in. Articulating a focus on the needs of others, Langston pointed out:

> ich hab das Gefühl, dass einige da n ganz gutes Gefühl bei hatten, hatt ich jetzt auch irgendwie, mein ich, gehört zu haben von Kursteilnehmern, dass sie diese *Terry Orlick* Geschichte ganz gut fanden und, WEIL'S halt nochmal irgendwie auf ner anderen Ebene lag, DEShalb würd ich's mit reinnehmen [in zukünftige Seminare], muss ja nich immer alles Spaß machen, ne? Ja, weil, weil's ja die Perspektive noch son bisschen erweitert. Das gehört auch dazu und man muss es nich lieben, aber es gehört dazu. (Murdock & Langston, 2013, line 2129)

Such an example demonstrates the ambivalence characteristic of this sub-theme. It conveys an understanding of academia as an environment in which one must accept unfavourable curricular content as an ineluctable evil. That perspective, however, also relies on the assumption that academia need not be an environment in which fostering positive emotions such as joy, pleasure, and fun is a paramount goal. Yet, it is the aforementioned positive emotions and enjoyment which are inherent to the intrinsic motivational regulation (Pelletier et al., 2013), optimal (Jackson, 2000; Csikszentmihalyi, 1990), and autotelic experiences (Jackson & Csikszentmihalyi, 1999; Jackson et al., 2010) which were hypothesised as essential for fostering *autonomous* student engagement and learning-processes during the Flow-PST. Force-feeding an inharmonious strategy, characterised as both disliked, yet nonetheless valuable, simply cannot be an ideal solution. Given that devoid of perceived autonomy, intrinsic motivational regulation will not follow (Ryan & Deci, 2007), the mandatory inclusion of a universally endorsed, yet debatably

undesired strategy such as audio-supported rehearsal would potentially undermine students' more autonomous forms of motivational regulation. Still, it is logical that only *after* experiencing a respective method of cognitive-behavioural training, can students determine what works best for them.

Students' experiential evidence provided the basis for selection, or *rejection* of audio-supported mental training as a cognitive-behavioural strategy of choice for *their* mental training endeavours. When vying to actively listen during the interview, I misconceived Langston's aversion to the audio exercises as a sign that he did not deem them beneficial. In the context of elucidating his motivation for participating in the mental training seminar and what he could reap from it, Langston corrected my misinterpretation and clarified:

> theoretisch hab ich auch, ich habs [an dem Seminar teilgenommen] ja jetzt nich nur für meine eigene sportliche Sache gemacht sondern auch, dass man vielleicht mal so ne Idee hat FALLS man mal jemandem IRGENDwas empfehlen will ((...)) dafür studiert man ja auch irgendwie Sport, dass man theoretisch besser Bescheid weiß und DAfür fänd ich's [*audio-supported mental training*] jetzt auch SEHR interessant, dass man das zumindestens weiß und mal bei so Sportlern, die vielleicht eher auf so ne Methode ansprechen ((...)) also das erstmal dazu zum Thema hat mir gar nichts gebracht wär jetzt so falsch gesagt. (Murdock & Langston, 2013, line 2168)

At this juncture it is once again important to reiterate that, should an autotelic personality (Csikszentmihalyi, 1988a, 1988b) exist, or, as the evidence suggests (Grove & Lewis, 1996; Jackson et al., 1998; Nakamura, 1988), should individual differences in the innate propensity one has to experience flow exist, Langston's narrative must be unequivocally demonstrative thereof. Even if it were not the case, as a future educator, Langston's arguably innate general curiosity and desire to engage and learn are so ingrained that they are inseparable from his characterisation of (all) those who study sport science with the aspiration to become a teacher. That finding would correspond to the similar logical deduction Nakamura (1988) derived at in his study of teacher education students. Whether a reflection of an individual difference or not, the attitude toward learning Langston conveyed is a reflection of the internalised value of gaining knowledge *per se* and thus indicative of his integrated motivational regulation (Pelletier et al., 2013; Ryan & Deci, 2007) to engage. Still, learning for personal benefit *and* for the purpose of disseminating knowledge were underlying goals; achieving merely his own psychological performance increments was not his singular focus. Thus, a somewhat weaker, yet nonetheless viable

argument could in fact be made that identified motivation (Pelletier et al., 2013; Ryan & Deci, 2007) governed Langston's engagement. For the knowledge gained would be indispensable in his planned profession. Particularly for those who would plan to potentially introduce the strategy to others, experiencing audio-supported mental training *is* advantageous. Hence, through experiencing the method of mental training during Flow-PST, students will further develop their knowledge base. While characterising the Orlick (2003a, 2003b, 2003c, 2003d) exercises as conducive to expanding one's general knowledge, Langston eloquently insisted:

> ja, weil, weil's ja die Perspektive noch son bisschen erweitert ((....)) jetzt nich nur für die anderen erweitert, sondern auch für mich. Also dadurch, dass ich das gemacht hab und gemerkt hab, okay, das is nich unbedingt meins da hab ich ja auch was von, wenn ich weiß, was ich NICH will ne? (Murdock & Langston, 2013, line 2142)

Hence, while students are still unbiased, the experience to be gained from audio-supported mental training can be of value; one need not choose to adopt the strategy to deem it a success. Langston further emphasised how trying each respective technique introduced during the Flow-PST seminar fostered his cognizance and thus decision-making in terms of which strategies to include in his personal mental training plan, suggesting, "praktisch würd ich's selber nachdem ich's ausprobiert hab nich regelmäßig machen, weil, wie gesagt, dass is auch ne Erkenntnis, die ja erst nachm Ausprobieren kommt" (Murdock & Langston, 2013, line 2199). From a more comprehensive perspective, this logic is conceptually related to the reflection and evolving awareness at the core of the overarching theme of the *Gestational Process of Cultivating Flow*. Therefore, even if not wholeheartedly embraced by any of the interviewees, it is conceivable that the participants argued for the inclusion of audio-supported mental training components in Flow-PST because they felt it fostered students' general awareness and broadened their perspectives. Nevertheless, the participants clearly felt that, by necessity, a student's plight includes periodically adopting a sense of obligation to engage (Sheldon & Schachtman, 2007).

According to the interviewees, future students should be obligated to experience audio-supported mental training for the simple reason that those students could potentially deem it beneficial. Despite the prevailing negative characterisation of audio-supported mental training, Ashe, for example, suggested "das müsste man hö- glaub ich am eigenen Leibe sozusagen erfahren, ((...)) um das für sich zu gewinnen" (Murdock & Ashe, 2013, line 1666). Whereas previously delineated arguments students put forth for the inclusion of the strategy were embedded in a desire to offer variety and broaden

perspectives, here, advocating for the strategy was based on the suggested logical consequence of gaining personal experience with audio-supported mental training in class. The underlying assumption was arguably that, as a mere consequence of engaging in-class, seminar participants will use and become confident in the viability and value of the strategy. That supposition was not unlike what underlay the premise of the current pilot study. Nonetheless, the ostensible flaw in logic is that it was evidently *not* realistic to assume that mere *engagement* in a viable strategy will lead to students' increased *commitment* to its usage. (This, of course, is equally worthy of additional consideration when refining and conceptualising a larger-scale Flow-PST study in future.) For even though Langston, Ashe, and Donovan regularly experienced audio-supported mental training in the Flow-PST seminar; none became enthused as a result. An important contributing factor which mediates a students' captivation with this or any other cognitive-behavioural strategy, however, is the motivational regulation underlying a student-athlete's participation. Therefore, the students' narrative substantiates the notion that only with sufficient interest in and true internalisation of the personal relevance and value of a strategy can truly volitional engagement be anticipated (Pelletier et al., 2013; Ryan & Deci, 2007).

Essentially, as demonstrated under the overarching theme *With Easy Little Things, One Could Change a Lot*, students' raised awareness contributed to their ability to consciously regulate their behaviour and efforts towards the wilful evocation of flow states. The interviewees expressed confidence in four fundamental behavioural regulation strategies which they perceived as indispensable in consciously setting the stage for flow: goal setting, arousal regulation, self-talk, and mental imagery. By first raising awareness of their performance needs via performance profiling (Butler, 1992; Taylor & Taylor, 1995), for example, students were able to identify clear goals towards their subjectively perceived optimal performance states. Through the students' narrative it became clearer that not only clear goals, but establishing and adhering to specific mental plans and goal implementation strategies were vital to cultivating optimal mental performance states. In addition, the participants discovered that their use of arousal regulation-relaxation strategies fostered greater emotional control, calm, and thereby the self-trust which promotes self-confidence (Hays et al., 2005; Vealey & Chase, 2008); combined, these were plausibly essential precursors to optimal mental performance states (Chavez, 2008). Likewise, self-talk and cognitive imagery promoted increased motivation and technical improvement as well as the successful development, enhancement, and eventual execution of student's desired performance states and outcomes. When everything came together, the aforementioned identifiable *easy little things* enabled truly optimal mental performance to

ensue. To reap the benefits of the cognitive-behavioural strategies conducive to flow, student-athletes must merely engage. When systematically approaching the endeavour in academic contexts, however, an equilibrium must be found between offering students explicit guidance and complete autonomy.

4.4.2 Give us freedom… But not too much. While "choice alone does not sufficiently characterize an autonomous or controlled motivational disposition," (Hagger et al., 2014, p. 581) this theme examines students' beliefs, suggestions, and underlying locus of motivational regulation when presented with the power to make autonomous decisions. Specifically, *Give Us Freedom… But Not* Too *Much* explores the diametrical ways in which students characterised the challenge of finding a balance between their perceived room for autonomous decision-making and feeling overwhelmed with choice—in Ashe's words: "is n schmaler grad" (Murdock & Ashe, 2013, line 1196). Whereas some students espouse the desire for and importance of freedom of choice in Flow-PST, others encouraged the need for an educator to anticipate indolence in the face of freedom. Those convinced of the latter essentially argued that it is more likely that an external locus of control will yield the desired levels of engagement. The theme addresses student autonomy from the perspective of reconciling the aspirations and expectations of an educator with the reality of working with students who exemplify varying forms of motivational regulation. In one respect, it is clear that the students' recounts convey an implicit plea for freedom in determining their cognitive-behavioural strategies of choice. Yet, caveats against *too* much freedom offered evidence of two divergent approaches toward and perceptions of the autonomy bestowed upon students during the Flow-PST seminar. As similarly found by Carli et al. (1988), while some student-athletes embraced and relished in the freedom, others were overwhelmed, seemingly paralysed, by it. Thus, the students' narrative demonstrated that rather than unequivocally inciting action, necessitating students' self-determined decision-making presented a reason for which some participants described less engagement than anticipated.

Students who want to learn *will*; they articulate a desire for autonomous control of their engagement. Athletes who characterised themselves as truly engaged in Flow-PST espoused the value of having the freedom to develop their own unique mental training programs; this clearly corresponds to tenets put forth in research touting the importance of individualisation of psychological skills training programs (Curry & Maniar, 2003; Seabourne et al., 1985; Weinberg & Williams, 2001). Sharing his positive perception of the autonomy bestowed upon him, Langston described, for instance, "ich fand für mich hatte das mehr Vorteile, weil ich denke, dass das [mentales Training ein] sehr individueller

Prozess is" (Murdock &Langston, 2013, line 1689). Those who relished in the freedom characterised gaining experience with their chosen mental training strategies as an indispensable aspect of the Flow-PST gestational process. Specifically, autonomy in determining one's mental training plan offered essential experiential evidence which was used to determine which strategies were most beneficial. Langston argued:

> also die Übungen sind so unterschiedlich, wirken auch ganz unterschiedlich, bei manchen Sachen hat man n besseres Gefühl, bei manchen hat man vielleicht n schlechteres Gefühl und man muss ja selber für sich rausfinden was einem so am besten liegt (vielleicht) und, wenn Du jetzt sagst, keine Ahnung, mach erst Visualisierung, dann *Orlick* [audio-unterstütztes mentales Training] und dann DAS und drei Mal die Woche und weiß ich nich, also n PLAN, TRAININGSplan aufstellen, MENTALEN Trainingsplan, denk ich funktioniert das nich so gut, also, weil's ((...)) [halt] dann immer son pauschaler Plan is, ne? (Murdock & Langston, 2013, line 1702)

Clearly, the rejection of sweeping guidelines and strategies dictated by an instructor was indicative of students' understanding of the importance of recognising and attending to their *subjective* needs and perceptions. In this context, external intervention was characterised as something which would have impeded rather than facilitated the learning process. Further substantiating that premise, Donovan asserted:

> also grade bei sowas, weil das ja hochindividuell is, also, ich muss dann eben grade spüren, dass ich mich innerlich dazu, also, mich damit personifizieren kann, mit der Übung oder mit dem mentalen Training, und DAS könntest Du mir ja nich vorgeben. (Murdock & Donovan, 2013, line 1311)

To what extent a participant considers a strategy an embodiment of their individual needs is, naturally, inherently related to their reasons for engagement. In Donovan's case, autonomous decision-making necessitated—at least—identified motivational regulation (Pelletier et al, 2013), whereby independent choice allowed the establishment of the requisite sense of personal identification with and importance of the mental training strategies introduced and eventually employed. This hence elucidates the role of student-autonomy as conducive to the mental training experiences of those students who desire freedom and exhibit predominantly self-determined forms of motivational regulation. An educator can certainly *facilitate* students in the process of determining their respective optimal mental performance needs and means of fulfilling them. However, as delineated in the overarching *Gestational Process of Cultivating Flow*, this is plausibly best realised if

students are first interested in and willing to actively engage independently on an ongoing basis.

Only through practical experience can students learn to access requisite subjective emotional experiences (Hanin, 2000) and habitually establish internal conditions conducive to subjectively ideal performance states (Csikszentmihalyi, 1990). The students' narrative demonstrated that, as these internal conditions are naturally unbeknownst to an educator, it is imperative that students independently determine strategies for their Flow-PST programs in accordance with their individual rationale. As identified by Donovan, subjective criteria for that rational are readily available. For instance, in the context of explaining how he chose specific techniques, Donovan delineated his decision-making process as dictated in part by subjective criteria "einfach nach Gefühl" (Murdock & Donovan, 2013, line 1274). He thereby engaged in tasks which he deemed "simpel zu erlernen" (Murdock & Donovan, 2013, line 1280) because they were "alltagsnah" (Murdock & Donovan, 2013, line 1283) or which he was convinced "hat schon Sinn" (Murdock & Donovan, 2013, line 1285). Naturally, a competent educator can aptly determine and convey the practical relevance of and simplicity with which the strategies introduced can be learned. In the Flow-PST pilot study, attention was given to demonstrating the efficacy of each given strategy, providing students with an explanatory rationale for the choices offered, (Reeve, 2009) and the relevance of each task was clearly explained in an effort to thereby foster each participant's conscious decision-making process and autonomy (Assor et al., Roth, 2002; Reeve, 2009). Despite adopting those autonomy-supportive instructional behaviours (Reeve & Jang, 2006) and the recurrent instruction that students should employ what *they* intuitively deemed befitting, choice and the described attempt at providing autonomy support did not unwaveringly result in greater student engagement. An inadequately considered and potential mediating factor had plausibly lain in students' unfamiliarity with such autonomy; the unanticipated freedom apparently induced uneasiness for those more desirous of an external locus of control, or an educator's directives. Still, while little governance could be exerted over students' intuitive responses to the strategies practiced, it is herewith contended: Nor *should* it. To foster student-autonomy, evidence has shown that students *require* decision-making flexibility during the learning process (Reeve, 2004, 2009; Reeve & Deci, 1996; Reeve & Jang, 2006). Nonetheless, adopting a polemic stance, it is equally possible that the students' narrative simply mirrored that which Carli et al. (1988) found in their study of Italian and U.S. high school students. To perceive their learning conditions as optimal, some students evidently preferred less teacher-driven control over their actions and perceived themselves as flourishing when their skills outmatched the challenges faced. Similar evidence was also

found by Csikszentmihalyi and LeFevre (1989); both in leisure and work activities (the latter of which arguably entails demands comparable to those in academia), some participants in the study reportedly found the experience of performing tasks imposed upon them in their working environment as preferential—more enjoyable and flow-like—to activities which were freely chosen during their leisure time. Together, the studies respectively demonstrate that subjectively perceived optimal experiences can reportedly be experienced in both the boredom (high skills/low challenge) and apathy (low skills/low challenge) quadrants of the challenge-skill model (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini et al., 1987) and complete autonomy is, simply put, not always desirable. The student-athletes' narrative in the current pilot study nevertheless demonstrated that even in the face of uncertainty, due to too *much* freedom, students who truly *wish* to engage with the material do so.

The autonomous decision-making power bestowed upon students revealed itself as a double-edged sword. An example of the divergent approaches to the freedom given can be found in the students' descriptions of how they negotiated the challenge of independently determining which of the multiple performance enhancement strategies they would engage in weekly. Presented with the opportunity to apply subjective criteria and autonomously choose any two of the five potential homework assignments offered, confusion ensued—for some. It is perhaps important to reiterate that in order to satisfactorily foster unbiased autonomous choice, equal value was attributed to all five prospective tasks; all tasks were conveyed as equally viable and relevant (Assor, et al., 2002) to reinforce each respective theme (dimension of flow) dealt with in the seminar. As such, mere preference ought to have guided students' choices. Ideally, however, students ought to have considered their needs assessments and thus determined which tasks they considered best to fulfil those needs based on logical deduction. Recalling his experience of and reaction to the unanticipated freedom of choice, however, Ashe described:

> Ashe: Viele hatten dann auch so den Eindruck, ja, was, was soll ich denn nun machen? ((…)) welche Zettel *muss* [Hervorhebung hinzugefügt] ich denn jetzt noch ausfüllen? ((…)) Einige, die haben's eher, die sind so diese rationellen sag ich mal, die sagen, 'hier, ich mu- DAS muss fertig sein zumindest mal dieser eine Zettel,' ne? ((…)) und die [anderen] haben das gar nich verstanden, 'wie, zwei von zehn soll ich mir jetzt aussuchen oder was soll ich denn [jetzt nur machen?']
>
> Interviewer: [Ja, welche sind die besten? ((lacht))]

> Ashe: Genau, so, ne? ((...)) weil ich glaub, ich glaub nich, dass da dieser Lerninhalt drunter gelitten hat, auf keinen Fall, weil einfach, wer was lernen will, der kann immer, ne? Also, ((...)) egal was man da so zu sagen hat, von daher. (Murdock & Ashe, 2013, line 1225)

By characterising those who make judicious use of their time as *sensible*, Ashe's assertions presuppose a rational decision-making process which is contingent upon and facilitated by an instructor's hierarchical categorisation and preselection of tasks given (as opposed to offering students complete freedom of choice). A truly revealing aspect of this extract is the implication that more rational and thus pragmatic students, who approach a task and workload with objective logic, complete merely what they perceive is required. As demonstrated in Ashe's recollection that "zwei von zehn" (Murdock & Ashe, 2012, line 1237) prospective tasks ought to be completed (even if, in his retrospective recollection, the perceived workload had increased twofold), the instructions were in fact comprehensible. The unanticipated *freedom*, therefore, clearly bred what was deemed confusion. In part, that confusion was likely fuelled by participants' uncertainty as to *how* to determine which strategies they subjectively deemed facilitative for their individual needs. The asserted *confusion* is conceivably an indication of uncertainty in the face of uncustomary and unanticipated autonomous decision-making control. In the given context, what Ashe described as rational student decision-making behaviour is hence herewith interpreted as the expression of an underlying desire for a greater external locus of control in lieu of more intrinsically controlled forms of motivational regulation. While expressing an underlying plea for more instructor-driven regulatory control over student engagement, the truism nevertheless remained—as Ashe so befittingly conceded without solicitation—"wer was lernen will, der kann immer, ne? Also, ((...)) egal was man da so zu sagen hat" (Murdock & Ashe, 2013, line 1246). In all likelihood, here, Ashe wished to characterise intrinsic motivational regulation as a driving force behind engagement. This would then substantiate the notion that self-determined motivational regulation is sufficient to fuel student engagement even when students face a novel task and learning context. Therefore, Ashe implicitly demonstrated that his lacking self-determined motivational regulation rather than a misunderstanding or lack of guidance was detrimental. Moreover, the ostensible excuse, or denial of his understanding of the implicit obligation to engage is plausibly also demonstrative of a lack of internalisation (Sheldon & Schachtman, 2007) of the value of engaging beyond the minimum requirement—had one been stipulated at the outset. As previously described in the *Methodology and Research Methods* chapter, during session three (clear goals) it became necessary to delineate a minimum requirement. Rather than autonomously determining and engaging in *any* new strategies which were of

interest in a given week, students had the responsibility of engaging in any *two* tasks outside of class. The clearer guideline provided the explicit teacher-driven directive some students desired whilst nonetheless continuing to provide opportunity for autonomous decisions to be made in terms of *which* of the five options to engage in. Although it was a welcome refinement to the instructions and deemed unlikely to undermine the needs of those who desired autonomy, the same choice and opportunity for self-direction which disconcerted rather than empowered Ashe, was in fact a catalyst for enhanced autonomous forms of motivational regulation in Langston. For Langston constituted the challenge inherent in having flexible decision-making power as a welcome opportunity governed by curiosity, indicating "im Prinzip war dann auch der Reiz darin einfach mal auszuprobieren" (Murdock & Langston, 2013, line 1680). Accordingly, in addition to arousing interest, the opportunity for self-directed action therefore incited motivational regulation through identification (Ryan & Deci, 2000a) as opposed to external causality:

> ich meine irgendwann hast Du zwar gesagt wir müssen jetzt jede Woche ZWEI [Aufgaben] machen ((...)) also für mich jetzt war das nicht gebraucht. Ich hab mir eh das rausgesucht, was ich interessant fand ((...)) ich hab jetzt eigentlich fast alles ausprobiert, ((...)) wenn Du mir gesagt hast ich soll alle FÜNF ausprobieren und ich hätt zu einem keine Lust gehabt, hätt ich's trotzdem nich gemacht so bin ich jetzt mal ehrlich. (Murdock & Langston, 2013, line 1661)

Thus, autonomy-supportive guidelines evidently offered an opportunity for self-gratification for those students who relish independence. Conversely, those who experienced the unlimited freedom as disconcerting, however, were disposed to requiring at least minimal directives.

Less independently-minded students desired freedom of choice: but not *too* much. The expressed desire to relinquish decision-making control to the educator was a noteworthy feature of how some students approached the opportunity for self-direction. Initially offering a positive perspective on self-directed action, Ashe described freedom of choice as an advantageous aspect of Flow-PST, arguing:

> ja der Vorteil einfach, dass ich ((...)) für mich, meine besten Punkte heraussuchen konnte ((...)) die für meine Sportart auch am besten waren ((...)) und vielleicht auch mit meine Tätigkeit [zusammenhing] sozusagen ne? ((....)) also der Vorteil [war] einfach ganz klar die frei-, die Flexibilität zu haben, für sich rauszugreifen, was macht Sinn? Was nich? (Murdock & Ashe, 2013, line 1152)

The essential facet of what Ashe conveyed is what he characterises as the importance of having freedom to engage in a decision-making process based upon subjective criteria. This freedom was nonetheless also conversely identified by Ashe as something which breeds inaction, a catalyst for indolence which ought to be limited accordingly:

> ‹‹lachend› und der Nachteil vielleicht an dieser Sache› is ja immer dann wenn man viel Freiraum den Studenten bietet ((...)) es is schwierig dann wirklich, ne? Weil solang's nich richtig vorgeschrieben is, dann macht der Student das auch nich so. Sag ich jetzt mal. Also is schwieriger auf jeden Fall als hätte man jetzt gesagt wirklich konkret immer macht das und das, ma- oder macht NUR das jetzt zum Beispiel ((...)) is schwierig, is n schmaler grad, ne? Man will ja auch irgendwo den [Kurs] so das flexibel und abwechslungsreich wie möglich gestalten und... ja es is wirklich schwer. (Murdock & Ashe, 2013, line 1184)

By subsequently conceding that indolence, endemic to students, will result if engagement in specific tasks is not dictated as mandatory, the previously commended merit of self-directed action is invalidated in part. In juxtaposition to the identified motivation regulation (Pelletier et al., 2013; Ryan & Deci, 2007) which plausibly prompted Langston to be engaged, the degree of autonomy created an incongruous effect for Ashe; he evidently yearned for greater external control mechanisms. The underling belief inherent in Ashe's assertion is that freedom presents a double-edged sword: The greater the freedom bestowed, the more indolence an educator ought to anticipate. While ostensibly sympathising with the plight of an educator who wishes to offer variability, the *difficulty* repetitiously referenced presumably discloses the personal challenge Ashe clearly experienced. In his words "der Mensch is ja bequem, ne? ((...)) und die Studenten ja auch" (Murdock & Ashe, 2013, line 1100). Empathy conceivably veiled the inherent plea for external causality—for educators to render engagement easier (involving less independent decision-making) for participants. Interestingly, although Ashe evidently reported minimal increments in his intrinsic locus of motivation posttest (see Figure 4), diametrically opposed to what was hypothesised, Ashe's less self-determined loci of motivational regulation[27] *also* increased posttest. Thus, while Ashe may have enjoyed engaging in Flow-PST, his involvement reflected anything but self-determined behavioural regulation; nonetheless, it reflected the impetus he evidently desired.

[27] As explicitly detailed in Table 1, Ashe reported a marginal increase in introjected motivational regulation; i.e., from M = 6.00, SD = 1.00 pretest to M = 6.67, SD = 0.58 posttest. Furthermore, he reported a substantial increase in extrinsic motivation; i.e., from M = 2.33, SD = 0.58 pretest to M = 5.00, SD = 1.73 posttest; and, a marginal increase in amotivation; i.e., from M = 1.33, SD = 0.58 pretest to M = 2.00, SD = 0.00 posttest.

The students' narrative provided evidence that they clearly deemed educators as both facilitators and omnipotent gatekeepers of the learning process. Langston identified the role of an educator as that of a facilitator in the process of vying to wilfully cultivate optimal mental performance states:

> WAS funktionieren kann, is wenn man mal sich jetzt mit nem mentalen Coach wirklich hinsetzen würde und individuell immer wieder drüber spricht und dann rausfindet was passiert aber das wär jetzt für son Seminar natürlich nich unbedingt machbar und deshalb denk ich is man immer aufm besten Weg, wenn man *selber für sich rausfindet* [Hervorhebung hinzugefügt] was man machen möchte und was bei einem dann auch funktioniert. (Murdock & Langston, 2013, line 1721)

Hence, for a student who demonstrates more self-determined drive to engage, individualised facilitative external support is characterised as an ideal; yet, clearly not imperative for student success. Conversely, Ashe, who was less intrinsically motivated to engage, predictably touted the importance of an external locus of control and directive guidance. Describing the wilful evocation of ideal mental performance states as possible albeit primarily accessible through external causality, Ashe asserted:

> ich glaub der [der] noch nie so mit, sich mit dem Thema auseinander gesetzt [hat], der ((...)) wird das nich können ((...)) [jedoch,] wenn man dann einen hat, der einen so bisschen dahingehen Tipps gibt oder auch son bisschen ja *an die Hand nimmt* [Hervorhebung hinzugefügt] und sagt, was muss man tun oder denk mal daran, denk mal daran, dass man dann so langsam durch gewisse Tipps sozusagen hingeführt wird, ((...)) zu dieser mentalen Stärke, und dann das auch umsetzen kann. (Murdock & Ashe, 2013, line 222)

Here, rather than mere facilitation of the learning process, the educator is herewith characterised as in control of the success of students' pursuits of optimal mental performance states. In lieu of taking advantage of an opportunity to take the reins themselves, therefore, students' behaviour is consequently deemed in the hands of the educator. Coined quite evocatively when arguing the need for an external locus of causality, Ashe conceded: "da wird man manchmal n bisschen zu seinem Glück gedrängt vielleicht" (Murdock & Ashe, 2013, line 1172). The expressed mindset is diametrically opposed to fostering autonomy, as was a key objective of the pilot study. Such *coercion*, however, must be perceived as undermining students' opportunities for self-determined action. Nonetheless, Ashe evidently perceived explicit eternal directives as a necessary and beneficial means to achieving eventual mental training success. Adopting a polemic stance

and discarding the notion of the extract as indicative of a plea to coerce students to act, for those unable to rely solely on intrinsic forms of motivational regulation to act, specific guidance from an educator is potentially interpreted and accepted as an *offer*, a welcome gentle push towards the desired learning outcome. Moreover, as described by Haworth and Hill (1992), a perceived sense of obligation to act may play a contributive role to experiencing flow. They argued: "some people may need an extra 'pull' to overcome resistance to engagement in activities that require an investment of effort, but as a consequence produce higher levels of flow" (Haworth & Hill, 1992, p. 158). At this juncture, a parallel can be drawn to Ashe's psychometric test results on the SMS-II (Pelletier et al., 2013). As previously described and depicted in Figure 4, contrary to what was projected, post-intervention Ashe reported marginal increases in introjected motivational regulation.[28] Because introjected motivational regulation is more extrinsically regulated, at the outset of the Flow-PST study it was initially hypothesised that in the given autonomy-supportive environment, *decreases* ought to have occurred. This was based on the premise that the pursuit of intrinsic goals has proven to foster autonomous motivation and persistence in educational settings (Deci & Williams, 1996; Reeve, 2004; Vansteenkiste, et al., 2004), for instance. Although the current findings were unexpected, introjected motivational regulation has in fact also been associated with fostering persistence in educational settings (Vallerand et al., 1997). Thus, when the psychometric test results and Ashe's narrative are juxtaposed, a plausible interpretation is that Ashe did in fact internalise the value of his engagement in Flow-PST—even if only minimally. Expressed with great caution, this conclusion is vaguely supported by Ashe's reported minimal increase in intrinsic motivational regulation.[29] Still, while introjected motivational regulation may contribute to persistence (engagement), the fact that Ashe simultaneously reported *substantial* increases in external motivational regulation[30] indicates that Ashe was not likely in pursuit of self-determined goals. His engagement, and thus his recommendations, were more plausibly extrinsically regulated (Pelletier et al., 2013; Ryan & Deci, 2007) and based on his having vied to earn approval (potentially from his peers or myself as the course instructor), external reward (in the form of credit for the seminar), or avoid adverse consequences (failing to fulfil the requirements of the class, for instance). When reflecting on which changes he would suggest for future seminars, Ashe was precise in advocating for less autonomy, proposing:

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[28] As specifically detailed in Table 1, Ashe's introjected motivational regulation increased from *M* = 6.00, *SD* = 1.00 pretest to *M* = 6.67, *SD* = 0.58 posttest.

[29] Ashe reported an increase in intrinsic motivation from *M* = 6.33, *SD* = 0.58 pretest to *M* = 6.67, *SD* = 0.58 posttest; see Table 1 and Figure 4.

[30] Ashe's extrinsic motivational regulation increased from M = 2.33, SD = 0.58 pretest to *M* = 5.00, *SD* = 1.73 posttest; see Table 1 and Figure 4.

> Du müsstest sagen, müsstest konkreter die Aufgabenstellung sagen , jetzt in zwei Wochen hat jeder einmal in seinem Training ein Selbstgespräch geführt und das aufgeschrieben oder so ((...)) [oder, dass] ihr die Praxis jetzt nicht alle zusammen macht, sondern, ((...)) dass ihr dann irgendwie bessere Erfahrungen kriegt von den anderen und Du da wirklich sagst ihr MÜSST das machen ((...)) und jetzt nich *vielleicht* [Hervorhebung hinzugefügt] auch dann gar nich irgendwie freistellen, ihr *könnt* [Hervorhebung hinzugefügt] das das das Machen. (Murdock & Ashe, 2013, line 1735)

Most notably, such control-oriented idealisation of the role of the facilitator excessively relinquishes responsibility for students' success to the educator, thereby concomitantly diminishing the vital role each respective student-athlete must play in their individual pursuit of optimal mental performance states. Ashe's characterisation offers little room for the deep and meaningful involvement as well as the typical subjective meaning attributed to one's task and/or involvement, which is crucial to flow (Jackson & Roberts, 1992). Adopting a polemic stance, however, application of the guidance provided by an educator and *any* exploration of the given Flow-PST themes and cognitive-behavioural strategies introduced could still constitute a student's sufficiently active participation in the flow gestation learning process. It has indeed been demonstrated that an educator's nurturing attitude, ability to generate enthusiasm, and demonstrate a clear involvement with the subject matter is directly related to students' effective learning as well as an increase in their self-confidence to persevere (Csikszentmihalyi & McCormack, 1986). Still, the root of the requisite subjectively meaningful engagement is the actor himself.

Essentially, *give us freedom; but, not too much* reflects desires for diametrical loci of motivational regulation in the face of uncustomary opportunities for student autonomy. A noteworthy feature of the data set is the negative conception of students' disposition for evading overexertion without explicit dictatorial guidance. For students desirous of an external locus of control, if specific engagement is not deemed compulsory, an educator ought to expect indolence. Conversely, it was precisely the freedom to foster one's individual needs, as each respective student deemed fit, which constituted a key beneficial aspect of the seminar and was thus a fundamental feature of the data set. While the participants deemed facilitative support beneficial, the degree of autonomy-enhancement and autonomy-control potentially lacked sufficient equilibrium.

Preamble to Summary and Discussion

To set the stage for the *Summary and Discussion* of this dissertation, the forthcoming chapter first commences with a recapitulation of the line of enquiry the pilot study pursued. In addition, the key research methods employed to investigate the issue at hand and a summary of the most salient findings are reiterated. After re-establishing that core foundation, a selective review of the findings is addressed. This was approached from the perspective of demonstrating how very specific findings from the Flow-PST pilot study contribute to past scholarly work and are equally a foundation from which to conceptualise and embark upon further research with the aim of elucidating the controllability of flow states in sport and in higher education settings in particular. In closing, a critical review of the more prominent limitations and potential implications of the current pilot study are discussed before bringing the dissertation to a close.

5. Summary and Discussion

Experiencing the optimal psychological state of flow has been largely perceived as elusive and not susceptible to one's direct control (Ahrne et al., 2011; Jackson & Csikszentmihalyi, 1999; Mitchell, 1988). Out of a desire to challenge that claim, a need was perceived to examine to what extent it is possible to actively foster the skills one would require if vying to wilfully facilitate this key component of the engagement pillar of flourishing (Seligman, 2011). In response to a clear desideratum expressed by Csikszentmihalyi (1990), in particular, the problem faced was transcending merely providing students with *opportunities* to experience flow. Rather, additionally determining a means through which to teach student-athletes *why* and *how* to actively cultivate flow though their volitional effort was of the essence.

The foundation of this small-scale pilot study was supported by four key pillars. First, the science of positive psychology clearly demarcated *why* learning to cultivate flow is an essential cultural meme worthy of fostering and ultimately sharing across generations: Because it is through truly *meaningful* engagement in the learning process that students will foster optimal psychological well-being, development, and flourishing (Deci & Vansteenkiste, 2004; Seligman, 2011; Seligman & Csikszentmihalyi, 2000). In addition, Csikszentmihalyi's (1990) flow theory explicitly delineated *which* indispensable qualities or skills must be cultivated so that one can learn to actively restructure and create the optimal conditions under which flow can ensue: the nine constituent elements of optimal psychological performance states which are recurrently associated with optimal experiences in sport contexts in particular (Jackson, 1992, 1995; Jackson & Csikszentmihalyi, 1999). The self-determination theory, in contrast, informed the *manner in which* to do so; the endeavour necessitated actively vying to facilitate the satisfaction of student's basic psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 1985a; Ryan & Deci, 2000b, 2014). Finally, by adopting a cognitive-behavioural sport psychology perspective of how to best foster the mental performance enhancement skills needed to cultivate flow states, *by what means* the endeavour must be faced was established: If vying to impart students with the psychological skills to cultivate flow, it was deduced that this could be achieved by offering them systematic psychological skills training (Orlick, 2000; Weinberg & Gould, 2003, 2011, 2015; Weinberg & Williams, 2001). Therefore, a multimodal cognitive-behavioural training program was designed through which the 13 participating student-athletes could autonomously individualise their approach to the mental performance enhancement process.

In a first preparatory step, specific course content was established by considering the relationship between each dimension of flow and the prerequisite psychological skills described as underlying the state (Chavez, 2008; Jackson & Csikszentmihalyi, 1990; Jackson et al., 1998; Jackson et al., 2001; Kimiecik & Jackson, 2002; Swann et al, 2012). Then, the essential theoretical foundation for the mental performance skills underlying or requisite for cultivating each respective dimension of flow was decided upon. This was done in order to next determine which cognitive-behavioural performance enhancement strategies could facilitate the development thereof and thus ought to be included in the Flow-PST seminar. The final preparatory step included establishing a syllabus and interactive *Microsoft PowerPoint* presentations, complementary handouts, and homework tasks pertaining to the dimension of flow dealt with each week.

For the duration of a 12-week semester, the participating B.A. and M.A. sport science students took part in a *Mental Training* seminar through which each of the nine dimensions of flow were successively introduced as an individual seminar theme in weeks two through 10. In an effort to ensure that the process was systematic, a six-step *Flow-PST Instructional Cycle* was systematically adhered to during each of the 90-minute seminar sessions. The cycle consistently commenced with a *Feedback and Discussion* round during which students had the opportunity to discuss their experiences with the cognitive-behavioural strategies they had been introduced to and had integrated into their athletic training the week prior. Although the sessions were always interactive and involved regular cooperative tasks and discussion, the feedback and discussion step of the instructional cycle in particular was a key means of fostering the students' sense of relatedness (Deci et al., 2006; Deci & Ryan, 2000) with both their peers and myself, the primary researcher, as I adopted the role of an active participant in the research process. Through the collaborative working environment, students were afforded the opportunity to learn from and share with each other during the Flow-PST learning process. The learning cycle in each seminar session also included a *Theoretical Input*, *Individual Needs Assessment*, *Acquisition and Practice*, *Individual Goal Setting*, and a combination of *Centring and Imagery Rehearsal* phase.

To assess the viability of Flow-PST as a means to teach student-athletes how to actively cultivate flow, the study adhered to an explanatory sequential (Wisdom & Creswell, 2013) mixed methods research design. It had been hypothesised that providing autonomy-supportive instruction and fostering students' use of the techniques and strategies deemed conducive to setting the stage for flow will subsequently lead to an

increase in their subjectively perceived experience of dispositional flow in their respective sport contexts. Therefore, first, the aforementioned constructs were assessed pretest/posttest employing three psychometric tests. The foci included the locus of motivational control as assessed by the *Sport Motivation Scale* (SMS-II; Pelletier et al., 2013); sport-specific cognitive-behavioural performance strategies employed as assessed with the *Test of Performance Strategies* (TOPS 2; Hardy et al., 2010); and both a global and dimensional assessment of dispositional flow measured with the *LONG Flow–Physical* scale (Jackson et al., 2010). Adhering to the sequential data collection and analysis process, thereafter, to further augment, interpret and elucidate the results yielded from the quantitative data collected and analysed, structured interviews and a subsequent thematic analysis (Boyatzis, 1998; Braun & Clark, 2006, 2012, 2013; Silverman, 2013) thereof were conducted six months post-intervention with a subset of the original cohort.

The pilot study served its purpose in that insights from both the quantitative outcomes and the qualitative analysis findings in particular suggest that systematic, multimodal cognitive-behaviour training is indeed a viable means to approach the endeavour of teaching students how to actively cultivate flow. While the psychometric test findings did not yield unequivocal results, they did offer valuable initial insight.
Generally, the student-athletes in the Flow-PST pilot study reported increases in intrinsic motivation (Pelletier et al., 2013; Ryan & Deci, 2007); this result thus tended to support the hypothesis. However, the majority of participants also reported increases in introjected, less autonomous, forms of motivational regulation to engage; this hence negated the hypothesis with equal strength. Although projected increases in self-determined motivational regulation could not be confirmed across athletes posttest, the evidence suggests that participants did in fact purposefully adopt performance enhancing behaviours and strategies. For example, the quantitative data results demonstrated that the students reported increased used of four cognitive-behavioural strategies in their practice settings. According to the TOPS 2 (Hardy et al., 2010) results, the most prevalently used strategies included self-talk, activation, imagery, and attentional control. Whereas those findings could be substantiated in part in the qualitative data analysis, additional strategies were cited as indispensable skills to include in future Flow-PST seminars. Specifically, the thematic analysis demonstrated that the interviewees perceived cognitive-behavioural regulatory strategies such as systematic goal setting practices, arousal regulation, self-talk, and imagery as facilitative strategies for actively cultivating flow states. Therefore, albeit with minimal overlap in the quantitative and qualitative data sets, the findings clearly demonstrate that self-talk and imagery skills, at the very least, are most certainly vital to learning how to consciously evoke optimal mental performance

states. Unvarying results were also not yielded in terms of the hypothesised increases in dispositional flow posttest. Although the majority of student-athletes reported an increase in their general tendency to experience flow-like characteristics from a global perspective (Jackson et al., 2010), the only common increment yielded across all subjects from a multidimensional perspective of flow was the loss of self-consciousness dimension thereof. Even though the psychometric test results lack generalisability due to the small sample size, it is nevertheless incredibly encouraging that the vast majority of the student-athletes did in fact report the more frequent experience of the challenge-skill balance, merging action and awareness, and the concentration on the task at hand dimensions of flow posttest—for each dimension, 12 of the 13 participants reported the hypothesised increments.

Most interestingly, beyond offering clear suggestions pertaining to which cognitive-behavioural strategies ought to be included in future Flow-PST seminars, the thematic analysis also provided evidence that greater attention must be given to how autonomy-support is fostered. The freedom bestowed upon students was arguably a double-edged sword. The students' narrative, therefore, made it clear that in future Flow-PST studies, students certainly ought to be provided opportunities to freely, autonomously choose what they engage in—but not *too* much. Moreover, it was suggested that it is worthy of consideration that obligating students' involvement may in fact support perceived optimal engagement for students desirous of an external locus of control. How best to establish an optimal equilibrium in the autonomy support offered to students—so that *they* can determine in which quadrant of the challenge-skill balance (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini et al., 1987) they deem as facilitative of and conducive to their subjectively perceived optimal mental performance states—will only be discovered through additional research.

5.1 Review and Future Research Recommendations

Understanding and better fostering students' autonomy and the unique conditions under which they, as individuals, experience optimal functioning would be a logical progression of this research. Rather than prompting room for increases in intrinsic motivation in all participants, the freedom bestowed caused confusion and perhaps even anxiety for those more desirous of an external locus of control, or an educator's directives. In part, the student's narrative from the follow-up interviews mirrors and thus substantiates that which Carli et al. (1988) found in their study of Italian and U.S. high school students. It is entirely possible that some of the students in the Flow-PST pilot

study similarly deemed optimal learning experiences as transpiring in the high skills yet *low* challenge (boredom) quadrant of the challenge-skill model (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999; Massimini et al., 1987). Evidently, some students perceive themselves to be flourishing, or potentially able to flourish, under varying conditions and not merely those delineated in the challenge-skill model. This, in particular, must be examined in further research. It would be essential to first understand under which conditions a student-athlete experiences subjectively perceived optimal performances. Then, the challenge would be finding ways to ensure that precisely that quadrant of the challenge-skill balance, or subjectively optimal state, is actively fostered during the learning process; the importance of individualising Flow-PST would remain essential. Correspondingly, the findings of the Flow-PST pilot study demonstrate that individual differences must play a role in one's innate desire and willingness to actively seek challenges and thereby foster flow. Yet, one can learn to foster signature strengths such as perseverance (Peterson, 2006; Seligman, 2011), for example. Therefore, so too must it be possible to foster the grit (Duckworth, 2016) and willingness to persistently engage which two interviewees (Donovan and Langston) demonstrated in the rich descriptions they offered concerning their approach towards and experiences during the Flow-PST seminar. Consequently, a future large-scale study truly must prioritise including a means of assessing and perhaps even adapting to each student's natural propensity to seek flow-conducive high challenges, or to ensure that they are actively engaging within the quadrant of the challenge-skill model which most befittingly addresses their individual needs.

5.2 Limitations and Implications

Despite the encouraging results indicative of the viability of actively cultivating flow, four more prominent limitations overshadow the outcomes of the current pilot study. First, the most glaring limitation was the small sample size. Certainly, reliance upon descriptive statistics allowed the demonstration of patterns in the data as well as the elementary interpretation thereof. With so few participants, however, delving into greater depth and the inclusion of inferential statistical analyses would have been unbefitting. As such, credible generalisations cannot be made about the research outcomes. Indeed, the sequential incorporation of first quantitative and then qualitative data collection and analysis permitted a slightly greater means with which to demonstrate the potential effectiveness of Flow-PST and the viability of its use in a larger-scale research project. As described by Palinkas et al. (2011), when the outcomes were juxtaposed within the final report of the data set, embedding the qualitative data collection and analysis post-intervention augmented the quantitative data and facilitated providing viable explanations

for and interpretations of the results. Nevertheless, only with great hesitancy can one extrapolate conclusions which can be applied to other populations.

Employing self-report psychometric instruments pre-intervention and post-intervention was arguably a liability from two perspectives. First, the instruments used for the quantitative data collection and analysis all required an athlete's retrospective reflection to demonstrate their current behaviour or disposition. Yet, this rendered the self-reports susceptible to what Kahneman (1999) describes as an unintended bias in memory recall: The student-athletes may have inadvertently based their responses on false recollections (over or underestimations) or their momentary feelings to evaluate the past time period in question. Thus, one could easily argue that it was inappropriate to interpret the test outcomes, based on past behaviours and past inclinations, to predict future events. Hence, if anything, in the current pilot study one can merely presumptively suggest that the outcomes reflect the consistency (or inconsistency) of each respective athletes locus of motivational regulation, use of the assessed performance strategies, and disposition for flow over the time elapsed between measurements. The second limitation is that despite altering the names of the psychometric instruments in an effort to veil their true nature and origin, the scales were all relatively transparent. Merely the knowledge that one is participating in a research study in which one's behaviour and engagement is under scrutiny renders one susceptible to the response-consequence contingency (Parsons, 1974) inherent in the Hawthorne effect by which one's behavioural regulation is conceivably a reflection of what one perceives as the consequences of their behaviour. As applied to the current pilot study, one could tenably argue that the student-athletes involuntarily reported distorted interim improvements or increased engagement on the psychometric tests precisely because of the emphasis on enhancing one's mental performance and transparent attention given to the participants' active engagement and progress throughout the intervention. Furthermore, a true sceptic could argue that the results yielded are a mere reflection of the participants' heightened awareness (Schwartz, Fischhoff, Krishnamurti, & Sowell, 2013) of the importance of determining and vying to perform within one's individual zone of optimal functioning (Hanin, 2000) and the student-athlete's resultant innate desire to demonstrate an increased ability to do so. The extent to which the Hawthorne effect played a role in the pilot study would have been a challenge to asses under the current circumstances; that is to say, without a team of researchers to manage, conduct, assess, and expedite further post-intervention assessments to verify the stability of the changes in behaviour. The students' regular attendance and willingness to actively engage in the seminar, however, substantiate that the participants were in fact truly involved in the process—even if to varying degrees. Moreover, the post-

intervention qualitative data corroborate that the student-athletes indeed engaged *outside* of the seminar: They applied the mental training strategies they deemed fit and reportedly experienced increments in their tendency to experience dimensions of dispositional flow while performing in their respective sport domains. In all likelihood, the aforementioned demonstrable personal investment students reported mitigated the eventual impact of the Hawthorne effect to a satisfactory extent. Similarly, one could naturally maintain that any eventual outcomes of this pilot study are skewed because the participants succumbed to the human tendency to present themselves in a favourable light by offering what they considered were socially desirable responses.

The social desirability bias, which is characterised by a research participant's need to demonstrate socially desirable behaviour and gain approval (Crowne & Marlowe, 1960), was inadequately accounted for in this pilot study. A blessing inherent in a small seminar is the intimate and collaborative working relationship which can readily be forged between the lecturer and the participants. Csikszentmihalyi and McCormack (1986) describe a teacher's engagement and dedicated enthusiasm as a key factor which socialises students to memes which will facilitate their personal development and meaningful engagement. Because of my conviction that the Flow-PST seminar ought to be taught by an aptly engaged instructor, I made the conscious decision to be an active participant in the research process despite the limitation this posed. Student feedback over the years has demonstrated that my palpable enthusiasm for that which I teach is a strength in terms of both how it contributes to students' motivation to engage in my classrooms and the social climate I vie to establish. In the current research context, however, one could justifiably contend that my presence, attitude, and teaching style ineluctably contributed to the results. As a North-American, Black, female academic who has been shaped by years of active and successful participation in competitive sport and similar high performance realms, I have grown to value and embody the very drive needed to persist and succeed at an endeavour, which arguably underlies much of what makes the wilful evocation of dispositional flow states possible. In my function as their lecturer and as a reflection of my interpersonal style, indeed, I ineluctably influenced students' sense of obligation to engage (Sheldon & Schachtman, 2007). It is thus undeniably possible that the participants conformed, at least in part, to the memes I demonstrated. This would imply that the participants felt a need to vie to offer what they considered socially desirable responses as well as to fulfil the implicit expectations put forth. In addition, it is irrefutable that my instruction, the Flow-PST content, guidance offered therein, and the qualitative assessment of the data set merely reflect my individual skills, idiosyncrasies, cultural and social biases, values, and beliefs. Each of these has the potential to further limit the

generalisability of the results accordingly. Hence, one could claim that the biases which potentially shaped the participants' behaviour logically underlay my behaviour. Without question, it is equally conceivable that those same biases informed and inadvertently obscured my translation from German into English and vice versa (in our seminar, during one-on-one meetings, and during the interviews) as well as my analysis and interpretation of the qualitative data set, for example. Those unknowns are the veil through which this pilot study must be examined. Maintaining, assessing, and demonstrating absolute rigor are challenges inherent to conducting academic research which could not be circumvented with greater satisfaction under the given circumstances for this particular pilot study. In part, this was due to insufficient resources (such as willing participants and additional researchers) to embark upon more. Still, despite the conceded inherent shortcomings of the study, the combination of the outcomes of the quantitative and qualitative data analyses did in fact provide initial insights such as which key cognitive-behavioural performance strategies are potentially most conducive to fostering dispositional flow and how to better ensure optimal student-autonomy. This understanding alone is indicative of tentative directions in which further research ought to be conducted. Arguably, the practical implication of Flow-PST lies in the foundation it offers for the establishment of a framework which educators could systemically adhere to in order to inspire and motivate their students to learn and get the most out of their learning experiences—from academic, athletic, and psychological wellbeing perspectives. Yet, in a future large-scale Flow-PST study, greater equilibrium will be needed between instructional guidance and room for free choice. It is essential that students regard the applicability of the information conveyed as conducive to achieving their goals and engage accordingly. With highly competent, relevant instruction and simultaneously ensuring that students internalise the value of and develop confidence in using the skills they are learning and refining, however, cultivating and controlling flow states is in the realm of possibility.

5.3 Conclusions and Future Prospects

By teaching students how to recognise and promote their self-determined forms of motivation and key cognitive-behavioural strategies which will help them cultivate flow, one is essentially empowering students with skills to actively foster their flourishing. The pilot study has demonstrated that the *Gestational Learning Process* of actively cultivating flow indeed functions if conducted in a collaborative and intellectually stimulating learning environment. The learning environment must impart skills which have the potential to be not only intrinsically rewarding, but will also foster mental strength, psychological growth, and development (Csikszentmihalyi, 1990)—all of which are indispensable to

vying for excellence in *any* performance domain. While outcome measures of success in academia have their value, I am convinced that the time is nigh to fundamentally redirect students' focus from obsessing over the Holy Grail (their final grade or merely what is needed to earn credit for a course) to achieving a more enduring form of success. I would argue that that success will be determinable by the extent to which everyone leaves the class upon completion with positivity and capable of demonstrating more knowledge, skill, mental strength, and confidence in their capability of fostering subjectively desired positive behavioural change than when they came. Through endeavours such as Flow-PST, one could commence encouraging and impressing upon students the importance of concentrating more on the systematic *process* which underlies achieving excellence and finding ways to relish and meaningfully engage in the learning process. Yet, it must start by conducting additional research to determine ways to ensure that students feel optimally challenged and also embrace their active involvement as integral to the *quality* of their learning. Ultimately, it is a student who decides whether they partake of the proverbial fountain of knowledge academia has to offer. And it is an educator's responsibility to strive to entice students to *want* to do so. Introducing students to the beauty and potential for psychological growth and development inherent in the experience of flow would be a welcome step in the right direction.

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7. Appendix

Appendix A: CD-ROM Content

This appendix details the contents of the CD-ROM which accompanies this dissertation. To facilitate navigation thorough the supplementary material, it is organised chronologically in the order in which it was mentioned and thus comes forth as follows:

1. Course Description Handout
2. Demographic Data Collection Form
3. Cover Letter
4. Psychometric Tests Administered
5. Complete Code Manual
6. Complete Session Reviews and Checklists
7. Performance Profile Template
8. Goal Setting Forms
9. Sport Journal Questions
10. High-Five Evaluation Template
11. Talk the Talk Handout and Task
12. Walk the Walk Handout and Task
13. Cumulative Mental Training Imagery Script

Extended CD-ROM Content

To preserve both brevity and individual privacy, selected material has only been provided to the dissertation supervisors for perusal. That supplementary information has been compiled in the additional CD-ROM file entitled *Extended CD-ROM Content* listed below. Where applicable, the material has also been organised chronologically by the order in which it was mentioned and thus comes forth as follows:

1. Complete Thematic Analysis Reflexivity Journal
2. Murdock and Ashe Follow-Up Interview Transcript
3. Murdock and Ashe Follow-Up Interview MP3 Audio File
4. Murdock and Donovan Follow-Up Interview Transcript
5. Murdock and Donovan Follow-Up Interview MP3 Audio File 1 of 4 – bis Linie 402
6. Murdock and Donovan Follow-Up Interview MP3 Audio File 2 of 4 – ab Linie 403
7. Murdock and Donovan Follow-Up Interview MP3 Audio File 3 of 4 – ab Linie 1328
8. Murdock and Donovan. Follow-Up Interview MP3 Audio File 4 of 4 – ab Linie 1850
9. Murdock and Langston Follow-Up Interview Transcript
10. Murdock and Langston Follow-Up Interview MP3 Audio File
11. SPSS Report and Supplementary Information
12. SPSS Data Set Microsoft Excel File

Appendix B: Complete List and Exemplary Codes from the Code Manual

As an illustration of what comes forth in the complete *Code Manual* which has been provided in the enclosed CD-ROM (see document five), the following section offers a complete list of all codes generated in chronological order. Thereafter, four sample codes have been provided. Two theory-driven codes (codes one and two) and two data-driven codes (codes eight and nine) were randomly selected because they appear in the final *Code Manual* as the first of their respective type.

Complete List of Codes

Code 1: Intrinsic motivational regulation (Pelletier et al., 2013; Ryan & Deci, 2007)
Code 2: Integrated motivational regulation (Pelletier et al., 2013; Ryan & Deci, 2007)
Code 3: Identified motivational regulation (Pelletier et al., 2013; Ryan & Deci, 2007)
Code 4: Introjected motivational regulation (Pelletier et al., 2013; Ryan & Deci, 2007)
Code 5: External motivational regulation (Pelletier et al., 2013; Ryan & Deci, 2007)
Code 6: Amotivation (Pelletier et al., 2013; Ryan & Deci, 2007)
Code 7: Positive self-talk (Hardy, Gammage, & Hall, 2001; Hardy et al., 2010)
Code 8: Instructional self-talk (Hardy, Gammage, & Hall, 2001; Hardy et al., 2010)
Code 9: Negative self-talk (Hardy, Gammage, & Hall, 2001; Hardy et al., 2010)
Code 10: Emotional control (Hardy et al., 2010; Thomas et al., 1999)
Code 11: Automaticity (Hardy et al., 2010; Thomas et al., 1999)
Code 12: Goal setting (Hardy et al., 2010; Thomas et al., 1999)
Code 13: Imagery (Hardy et al., 2010; Thomas et al., 1999)
Code 14: Cognitive specific technical imagery (Hall, 1998; Munroe et al., 2000)
Code 15: Cognitive general imagery (Hall, 1998; Munroe et al., 2000)
Code 16: Motivational specific imagery (Hall, 1998; Munroe et al., 2000)
Code 17: Motivational general-arousal imagery (Hall, 1998; Munroe et al., 2000)
Code 18: Motivational general-mastery imagery (Hall, 1998; Munroe et al., 2000)
Code 19: Activation (Hardy et al., 2010; Thomas et al., 1999)
Code 20: Arousal regulation-relaxation (Hardy et al., 2010; Thomas et al., 1999)
Code 21: Attentional control (Hardy et al., 2010; Thomas et al., 1999)
Code 22: Challenge-skill balance (Jackson & Csikszentmihalyi)
Code 23: Action-awareness merging (Jackson & Csikszentmihalyi)
Code 24: Clear goals (Jackson & Csikszentmihalyi)
Code 25: Unambiguous feedback (Jackson & Csikszentmihalyi)
Code 26: Concentration on the task at hand (Jackson & Csikszentmihalyi)
Code 27: Sense of control (Jackson & Csikszentmihalyi)

Code 28: Loss of self-consciousness (Jackson & Csikszentmihalyi)

Code 29: Transformation of time (Jackson & Csikszentmihalyi)

Code 30: Autotelic experience (Jackson & Csikszentmihalyi)

Code 31: Inversion and Introspection (Stretching)

Sample Theory-Driven Codes

Code 1	
Label:	Intrinsic motivational regulation (Pelletier et al., 2013, p. 330).
Definition:	Self-initiated action from which mere personal satisfaction is derived above all else.
Description:	Characterised by positive emotions such as joy and pleasure; personal interest and fun are reasons for engagement. The self-initiated actions occur devoid of external forms of reinforcement, incentive, and or reward.
Example:	Intrinsic motivational regulation is indicated when aparticipant makes statements such as: "I work hard because it makes me happy; it makes me feel good... I don't have to... I *want* to."
Differentiation:	Intrinsic motivational regulation is akin to integrated motivational regulation as both involve acts of volition. While integrated motivational regulation (code 2) emanates from having internalized the importance or value of a behaviour, intrinsic motivational regulation emanates from a desire to engage in a behaviour or action in and of itself for its own sake (Deci & Ryan, 2008a); the latter is sought here. In addition, intrinsic motivational regulation is conceptually akin to autotelic experiences (code 30) in that both lead to intrinsic gratification. Intrinsic motivation, however, must be preceded by perceived autonomy (Ryan & Deci, 2007).
Code 2	
Label:	Integrated motivational regulation (Pelletier et al., 2013, p. 330).
Definition:	Self-initiated action which is derived from having thoroughly internalized the ostensible value thereof as conducive to achieving one's aspirations.
Description:	Characterised by indications that the participant has adopted or incorporated behaviours to such an extent that they are considered indivisible from one's concept of self.
Example:	Integrated motivational regulation is indicated when a participant makes statements such as: "I work hard all the time; it is just a part of who I am."

Differentiation:	Integrated motivational regulation is akin to intrinsic motivational regulation (code 1) as both involve acts of volition. While intrinsic motivational regulation emanates from a desire to engage in a behaviour or action in and of itself for its own sake, integrated motivational regulation emanates from having internalized the importance or value of a behaviour (Deci & Ryan, 2008a; Pelletier & Sarrazin, 2007); the latter is sought here.

Sample Theory-Driven Codes

Code 8

Label:	Instructional self-talk (Thomas, Murphy, & Hardy, 1999, p. 699; Hardy, Gammage, & Hall, 2001, p. 313; Weinberg & Gould, 2003, p. 364).
Definition:	Intrapersonal communication which is inherently instructional.
Description:	Characterised by intrapersonal dialogue which specifically pertains to task-related technical, executional, and or correctional direction or guidance.
Example:	Instructional self-talk is indicated when a participant makes statements such as: "Remember, keep your hips up on the take-off; hips up, shoulders up, chin up!"
Differentiation:	Instructional self-talk can be encouraging in nature and or include positive characteristics. Yet, in contrast to positive self-talk (code 7), the primary aim of instructional self-talk is the provision of specific and clear directives for the control of movements or actions; the potential to enhance motivation is a mere unintended side-effect. Moreover, while instructional self-talk can also include negative words or phrases, the self-talk must be deemed instructional when the primary focus of the self-talk is to produce task or skill-specific goal oriented action. Where a clear distinction is not discernable, raw data extracts ought to be coded for all types of self-talk which occur.

Code 9

Label:	Negative self-talk (Thomas, Murphy, & Hardy, 1999, p. 699; Hardy, Gammage, & Hall, 2001, p. 312; Weinberg & Gould, 2003, p. 364).
Definition:	Intrapersonal dialogue which is inherently detrimental and or debilitative.
Description:	Characterised by intrapersonal dialogue which is self-critical, pessimistic, reproachful, and or degrading in nature. As such, it provokes negative affective states including anxiety, self-doubt, and shame and thus thwarts goal achievement.
Example:	Negative self-talk is indicated when a participant makes statements such as: "I suck at this" or "I will never get this right."
Differentiation:	While instructional self-talk (code 8) can include negative characteristics, the primary focus of expressly negative self-talk is self-criticism. Potentially inciting oneself to action remains a secondary focus and or is effectively a consequence of the self-disdain expressed. Where a clear distinction is not discernable, raw data extracts ought to be coded for all types of self-talk which occur.

Appendix C: Reflexivity Journaling Questions

The following Reflexivity Journaling questions were only slightly adapted from Braun and Clark's (2006, 2012) suggestions pertaining to taking notes and engaging in purposeful reflexivity exercises (Braun & Clark, 2013) as a means to facilitate the process of working towards the development of codes and themes. After each session dedicated to the thematic analysis, the intuitional, explorative free-writing technique (Elbow, 1989) was employed to generate and refine ideas for each of the themes below. Essentially, the journaling exercise entailed completing each respective sentence with as much depth and clarity as possible. As the process continued, however, it became apparent that supplementary questions were desired; those additional questions are indicated below as sub-themes to the respective question.

1. Instinctively, the first thing which comes to my mind is…
   (a) Tip: When responding to this question, look at the list of themes!
2. What jumped out at me most is…
3. The emergent patterns, themes, and concepts I read include…
   (a) NEW themes I have added today (already arranged into categories/grouped together) come forth below. I have used a "marker" (YES signal) to indicate themes which I instinctively feel are essential.
   (b) Ideally, I find it a good idea to be selective and aim for six. Today, however, I chose…
4. Specifically, my note taking helped me recognise that…
   (a) Based on today's themes above…
   (b) Based on my notes within the extract document…
5. I included specific notes about… because…
6. Specific raw data themes which came forth include…
   (a) My current list of initial higher order themes/codes includes…
   (b) Combining (refining) today's themes with the last version I used last session, my current summary of headings which I would deem most essential today include…
   (d) Thus, today my instinctive cream of the crop list of themes includes the following # (in chronological order)…
7. What I discovered today will have implications for my research/ research question in that…
8. Questions, comments, or concerns I have are…

Appendix D: Follow-Up Interview Procedure and Questions

This appendix provides the opening and closing comments as well as the structured guideline followed for the three follow-up interviews. The interviews took place with Langston, Donovan, and Ashe six months subsequent to the end of the Flow-PST seminar. While planned follow-up questions are provided in brackets [ ] or clearly indicated as sub-questions, instructions for how I, as the interviewer, ought to proceed were indicated in parentheses and italics. For example, this included reminders to reiterate what I had understood to ensure that I remained active in the listening process yet also to verify that all key assertions were duly noted.

Opening statements and request:

A tape recorder will be necessary so that I may make a transcript for my research purposes. The interview material will remain strictly confidential, however, and will not be quoted without your permission. May I have your permission to record this consultation?

During this interview, I would like to give you an opportunity to describe and discuss your specific mental training program with me. I have some general questions which I would like to use to structure our conversation. There are no right or wrong answers: I genuinely seek to understand your experiences and perceptions. Although I am asking the questions in English, you are welcome to respond in German if you prefer. To commence:

Interview questions:

1. How do you define mental *strength*? Describe what being mentally strong means to you.
2. According to the description you have provided, how *mentally strong* are you right now? Rate your mental strength on a scale of 1-10 with 1 being the weaker end of the scale and 10 being the stronger end of the scale.
3. How important do you believe *feeling* mentally strong is related to performing in your individual zone of optimal functioning (IZOF)?
    a. Specifically, what percentile reflects the importance? [Wieviel % macht es aus]
    b. Why do you consider it of __ % importance?
4. Do you believe that you have a *choice* to become mentally tough and perform more frequently in your IZOF? For example, can you consciously influence it?
    a. Why or why not?

5. To what extent did the seminar help you to learn to perform in your IZOF?
6. What do you *consider* mental training? For example, if a fellow athlete asked if you do mental training, which techniques, strategies, or behaviours dealt with in the seminar would you consider a part of your mental training?
    a. Please define what you mean by… (*Recap technique(s) named and elicit responses to follow-up questions B-E*)
    b. When and where did/ do you implement it?
    c. Why and how did/ do you implement it?
    d. What specific results have you seen?
    e. How consistently do you use that technique?
7. How would you describe the *internal process* you experience when engaging in mental training?
    a. What specific steps (conscious, or arguably, subconscious) does it entail?
8. Everyone responds differently to mental training and experiences different levels of success. What specific mental skills do you have which set you apart from other athletes who have a similar level of athletic ability?
    a. Using a percentage as an indicator, to what extent did you already use your strength/ ability *before* the seminar?
    b. Again, using a percentage as an indicator, to what extent is the strength/ ability *a result of* the seminar?
    c. What else would you need to improve that strength/ability?
9. How would you describe your level of personal involvement and commitment to improving your mental skills *before* the seminar? Rate your level of personal involvement and commitment on a scale of 1-10 with one being the lower end of the scale and 10 being the higher end of the scale.
10. How would you describe your level of personal involvement and commitment to improving your mental skills *during* the seminar? Rate your level of personal involvement and commitment on a scale of 1-10 with one being the lower end of the scale and 10 being the higher end of the scale.
11. How would you describe your level of personal involvement and commitment to improving your mental skills *after* the seminar? Rate your level of personal involvement and commitment on a scale of 1-10 with one being the lower end of the scale and 10 being the higher end of the scale.
12. What motivated you to invest time in mental training during the seminar?
13. To what extent did you feel like you could exercise freedom in creating your own mental training program?

a. Why or why not?
b. From your perspective, did that have more advantages or disadvantages? Explain.

14. Please describe a key situation, which stands out in your mind, in which you felt or noticed that the *new (or refined versions of)* mental training techniques you learned and used were making a difference. Describe the situation including what you did before, during, and after it occurred in as much detail as possible.
(*Reiterate for clarification if needed/ Follow-up as required with…*)
    a. What feelings did you experience? Are there specific words, expressions, or images you would use to describe the experience? Take your time to consider your response.
    b. If you had to be concise, how would you summarise in one sentence what made that experience special?

Segue to closing statement:

I would now like to draw the interview to a close by asking in general…

15. Naturally, everyone has different needs. Still, from your perspective, if only FOUR performance strategies were introduced in future seminars, which top four (in chronological order) would you suggest ought to be a part of the seminar and why?

Closing statements and request:

As you know, I have recorded this entire meeting: May I have your permission to use the transcript for my research purposes? The interview material will remain strictly confidential and it will be made anonymous.

I appreciate the fact that you have allowed me to interview you!

Appendix E: Qualitative Data Management and Analysis Phases, Steps, and Objectives

The methodological process adhered to for managing and analysing the qualitative data was adapted from the guidelines established by Braun and Clark (2006, 2012). As delineated below, when further developed for the current study, 22 steps were followed across eight phases of the thematic analysis process.

Phase	Step	Objective
1. Familiarisation with the data	1	Transcription
	2	Collection of observational notes
	3	Augmentation of completed transcripts
	4	Conduct two-fold review of the audio files
2. Generating initial codes	5	Establishment of the initial theory-driven code and code manual
	6	Systematising the data.
	7	Apply code to data set; augment with data driven codes as required
3. Assessing and ensuring consistency and thoroughness	8	Ascertain coding consistency
	9	Ensure consistency of terminology use
4. Inductive analysis: Establishing themes and conceptual relationships	10	Identify and isolate explicit and implicit themes
	11	Design initial thematic map(s)
5. Review of potential themes	12	Assess viability and coherence of themes
	13	Ensure pertinence and illustrative quality of themes
	14	Thematic map analysis and revision
	15	Contemplate and determine conceptual relationships
	16	Establish internal homogeneity and external heterogeneity
	17	Adopting a polemic stance
6. Naming and defining themes	18	Designating theme names
	19	Development of the preliminary interpretative analytic narrative
	20	Theme development self-evaluation
7. Deductive corroboration	21	Deductive analysis
8. Assessing validity and production of the final report	22	Actively avert pitfalls and establish subjective integrity

Appendix F: Sample of Table for Collating Data and Reflections

The following table ought to illustrate how the raw data extracts were collated and initially coded. In order to readily determine at which juncture the raw data extract came forth, the question which prompted the response was recorded in the left-hand column. Next, the data extract was cut and pasted into the column. Rather than using italics (as is done below), core elements of the extract were highlighted in blue font. Next, instinctive codes were immediately applied which reflected either the theory-driven code previously compiled or a data-driven catch phrase was employed. In the following column, a key of relevance merely to the researcher was recorded: *A1 F1*. *A1* identified the athlete in question, Langston, prior to determining the aforementioned pseudonym. *F1* denoted the first review of the data item; the label *A1 F2* would have been used to clearly identify extracts and codes highlighted during the second review of each data item, for example. Finally, the line of the transcript at which the data extract commenced was recorded in column five and in column six, space was left for any notes which I deemed essential to record during the process and/or when reviewing my work.

	Raw data extract	**Initial code(s)**	**Source**	**Line**	**Notes**
	Q1: *How do you define mental strength? Describe what being mentally strong means to you.*				
Q1	okay, äm, mentale stärke also im prinzip aufm punkt *da zu sein wenns wichtig is*	optimal focus	A1 F1	L10	Therefore, focus is an essential facet of mental strength
Q1	dass man dann *in dem moment wos losgeht voll da is*	all there; fully concentrated/ focused	A1 F1	L12	
Q1	wirklich *sich nur noch auf das konzentriert was in dem moment dann wichtig is*	task-focused concentration	A1 F1	L13	Only concentrating on what is important at that moment
Q1	dass man einfach quasi *DAS macht, was [mann] dann machen (mag)*	sense of control	A1 F1	L29	Ability to carry out performance (plan) as desired and intended
Q1	gar *nich so viel nachdenken muss* äm sondern im prinzip *automatismen so abruft*	loss of self-consciousness; automaticity	A1 F1	L30	Automated = automatic movements; well-rehearsed
Q1	in dem moment *wo denn das LOS geht*, dass man denn *einfach das runterspült, was man im training geübt hat*	desired performance on demand; automaticity	A1 F1		Perform the way one rehearsed in training on demand Call forth/ trigger desired automatic processes immediately (on demand)

Appendix G: Sample Thematic Map Outline

During the process of generating and refining thematic maps, a plethora of creative versions were considered. Below, the ninth version given consideration is charted under the heading *Sample Thematic Map Outline*. It was randomly chosen because it reflects the themes and outline still in consideration midway through the brainstorming process.

THEME ONE: So *this* is my IZOF: The gestational process of cultivating the stage for flow
[Key concepts: Desire, awareness, conscious and intentional behaviour]

1.1 Really up for it/ Being open to new things, so to speak

1.2 Make way, intuition; hello consciousness / goodbye intuition; hello.../I simply wasn't aware

1.3 Now that I am more conscious, I can be more intentional

THEME TWO: It is just easy little things
[Key performance strategies employed and recommended]

2.1 Addressing and attending to one's needs: I know exactly what I have to [and want to] do to perform well [Goals/Regulatory behaviours conducive to performance]

2.2 No matter what I do, I always start with one-breath relaxation

2.3 I envision it, so I visualise it

2.4 Talk the talk and you will walk the walk

2.5 Audio-supported mental training is not for me... but I still find it important. "Not everything has to be fun, right?"

POTENTIAL THEME: When it all came together 

- The techniques are always combined; it's a kind of connection
- Then it even worked the way I wanted it to, eh!?
- I now integrate/use mental training all the time - like brushing my teeth in the morning

THEME THREE: Realisations and revelations: I have it in me; mental training helps [can help] me access it

3.1 I could've... I should've

3.2 Yet if I wanted to, I could!

3.3 TIME

(TIME) Potentially see "The age-old conditionals – I COULD have. I SHOULD have" document: TO what extent is the theme of TIME (!) and PRIORITIES potentially essential or relevant... at least as a sub-theme somewhere?

THEME FOUR: In future, give us/students freedom; but not too much
[The double-edged sword of student-autonomy; lead me to water yet I decide if I partake]

4.1 If it is not compulsory, expect indolence

4.2 Guide me, take me by the hand [or guide US... take US]

4.3 If we want to learn, we will

Appendix H: Sample Follow-Up Interview

In the forthcoming appendix, the follow-up interview conducted with Donovan has been provided. It was primarily chosen based on the fact that it was frequently cited within the final report of the thematic analysis. The transcript has merely been provided in an effort to serve three key purposes. It ought to (a) facilitate ease of verification of the authenticity of the extracts used in the final report of the thematic analysis; (b) demonstrate how the audio data was transcribed; and most importantly, where desired, it (c) provides the reader with an opportunity to independently peruse the surrounding context omitted, for example. The transcript was not edited from its original form to improve the orthography or the overall quality of the transcription.

Interviewer (INT): Primary Researcher

Narrator (NAR): Donovan (Athlete 3)

Date: January 30, 2013

Location: Universität

	00:20	INT:	**Q1: How do you define mental strength?**
2			**Describe what being mentally strong means to you.**
4	00:31	NAR:	muss ich erstmal drüber nachdenken. soll ich auf englisch reden eigentlich, oder ist egal?
6	00:34	INT:	w-wie du möchtest, [wie es] herauskommt. ((lacht))
8	00:36	NAR:	[Okay, lieber] (.) ja. (2) ((räuspert))
		INT:	mental strength oder mentale stärke, wie du das
10			definieren würdest.
	00:51	NAR:	also ich glaub (-) der hauptpunkt dabei (-) ist,
12			dass man °hh ähm, (-) sich seiner selbst sehr bewusst ist.
14		INT:	mhm.
		NAR:	also das heißt, weiß, was kann ich, was kann ich
16			nich so gut.
	01:04	INT:	mhm.
18	01:05	NAR:	dass man das (--) reflektiert genau weiß.
	01:09	INT:	ja, okay.
20	01:10	NAR:	und_ähm, (-) dass man sehr selbstsicher is' (--) in der Art und Weise, wie man (.) sich im sport (.)
22			äh (.) zeigt. also, °h dass man eben, okay, (-) wenn ich jetzt n fehler mache, dann mach ich den
24			fehler
	01:24	INT:	[ja.]
26	01:25	NAR:	[und] dann ist das halt passiert, das akzeptiert man als °hh menschlich.°h Und_ähm, (-) wenn

Donovan Follow-up Interview Transcript. January 30, 2013 page 2

28			ich aber (.) gut spiele, dass ich das auch (.) sehe
			selber, also, dass ich sehr gut selber einschätzen
30			kann, °h ähm, wie spiele ich gerade?
	01:39	INT:	Mhm.
32	01:40	NAR:	Und (-) im Prinzip (.) dieses, dadurch, dass ichs
			weiß (.) ähm (.) mit ner gewissen Ruhe aufm Pla-
34			also für mich is das Ruhe [viel].
	01:50	INT:	[Ja.]
36	01:50	NAR:	Also dass ich °h nich jemand bin, der MAL (--)
			äh SEHR selbstbewusst und super spielt und mal
38			ganz schlecht, sondern °h für mich is Roger
			Federer, also (.) <<lachend> vom Tennis, ich
40			[muss immer son Beispiel> (-) Djokovic auch,
			also diese ganzen] (.) Topspieler, ne?
42	02:05	INT:	[Und nicht Djokovoc? Aber <<lachend> okay
			gut, okay>] (1) Okay.
44		NAR:	Also für mich im Tennis sind immer so, die haben
			son (-) wie sagt man Equilirium oder so.
46	02:10	INT:	Equilibrium, ja [ja].
		NAR:	[ja.] die sind immer gleich irgen-. Also da (.)
48			gibts (-) kaum so ne Szenen, wo die mal völlig
			ausrasten oder wo die °hh äh weinen <<lachend>
50			oder irgendwie sowas> [gibt's] kaum, sondern die
			spielen immer eigentlich ziemlich nah an ihrem
52			optimum.
	02:20	INT:	[Ja.]
54		NAR:	ne? und das is für mich eigentlich mentale
			stärke.
56	02:27	INT:	so, es tut mir leid, ich muss mich nur, ich merke,
			ich grinse die ganze zeit aber ich denke auch was
58			für eine hervorragende beschreibung, <<lachend>
			es tut mir leid. es tut mir leid.>] aber es geht nicht
60			um richtig oder falsch [aber] einfach, es (.)
			leuchtet mir ein.

Donovan Follow-up Interview

02:32 NAR: [((lacht))] [<<lachend> ja ja ja>]

02:36 INT: gut also, (2) ein paar schlüsselwörter hab ich noch mitgeschrieben. also ich schreibe nur für mich mit [übrigens, ne?].

02:42 NAR: [ja.]

INT: ähm (--) sich selber bewusst sein, selbstsicher. also (.) die schlüsselwörter fielen mir auf jeden fall auf, aber anhand DIESER beschreibung, was du gerade gegeben hast, nicht unbedingt an Federer oder jemand gemessen, anhand dieser Beschreibung: **Q2 According to the description you have provided, how mentally strong are you right now? Rate your mental strength on a scale of ten with one being the weaker end of the scale and ten being the stronger end of the scale.**

03:10 NAR: kann ich von ner zahl bis ner zahl? ((lacht)) oder soll ich eine zahl [(geben)]?

03:15 INT: [also] gut, wenn es sein, also ich wünsch mir eine zahl, aber du kannst mir erstmal, also du kannst beides geben. ((lacht))

03:21 NAR: Also eher sieben als sechs. [((lacht))]

03:27 INT: [((lacht))] nee, das is [okay]!

NAR: [eigentlich] irgendwie sechseinhalb glaub ich.

03:30 INT: okay eigen- also sechseinhalb ist was [die], die ehrliche antwort ist.

03:33 NAR: [ja], ja.

03:33 INT: Und wenn ich dich zwingen würde, würdest du sieben sagen, aber sechseinhalb [respektiere ich, ist okay].

03:37 NAR: [Ja, ja], weil sechs wäre für mich schon noch jemand, der (irgendwie so)

INT: h° Ich finde das so interessant, wenn es um nummern geht, ganz kurz. ähm, dass dieser

96			halbe (.) Punkt macht doch einen Unterschied aus.
			[Aber] okay.
98	03:48	NAR:	[Ja.]
	03:49	INT:	**Q3: How important do you believe feeling**
100			**mentally strong is related to performing in**
			your individual zone of optimal functioning
102			**(IZOF)?**
	04:17	NAR:	ich glaube das ist das entscheidende.
104	04:20	INT:	es ist das entscheidende?
	04:21	NAR:	also, wenn ich [mich] selber jetzt mental
106			SCHWACH fühle,
	04:22	INT:	[okay], ja
108	04:25	NAR:	dann hab ich ja eben gerade angst vor diesen
			fehlern.
110	04:28	INT:	Perfekt. **Q3a: Specifically, what percentile**
			reflects the importance?
112	04:52	NAR:	okay, das finde ich jetzt schwierig zu
			beantworten irgendwie.
114	04:55	INT:	[ich auch. ((lacht))]
	04:55	NAR:	[weil ((lacht))], weil (2) ähm ich meine das sind
116			wahrscheinlich ganz viele Sachen, die da
			reinspielen, aber [d-d-]der ANfang ist glaub ich,
118			dass ich mich mental stark fühle.
	05:07	INT:	[genau], (3) mhm.
120		NAR:	weil, wenn ich mich mental stark fühle (.) und
			eben (--) wie ich gesagt hab vorhin, man hat
122			seine Fehler und die hat ja jeder spieler.
	05:15	INT:	mhm.
124	05:15	NAR:	°h und_ähm (-) ich komm in diese FEHler rein,
			fühl mich mental stark, dann weiß ich, ich komm
126			da auch wieder raus.
	05:21	INT:	mhm.
128	05:21	NAR:	das heißt ich komm wieder in meine *optimal* (.)
			zone of functioning. wenn ich aber mich schon

130			mental SCHWACH fühle, dann (-) komm ich gar nich mehr raus. dann
132	05:30	INT:	ja.
	05:30	NAR:	geh ich runter. also ich würd' (--) 100% is eben
134			schwierig, weil das blödsinn is, weil da spielt so viel mit rein, aber das sicherlich schon irgendwie,
136			ich sag mal 85%.
	05:38	INT:	mhm.
138		INT:	mhm (1) °h ja ich stimme dir übrigens zu, die schwierigkeit, weil es kommt technik [dazu], es
140			kommt, also viele bedingungen. auf jeden fall technik oder die fähigkeit an sich. äm °h aber gut
142			ok 85% **Q3b: Why do you consider it of 85% importance?** wenn ich das verstanden habe (2) es
144			war eher entscheidung weil 100%ig viel zu viel ist?
146	06:02	NAR:	[ja] (15) ja das (...)
	06:03	INT:	seh ich auch. ähm (---) klar zu begründen, warum
148			85%?
	06:08	NAR:	°hh
150	06:09	INT:	und nich weniger?
	06:09	NAR:	((räuspert))
152	06:10	INT:	also ich weiß, [(...)]
	06:11	NAR:	[also jetzt gerade im gespräch] hab, bin ich auch
154			dabei natürlich weiter zu denken [und] äm (--) drüber nachzudenken, was noch zugehört.
156	06:14	INT:	[mhm]
		NAR:	°h also (-) für mich zum beispiel gehört sowas wie
158			KÖRperliche fitness auch (.) extrem dazu, weil ich weiß dann, gerade beim tennis is jetzt
160			natürlich °hh vielleicht was anderes als wenn ich nen hundert-meter-sprint hab
162			

Donovan Follow-up Interview Transcript. January 30, 2013 page 6

164		INT:	ja
		NAR:	weil ich beim tennis halt vielleicht drei stunden
166			lang aufm platz steh. das weiß ich vorher nicht.
			das kann ne stunde dauern [oder drei]
168	06:34	INT:	[ja], mhm.
		NAR:	also muss ich immer (2) wenn ich ähm HINten
170			liege, ich kann weit HINten liegen aber ich kann
			noch AUFholen und wieder gewinnen, also °hhh
172			da (.) spielt die körperliche fitness natürlich viel (-
			) mit rein, weil wenn ich mich dann schon
174			körperlich schwach fühle, dann werd ich (.) auch
			nich mehr den glauben an mich haben.
176	06:50	INT:	mhm.
	06:51	NAR:	äm, (.) aber ich (-) hab so das gefühl als wenn das
178			(--) alles (--) in dem moment ja wirklich
			schwierig irgendwie (--) abänderbar is. also ich
180			kann ja meine körperliche fitness in dem moment
			nich ändern. aber wenn ich °h in dem moment
182			positiv denke
	07:07	INT:	mhm
184	07:07	NAR:	dann kann ich vielleicht darüber noch alles
			rausholen, also
186	07:11	INT:	ja
	07:11	NAR:	von daher glaub ich schon, dass das
188			DESwegen so entscheidend is, weil (.) wenn ich
			jetzt (-) ja wie gesagt, wenn ich nur an körperlich
190			glaube aber in dem moment mich schwach fühle
			bin ich verloren quasi, ne? °hh wenn ich aber
192			dieses (-) positive denken beibehalte, dann kann
			ich vielleicht sogar ne körperliche schwäche
194			damit (--) ausgleichen.
	07:29	INT:	mhm <<flüsternd> okay>
196	07:30	NAR:	also glaub ich schon das
	07:31	INT:	schlüsselwort (--) entscheidend ((lacht)) nehm ich

für mich dann zur kenntnis. (1) **Q4: Do you believe that you have a choice to become mentally tough and perform more frequently in your IZOF? For example, can you consciously influence it?**

07:51 NAR: tough form, also before, (--) oder [wie], oder in that moment?

07:55 INT: [äh] (3) äm (2) (grob bewusst ohne) also du kannst es selber entscheiden, wie du das beantworten möchtest, aber ich meine im ALLgeMEInen °h äm (-) ist es eine wahl, dass man möglicherweise entscheidet, bewusst oder unbewusst, also hat man eine wahl, ob man mental stark ist und in diese zone kommt? (-) oder ist es irgendwie was

08:16 NAR: °h ((räuspert)) ich glaub (-) mm

08:19 INT: willkürlich ist das gegenteil von einer wahl ich weiß [nicht], aber choice (-) [to become mentally tough]

08:21 NAR: [mhm], [ja wenn man willkürlich] dann wärs einfach ((...)) irgendwie. °hh also ich glaube, dass äm (---) zwei sachen, eigentlich glaub ich zwei sachen. einmal gibts glaub ich einfach spieler, die müssen das gar nich großartig trainieren. die ham das

08:34 INT: [mhm]

08:35 NAR: [also] (--) solche beispiele ham wir ja auch schon mal teams gehabt, die gehen aufn platz und spielen immer DA besser als im training, IMmer=

08:42 INT: ah sorry, ich muss es äm, ich hab dich gerade gefragt (-) do YOU ((lacht))

08:47 NAR: ah okay, also ICH (-) okay äh=

08:50 INT: also hast, kannst DU (.) beeinflussen inwiefern du das HÄUfiger zum beispiel scha= also dass du

Donovan Follow-up Interview Transcript. January 30, 2013 page 8

232	08:55	NAR:	mhm
	08:55	INT:	äm mental stärker werden kannst und
234			möglicherweise dadurch häufiger in dieser zone arbeiten kannst.
236	09:02	NAR:	mhm (1) also ich mein, ich hab ja erstmal diesen mental, ah gut ich hab davor auch schon
238			manchmal so mentale äh ansätze gehabt aber richtig angefangen das mal auszuprobieren ja erst
240			mit unserem kurs, den wir bei dir hatten. °hh das heißt ja erst seit nem dreiviertel jahr °h und_äm (-
242			) ich (.) was ICH nur merke bei den punktspielen, die ich bis jetzt hatte, war, dass ich (.)
244			MITTELmäßiger quasi, also dass ich nich mehr so weit RUNterfalle (---) also dass ich (.)
246			AUSgeglichener spiele. °h ob ich jetzt (-) DANN noch den schritt weiter gehe immer wieder in
248			diese OPtimal zone of functioning komme, DAS kann ich noch nich genau beantworten, °h weil
250			ich glaub dafür muss man ziemlich lange trainieren, weil °hhh also ich hab das natürlich
252			schon erlebt, dass ich in solchen (.) zones gespielt hab und das passiert mir ja auch WENN
254			überhaupt im wettkampf, also im training zum beispiel passiert mir das nich. wenn überhaupt bin
256			ich im wettkampf so fokussiert. °h (-) aber das kann ich noch nich (.) könnt ich dir jetzt nich
258			sauber beantworten, weil (-) im JETZigen Zeitpunkt glaub ich müsste ich noch viel viel
260			mehr °h mich mit mir selber beschäftigen mental trainieren und gucken (-) was sind die trigger
262			sozusagen, die mich in diese zone reinbringen und die genau suchen. oder, man DARF die glaub ich
264			nich mal SUchen <<lachend>sondern> wie du sagst das auch son bisschen (-) unbewusst, ne?

266			also wenn ich jetzt immer sehr beWUSST (--)
			alles mache, dann kanns auch sein, dass ich
268			<<lachend>wieder> das kaputt mache in dem
			moment, ne?
270	10:21	INT:	<<flüstert>okay>
	10:21	NAR:	also das glaub ich sehr fein diese linie da
272	10:24	INT:	okay °h was ich dabei raushole ist im grunde
			genommen auf die= also ich, ja ist klar, du du
274			kannst das nich so äm (.) be[antworten?]
	10:31	NAR:	[nee], NOCH, nee noch nich so [(...)]
276	10:33	INT:	[ja is okay] °h was ich klar raushör allerdings is,
			dass es dann doch ein nein ist, weil wenn es eine
278			unsicherheit, also dass es keine wahl ist, dass man
			mental stärker wird, dass es keine wahl ist, dass
280			man (-) häufiger, also i-ich will nur, ich will keine
			[worte in deinen mund legen aber genau das höre
282			ich, dass die eigentliche] antwort ist dann nein, du
			glaubst NICHT dass man selber entscheiden kann
284			mental stärker zu sein (.) und
	10:55	NAR:	[nee nee nee, ich antworte (...)] (5) nee DAS is ja
286			jetzt n unterschied, also ich kann [schon] äm für
			mich diese optimal zone of functioning is wirklich
288			da wo ich °hh AN meinem limit spiele
	11:03	INT:	[ah okay]
290	11:03	NAR:	wenn ich das richtig versteh. also DA bin ich in
			dieser opimalen zone
292	11:07	INT:	okay
	11:07	NAR:	wo ich optimal funktioniere, wo alles [fließt und
294			und und]
	11:10	INT:	[genau] mhm
296	11:11	NAR:	°hh DAS is ja (-) also meiner meinung nach is das
			son state, was man (.) nich immer hinkriegen
298			kann
	11:17	INT:	[okay]

Donovan Follow-up Interview Transcript. January 30, 2013 page 10

300	11:18	NAR:	[sondern] (-) das sind trigger, die dann ablaufen
			und irgendwann bin ich so fokussiert °h weil ich
302			vielleicht (-) merke ich KANN gewinnen und ich
			muss mich jetzt nur genau fokussieren und dann
304			(.) schaff ichs °hh aber (.) dass (.) ich mental
			STÄRker werde, das is natürlich (-) komplett
306			bewusst (-) beeinflussbar indem ich trainiere. (2)
			also ich, w-was [willst du jetzt wissen?]
308	11:38	INT:	[es ging um ob es ein] wahl ist, ob man sich dazu
			entscheiden kann stärker zu werden
310	11:42	NAR:	°h durch training, das wär ja ne entscheidung.
			wenn ich mich jetzt vorher hinstelle und sag ich
312			will stärker werden, dann is das ne entscheidung,
			dann trainier ich und bin stärker. das geht schon
314	11:49	INT:	okay [(lacht)]
	11:51	NAR:	[aber] ich hab, okay DAS [geht, also DA], DAS
316			hundertprozentig, ich kann entscheiden, dass ich
			STÄRker werde °hh [aber]
318	11:56	INT:	[<<lachend>okay>] [also ja] und nein dann im
			grunde genommen
320	11:58	NAR:	ja für mich sinds zwei sachen, also wenn ich jetzt
			mentAL stärker bin. zum beispel bei MIR wars
322			so, dass ich immer wieder in diese löcher reinfiel
			[beim] tennis
324	12:04	INT:	[<<flüsternd> ja>]
		NAR:	°h dann ham wir damit angefangen zu trainieren
326			und dann hab ich mich entschieden okay du
			nimmst das ernst und machst das mal wirklich
328	12:10	INT:	mhm
	12:11	NAR:	und hab diese LÖCHer schon seit längerer zeit
330			nich mehr so stark gehabt
	12:14	INT:	[<<flüsternd> ja das (...)>]
332		NAR:	[sondern die] (.) werden geringer. also DA hab

			ich ja (-) bin ich mental stärker und hab
334			beWUSST mich entschieden mental stärker zu
			werden °hh aber diese optimal zone of
336			functioning is für mich eben das da wo ich
			unGLAUBlich spiele, also da wo ich auch spieler
338			schlagen kann, die vielleicht eigentlich besser
			sind als ich. °h und in DIEse zone kann ich mich
340			nich 100% bewusst entscheiden, ich geh aufn
			platz und sach heute krieg ich das
342	12:36	INT:	ja
	12:37	NAR:	das is für mich s- (.) ja (-) momentabhängig, also
344	12:41	INT:	okay, nee, das versteh jetzt viel besser,
			[dankeschön]
346	12:43	NAR:	[so wär das, ja]
	12:44	INT:	**Q5: To what extent did the seminar help you to**
348			**learn to perform in your IZOF?** also es ist klar,
			dass du meinst, nein, das, ich hab verstanden das
350			kann man NICHT beeinflussen? °hh äm
	13:02	NAR:	[mhm]
352	13:02	INT:	[aber] inwiefern (-) wenn überhaupt hat das
			seminar dich (.) ja, did it help you learn to
354			perform within that zone?
		NAR:	also (-) ich glaube durch ((räuspert)) (1) °h
356			dadurch, dass ich AUSgeglichener spiele
	13:15	INT:	mhm
358	13:15	NAR:	hab ich DANN auch häufiger die chance da
			reinzukommen in diese zone. °h weil früher wars
360			eben so, dass ich <<flüsternd> ich sach einfach>
			ich kann das schwer sagen, sag mal jedes dritte
362			spiel war ich ziemlich unten
	13:25	INT:	[mhm]
364	13:25	NAR:	[also] KAM irgendwann ein moment wo ich
			fehler anfing zu machen, mich nich akzeptiert
366			hab, fehler nich akzeptiert hab. und DANN

kommt man da nich mehr raus, ne? weil dann
368 steckt man in dieser <<lachend> sagen wir mal
mist drin>
370 13:35 INT: ja
13:36 NAR: und in diesen gedanken und diese negativen
372 gedanken (.) sind dann einfach, die sind so fest
und Emotional dann auch vom rauskommen, dass
374 man da ganz schwer rauskommt. °hh DAdurch
dass ich jetzt (--) ich mach jetzt IMmernoch die
376 fehler (--) DAS hat sich nich verändert, sondern
nur [mein] UMgang mit den fehlern
378 13:52 INT: [mhm]
13:52 NAR: und DAdurch schaff ichs eigentlich Immer und
380 immer wieder aus diesen fehlern rauszukommen
(-) °h und zum beispiel die saison bei meinen
382 zwei letzten spielen (.) hab ich anfangs SUper
schlecht gespielt (--) aber immer dann wenns
384 entscheidend war (.) hab ich gut gespielt. also (.)
das heißt immer, ich hab immer, konnte immer
386 wieder rausfinden [aus] diesem <<lachend> mist
quasi>
388 14:11 INT: [<<flüsternd> okay>]
14:11 NAR: weil ichs nich so sehr hab in mir (-) gären lassen
390 14:14 INT: schöne beschreibung, aber (.) [ja]
14:16 NAR: [ja] sondern, ich hab dann mir gesagt, okay, is
392 alles in ordnung, akzeptierst du. das heißt °h
dadurch, dass ich stärker geworden bin (-) äh (-)
394 im akzeptieren (.) meiner fehler und stärker
geworden bin im mentalen
396 14:28 INT: <<flüsternd> ja>
14:28 NAR: kann ich auch häufiger in diese zone reinkommen,
398 weils mich alles nich RUNterzieht so doll. (--) SO
[wäre] das.
400 14:35 INT: [<<flüsternd> okay] ja> °h du es tut mir leid, ich

bin komplett abgelenkt ((lacht)) was du sagst ist
mir so wichtig ((…)) [START MP3 DATEI 2]
INT: sorry, aber das ist <<lachend>mir [viel zu
wichtig, was du sagst>]
NAR: <<lachend> [ja ja ja, aber jetzt gehts (zwar)]
INT: nee is genau das gleiche, irgendwie das zeigt nich
die anzahl an aus irgendeinem grund, [aber ist ok]
00:08 NAR: [die (-) sekundenzahl]
00:10 INT: ja, genau was mir zeigt ganz klar es nimmt auf
aber ich (-) kontrolle ist äm für mich am
allerliebsten als, dass ich dann [(...)]
00:16 NAR: [nee find ich auch gut]
00:18 INT: °hh äm (1) nein sorry, du gibts hervorragende
beschreibungen und die schlüsselwörter, die du
benutzt ist äh [sehr gut], sehr gut
00:24 NAR: [ja ja ja ((lacht))]
INT: aber es gibt kein richtig oder <<lachend> falsch,
es [geht (...)> ((lacht))]
NAR: [haha <<lachend> (ich genau)>] (---) und weiß
was man hören will
00:32 INT: **Q6: What do you consider mental training?**
For example, if a fellow athlete asked if you do
mental training, which techniques, strategies,
or behaviours dealt with in the seminar would
you consider a part of your mental training?
NAR: ich glaub da, mhm, da ist fast am einfachsten,
wenn ich einfach sage was ich geMACHT hab,
weil das (.) is ja im prinzip dann das was ich (--)
als mentales training bezeichne
01:04 INT: [ja okay]
01:05 NAR: [also für mich] °h GANZ grundlegend (--)
((räuspert)) weil ich fand, dass (--) äm man das (-)
überall anwenden kann und viele positive effekte
hat war immer dieses *relaxation*, also (-) diese

			One Breath Relaxation °h h° mit (.) bildern, die
436			einen beruhigen, also (-) oder glücklich machen.
			ich hab mir viel szenen mit meinem sohn
438			vorgestellt, die mich irgendwie positiv berühren
			und dann
440	01:31	INT:	<<flüstert> ja>
	01:31	NAR:	auch positiv äm (.) dastehen lassen quasi. (1) °h
442			mm und DAS im prinzip (---) war is für mich sehr
			positiv, weil man, also, wenn man jetzt ausm tach
444			wo man diesen ganzen stress hat, dann kann man
			sich sehr gut konzentrieren darüber wieder. also
446			°hh von daher, das wär für mich eigentlich das
			element von (---) meinem (--) äh °h mentalem
448			training, weil ich [er]
	01:55	INT:	[grund]stein meinst du mit element?
450	01:56	NAR:	ja grundstein, [genau]
	01:57	INT:	[ja, okay]
452	01:57	NAR:	weil ich (-) erst DArüber (-) in diesen (-) moment
			komme wirklich konzentriert zu arbeiten, also
454	02:04	INT:	ja
	02:04	NAR:	äm (-) von daher ja, das wär für mich eigentlich
456			der grundstein. das hab ich auch (.) jedem, wenn
			mich mal leute im team angesprochen haben, hab
458			ich DAS eigentlich immer weitergegeben, also
			erstmal diese °h relaxation technik, dieses One
460			Breath Relaxation mit bildern verbunden [°hh]
	02:19	INT:	[mhm]
462	02:19	NAR:	dass man sich eben vorm training ((räuspert))
			AUF das training einstellt. (1) dann hat MIR sehr
464	02:26	INT:	kurze nachfrage=
	02:26	NAR:	ja
466		INT:	**Q6e: How consistently do you use that technique?**
468	02:35	NAR:	ja h° äm, ich hab (--) im sommer, ich muss das

			jetzt n bisschen erzählen ((lacht)) weil, also jetzt
470			mach ichs zu hause
	02:43	INT:	mhm
472	02:43	NAR:	sach mal (--) zwei mal die woche. °hh im
			SOMMER hatte ichs (--) ah da hab ichs bestimmt
474			fast täglich gemacht
	02:50	INT:	[okay]
476	02:51	NAR:	[weil] da war so, dass ich (.) äh (-) zum (.) club
			kam und VOR dem training zeit hatte das zu
478			machen. das heißt geNAU vorm training
	02:58	INT:	mhm
480	02:59	NAR:	°h JETZT ist das problem, weil ich so viel
			training GEbe, dass ich (-) bis fünf training gebe
482			und um fünf beginnt das training
	03:06	INT:	[(...) ja]
484	03:07	NAR:	[das heißt] ich (.) bin fertig, muss die bälle
			wegbringen, alles aufräumen und und und komm
486			DANN schon zu spät zum training, jetzt ist ein
			bisschen doof
488	03:12	INT:	[ja]
	03:13	NAR:	[wenn ich] DANN (--) hab ich auch schon
490			überlegt, ja machst du das JETZT noch? °h dann
			ist das problem dann würde ich MItten in den
492			übungen anfangen, ohne mich einzuschlagen
	03:20	INT:	mhm
494	03:20	NAR:	und dann hab ich jetzt im moment aber okay
			gesagt okay einschlagen (-) is aber schon wichtig,
496			weil dein körper <<lachend> sonst im eimer is>
	03:26	INT:	<<flüsternd>ja>
498	03:26	NAR:	und du nich das tempo soFORT spielen kannst
			ohne dich warm zu machen und deswegen hab ich
500			jetzt mich im moment dafür entschieden, dass ich
			mich einschlage
502	03:33	INT:	<<flüsternd>okay>

Donovan Follow-up Interview Transcript. January 30, 2013 page 16

	03:34	NAR:	eher (-) und hoffe, dass ich (.) äh (-) ja im sommer
504			wieder <<lachend> mehr zeit hab> das daVOR
			direkt zu machen. also im moment mach ichs
506			eindeutig weniger als im (-) sommer. im sommer
			hab ich bestimmt fünf mal die woche gemacht
508	03:45	INT:	äm (1) vielleicht hast du das bereits gesagt, aber
			für mich, damit ich das im kopf habe (---) also auf
510			jeden fall hast du das häufiger im sommer
			gemacht als jetzt?
512	03:54	NAR:	[mhm]
		INT:	[ich] versteh <<lachend> ganz genau> prag
514			pragmatisch, **Q6d: What specific results have**
			you seen? also what results have you actually
516			seen and i wonder if you've notices a DIFference
			(.) between when you were doing it very very
518			frequently and less frequently now
	04:08	NAR:	hm, ich glaub (.) dadurch, dass ichs weniger
520			mache vertrau ich mir selber nich ganz so viel
	04:13	INT:	ah, [okay]
522		NAR:	[also] ich bin jemand, also is bei mir auch äh
			allgemein im sport so, ich muss VIEL (-) spielen
524			(-) um gut zu spielen.
	04:19	INT:	mhm
526	04:19	NAR:	wenn ich wenig spiele, ich (-) hab nich dieses
			GANZ große grundvertrauen in mir, in meine
528			eigenen fähigkeiten, dass ich aufn platz geh und
			sag ich hab drei wochen nich gespielt aber ich
530			spiel trotzdem super
	04:29	INT:	okay
532	04:30	NAR:	sondern ich (.) bin mir schon bewusst, okay du
			musst schon trainieren, um auch gutes tennis zu
534			spielen und genau das gleiche hab ich auch DA
			°hh ich hab dann so das (.) gefühl okay du hast

536			nich so viel trainiert, also wirds auch nich so gut sein
538	04:42	INT:	okay
	04:42	NAR:	also da is für mich schon immer so ne verbindung
540	04:44	INT:	okay
		NAR:	OB die jetzt (-) STIMMT oder nich weiß ich nich
542			(-) ne? also das kann psychisch sein diese verbindung [<<lachend> dass ich DENKE>] ich
544			brauch das, aber
	04:52	INT:	[((lacht))] (1) aber das is was für mich jetzt gerade
546			wichtig ist, was DU denkst, [wie] du das, okay
		NAR:	[genau]
548	04:55	INT:	sorry, ich hab dich unterbrochen, der (.) grundstein (--) wie ich das [nennen würde]
550	05:00	NAR:	[genau (-) ach stimmt (.) ja]
		INT:	wäre *One Breath Relaxation*, also welche andere
552			sachen würde zum mentales training (-) äm für [DICH] (.) gehören?
554	05:06	NAR:	[mhm] (1) °h also was ich NOCH (-) äm (--) jedem RAten würde, der mental trainiert °h wäre
556			eben sich mit sich selber auseinander zu setzen? also sich seiner stärken und schwächen bewusst
558			sein?
	05:20	INT:	ja
560	05:20	NAR:	das was ich im prinzip °hh auch gemacht hab ganz genau zu gucken, okay, wo sind meine
562			stärken und schwächen, wo sind meine negativen gedanken und wo meine positiven?
564	05:29	INT:	mhm
	05:29	NAR:	und die eben auch aufzuschreiben. also ich bin
566			immer (-) äh fan vom aufschreiben
	05:34	INT:	ich hab deine sachen übrigens [((lacht))]
568	05:36	NAR:	[ah]
		INT:	ja, okay

Donovan Follow-up Interview Transcript. January 30, 2013 page 18

570	05:37	NAR:	äm (--) DAS auf jeden fall machen (--) äm (-) und
			(--) dann (.) im prinzip (.) hab ich mir mal son text
572			dann auch formuliert, das hatten wir ja auch im
			seminar gemacht, wo ich eben ganz bewusst (-
574			) sechs sieben sätze hab, wo ich weiß das sind
			meine stärken (-) die ich dann VORM punkt, also
576			VOR nem spiel (.) mir selber wiederhole
	05:58	INT:	mhm
578	05:58	NAR:	((räuspert)) das denke ich auf jeden fall (--) is gut,
			das wär dann so ne art bisschen *Game Plan*, ne?
580			dass ich weiß, okay, ne [viertel stunde vorher]
	06:06	INT:	[((lacht)) ja]
582		NAR:	viertel stunde vorher äh fang ich an, mach (.) ich
			mach immer n bisschen die *One Breath*
584			*Relaxation* und danach sag ich mir °hh diese sätze
			auf. (2) DAS auf jeden fall (-) und_äh dann (---)
586			ja dann is glaub ich individuell danach, also ich
			hab dann zum beispiel mal, als ich meine
588			aufschlagprobleme hatte, °h vier fünf
			trainingseinheiten mich hingestellt, ne stunde
590			aufschlagtraining gemacht. aber nich wie sonst,
			dass ich gesagt hab ich mach heute 200
592			aufschläge
	06:32	INT:	mhm=
594	06:33	NAR:	ich hab nur 50 gemacht vielleicht, aber hab davor
			mental immer gearbeitet. das heißt °hh ich hab (.)
596			genau DEN aufschlag rausgepickt, mit dem ich
			probleme hatte
598	06:42	INT:	<<flüsternd> okay>
	06:42	NAR:	also gibt im tennis verschiedene techniken und
600			EINE technik war immer mein problem °h und
			hab genau DIEsen aufschlag genommen (--) mich
602			hingestellt und mir vorher immer vorge- also
			vorgestellt wie (.) sieht die bewegung aus und wie

604			mach ich den aufschlag? °h und (-) äm, hab mich
			dann hingestellt und mir gesagt, du kannst den
606			aufschlag. (-) also (-) und hab auch (.) dann gesagt
			welchen effekt hätte der auf den gegner?
608	07:05	INT:	mhm
	07:05	NAR:	°h äh du kannst den aufschlag und DER wird
610			deinem gegner probleme (-) bringen. (-) und hab
			DANN mich hingestellt und hab nur drei
612			aufschläge gemacht vielleicht (--) und wieder das
			gleiche. also das (.) was von der quantität der
614			aufschläge dann ganz gering (--) aber von der
			INtensität viel höher
616	07:21	INT:	okay
	07:21	NAR:	aber das dann individuell, also da müsste dann
618			natürlich jeder gucken, wo sind seine probleme
	07:27	INT:	es geht aber um dich gerade
620	07:28	NAR:	genau
	07:29	INT:	wirklich, wortwörtlich [nur um dich ((lacht))]
622	07:29	NAR:	[ach so, aber weil du, okay]
	07:31	INT:	also alle [diese] fragen letztendlich, bis ich klar
624			was [anderes sage], es geht wirklich um wie du
			[damit umgehst]
626		NAR:	[genau] (2) [okay] (1) [mhm] also (.) ja, das wär
			dann meins noch, da hab ich (.) äh, weil aufschlag
628			mein großes problem dann (-) psychisch war, hab
			ich da noch viel dran gearbeitet. (--) und äm (2) °h
630			ja diesen *Game Plan* hatten wir
		INT:	also der ausgangsfrage, oder die ausgangsfrage
632			war, what you actually consider mental training,
			also sollte jem-, also hätte jemand dich gefragt ja
634			MACHST du sowas und, was würdest du dem
			auflisten als °hh sachen, die dazu gehören für
636			dich. ich hab the *One Breath Relaxation* °hh äm (-
			-) meine schlüsselwörter jetzt gerade, sich selber

Donovan Follow-up Interview Transcript. January 30, 2013 page 20

638			bewusst werden, ich habs dann umgerahmt als
			self talk, also die sätze, die du dann aufgesch=
640	08:10	NAR:	genau=
	08:10	INT:	=also ah and auch ganz bewusst hast du
642			geschrieben, dass du das wirklich niederschreibst,
			das [für dich] wichtig
644		NAR:	[mhm]
	08:14	INT:	°hh äm, das war zusammen dein *Game Plan*
646			teilweise, wie du das durchgehst (-) und (-) dann
			dieses (.) ich beschrieb es als a new type of
648			training, also anstatt 200 aufschläge zu machen,
			dass du ganz bewusst °h die mentale prozesse,
650			also das im voraus °h gesehen hast, was du sehen
			wolltest, und dann (-) ausgeführt ein [paar mal]
652		NAR:	[ja] °hh
	08:32	INT:	gibts noch was, das fehlt?
654	08:33	NAR:	ja, wo du sagst self talk, dieses (.) äh (-) das is ja
			im prinzip, wenn ich mir immer wieder selber
656			sage, was ich kann, diese talk to talk, was wir
			hatten?
658	08:41	INT:	mhm
	08:41	NAR:	°h und äm (-) was ich auch auf jeden fall immer
660			drin hab is dieses walk the walk. also ich bin
			keiner, der sich so hängen lässt, ne? egal wies
662			steht, also ich bin bleib aufrecht, ne?
	08:51	INT:	ja
664	08:51	NAR:	äm (--) und ich weiß, also hab schon häufiger
			<<lachend> gehört> °hh äh (.) dass das auch
666			effekt hatte, weil dann (-) äh (--) leute auf der
			bank gesagt haben, oh er wird (falten), das sieht
668			man <<lachend> also>
	09:04	INT:	[okay]
670	09:04	NAR:	[(...)] also man äh muss schon effekt haben, ne?

also (-) von daher das (.) weiß ich auch, dass das
672 einen effekt hat, weil (.) ich SELber weiß, wenn
ich meinen gegner unten sehe, dann hab ich ihn
674 jetzt
09:14 INT: okay
676 09:14 NAR: von daher (---) dieses walk the walk hab
<<flüsternd> (...)>
678 INT: okay (---) weiter gehts?
09:21 NAR: mhm
680 09:22 INT: **Q7: How would you describe the internal process you experience when engaging in**
682 **mental training?**
NAR: schon ne schwierige frage
684 INT: mhm
09:43 NAR: ((lacht))
686 09:44 INT: kannst du ruhig (.) [deswegen haben wir so viel zeit], damit du wirklich kurz überlegen kannst,
688 wenn du möchtest
09:46 NAR: [ja ja ja ja] ((räuspert))
690 09:49 INT: intern
09:51 NAR: mhm (9) ((räuspert)) ja also ich glaub der
692 hauptpunkt ist dieses äm, dass man sich intern beWUSSTer wird, ne?
694 10:06 INT: mhm
10:08 NAR: also das heißt bewusster wird, wo sind eigentlich
696 meine probleme? und_äm (-) wie geh ich dann auch mit diesen problemen um? und vor allen
698 dingen akzeptanz, also
INT: ja
700 10:17 NAR: dass man sich selber sehr akzeptiert also (--) ich denk mal das isn (-) äh (---) allgeMEIN ein riesen
702 ding, dass man (-) eben fehler oder, dass ich f- (--) bei MIR auf jeden fall, ich mach fehler °hh und (.)
704 hab dann aber (-) sag ich mal den aufschlagfehler

Donovan Follow-up Interview Transcript. January 30, 2013 page 22

			gemacht und gedacht oh nee, nich schon wieder.
706			°h also DAS ja dann schon der falsche, sondern (-
			-) hingehen und sagen okay, das passiert jetzt,
708			kann auch sein, dass ich <<lachend> NOCH zehn
			mache>
710	10:39	INT:	mhm
	10:39	NAR:	aber im endeffekt komm ich da vielleicht auch
712			wieder raus, also (--) von daher das ganze etwas
			lockerer sehen °hh ich glaub das is der
714			hauptpunkt, also dieser (-) wandel von (-) n
			DRAma machen (-) hin zum (--) ja (.) okay (.) das
716			kann vielleicht sogar das ganze spiel jetzt so
			<<lachend> laufen>
718	10:56	INT:	ja
	10:57	NAR:	aber dafür nehm ichs LOckerer und dann is
720			vielleicht das spiel darAUF wieder besser also
			°hh ich glaub das der hauptWANdel der in mir
722			selber (--) stattgefunden hat, dass ich (--) ja das
			lockerer alles sehe und mehr (akzeptiere) und
724			AUCH °h ich hatte relativ doll am anfang, wenn
			ich das hatte, dass wirklich (--) äm mir das
726			UNangenehm auch schon war vor anderen
	11:16	INT:	<<flüsternd> ja>
728	11:16	NAR:	ja also, dass ich dachte oh mann ey (-) so (-) kannst
			du, also das is SO schlecht. °hh hatte ich ja auch
730			bei den BÖgen manchmal ausgefüllt, die wir
			hatten, dass mich das schon so, da hatte ich immer
732			mal so drei vier glaub ich ausgefüllt, also m-
			mittelbereich, °hh dass ich auch immer wieder da
734			mal hinkam zu denken, oh, also das is ja schon
			echt unangenehm jetzt gerade, ne? weil das SO
736			schlimm war, also (das). und DAS nehm ich alles
			lockerer. ich denk jetzt ok das is dein ding und du
738			machst die fehler und das schon in ordnung

	11:42	INT:	okay
740	11:42	NAR:	[(...)]
	11:42	INT:	[also ich möchte nur sicher gehen] (-) für MICH
742			(-) mit ES du meinst schon (.) die fehler machen
			oder, dass [(...)]
744	11:47	NAR:	[ja ja, die fe] diese fehler machen
	11:49	INT:	verstehe. ja
746	11:50	NAR:	ne?
	11:50	INT:	((lacht)) okay (2) bewusst werden, akzeptanz äm,
748			also (.) ein WANdel, ich denke das war dein wort
			[ich vermute]
750	11:59	NAR:	mhm
	11:59	INT:	aber äm wie du mit die fehler umgehst im grunde
752			genommen, also so (-) die (.) sachen gehören zu
			dem internen prozess was passiert [wenn] du
754			mental trainierst.
	12:08	NAR:	[genau] (1) also eben °hh ich glaub allgemein is
756			das immer wieder dieses äh äquilirium (-) äquil
			aqu-
758	12:14	INT:	equilibrium [with a b ((lacht))]
	12:15	NAR:	[äquilibrium] zu finden
760	12:16	INT:	ja
	12:17	NAR:	äm und ich glaube DA sind eben (--) also DA bin
762			ich noch nich gan_noch nich da, also ich (-)
			schwing da noch häufig drum rum. mal drüber
764			und mal drunter und ich glaube auch DRÜber
			schwingen die ganze Zeit is schlecht °hh weil ich
766			dann halt ÜBERtreibe die ganze zeit, ne?
	12:31	INT:	ja
768	12:31	NAR:	das heißt ich will dann immer nur ((geräusche))
			super gut spielen. °h das macht auch keinen sinn.
770			und ich glaub da sind eben leute, die das (--) äh (-
			) gut machen äh besser, also die sind eben immer
772			in ihrem MITtelbereich

	12:43	INT:	mhm
774	12:43	NAR:	°h äm das heißt die sinken eben nie ganz ab,
			sondern die sehen immer genau, wo sie stehen
776			und °hh daran muss man glaub ich am meisten
			arbeiten, dass man eben diesen mittelbereich
778			findet
	12:54	INT:	°hh okay (1) also diese findungproz-,
780			findungsprozess gehört möglicherweise auch für
			dich, also das gehört auch zu diesem internen
782			prozess [(einen mittelbereich finden)]
		NAR:	[das is hundert, also] (--) für mich hundertprozent
784			intern, diesen
	13:06	INT:	okay
786	13:07	NAR:	ja ausgleich zu finden
	13:09	INT:	und du hast ein prozentzahl gegeben <<lachend>
788			(...) gut (...)>
	13:14	NAR:	hab ich gesagt?
790	13:14	INT:	du hast gerade gesagt das ist zu hundert prozent
			intern
792	13:17	NAR:	ach so okay
	13:18	INT:	also ich will dich nur drauf
794			[<<lachend>AUFmerksam> machen, dass]
	13:21	NAR:	[<<lachend> ja ja>]
796	13:21	INT:	°hh äm, °h also ich hätte als nächstes gefragt was
			für schritte (--) ob bewusst oder unbewusst das
798			beinhaltet, aber ich meine, dass du das gerade
			sehr beschrieben HAST bereits, also was °h äm
800			dazu gehört und wie (.) der, also du hast auch
			verlauf genannt °h. kann ich das so stehen lassen?
802			(-) ja?
	13:39	NAR:	ja
804		INT:	°hh ((lacht)) **Q8: Everyone responds differently**
			to mental training and experiences different
806			**levels of success. What specific mental skills do**

you have which set you apart from other
athletes who have a similar level of athletic
ability?

NAR: mhm (4) nur positiv?

14:18 INT: [interessant, interessant]

14:24 NAR: [also, that set me apart] in a positive or negative

14:25 INT: hab ich nich durchdacht. sowohl als auch, also
was macht dich (--) anders [als] andere athleten

NAR: [genau]

14:33 INT: also eigentlich ist es schon positiv gemeint [aber
wenn du meinst es etwas] äm negatives an dir
gibt, das dich zum besseren spieler macht als
andere, dann

14:38 NAR: [ja ja ich hatte gedacht, aber] (5) also schon im
endeffekt besser, (--) weil anders könnte ja auch
sein, dass ich okay, ich hab negative abilities, die
mich dann (--) auch in dem aspekt vielleicht
schlechter machen, weil ich mein is ja schon
[multifaktoriell irgendwie]

14:50 INT: [ja, äh nee] genau also, schwierigkeit ist es geht
um stärken oder fähigkeiten und [eine fähigkeit is
schon normalerweise positiv. aber wenn du
meinst was negatives], ja

NAR: [okay, okay, ja ja da hast du recht. ja da hast du
recht, ja ja] °h äm (9) also ich glaub (.) insgesamt
(-) mm, auch wenn ich mal so meinen eigenen
prozess angucke und dann auch gucke wie, jetzt
spieler, wir haben viele im team, die relativ gleich
gut sind. bestimmt sieben acht leute, die auf
ziemlich gleichem niveau tennis spielen. °hh
wenn ich DANN so gucke, dass ich trotzdem
meistens gegen die gewinne (-) äm (---) dann
liegts glaub ich schon an so nem
selbstverständnis, also das ich (--) aufn platz gehe

und (.) ab und zu hinten liege, °h aber trotzdem
842 das gefühl immer hab, ach du weißt aber
eigentlich gewinnst du. also gegen DIE jetzt
844 15:47 INT: dürft ich selbstverständnis als selbstvertrauen
über, also auch verwenden oder
846 15:51 NAR: ja is auch n selbstvertrauen
15:54 INT: ja? okay
848 15:54 NAR: also auch eben aber auch dieses verständnis von
mir selber, dass ich WEIß wie gut ich bin
850 15:59 INT: ah okay, ja
16:00 NAR: so ne art selbstverständis und °h ich weiß, WENN
852 ich jetzt mal n aufschlag treffe und WENN ich
gleich mich sauber konzentriere für den return
854 16:07 INT: mhm
16:07 NAR: dann sind DEren aufschläge nich stark genug.
856 dann kann ich darauf (.) drauf hin, also ich (--) ja
(-) bin mir meiner (-) fähigkeiten dann so sehr
858 bewusst °hh dass ich (--) egAL wies steht das
gefühl hab ich (-) gewinne irgendwie im endeffekt
860 16:23 INT: okay
16:24 NAR: äm, DAS denk ich setzt, also DAS bin ich mir
862 sicher, also dass (.) ich da relativ stark bin (--) äm
weil (-) ja wie gesagt, also ich bleib mir da sicher
864 äh meiner fähigkeiten sicher und bleibe positiv
und denke du schaffst das schon. °hhh mm (--)
866 was mich DANN denk ich in zwischen (-) apart
setzt sozusagen von anderen spielern ist, dass ich
868 eben nich mehr so tief reinfalle, also °hhh selbst
wenn ich GANZ schlecht spiele hh° dann h°
870 kommt mal n ausraster, wo ich so oh
((geräusche)), aber danach bleib ich (.) cool, also
872 dann sag ich mir okay du spielst jetzt weiter und
°h du (-) hast zwei sätze auch zeit, also das

874			natürlich im tennis auch angenehm, weil ich weiß
			ich hab auch n bisschen zeit
876	17:08	INT:	ja (...)
	17:09	NAR:	und_äm ich weiß, dass ich irgendwann wieder
878			DA bin, also dass ich wieder mein (--) tennis (.)
			an mein limit bringe, wo ich spielen kann °hh äm.
880			von daher, DAS denk ich is STÄRker geworden
			also insgesamt und auch im gegensatz zu andern,
882			was mich dann auch wieder °h äh von denen (--)
			absetzt quasi
884	17:26	INT:	ja ich würde sagen abHEBEN, aber absetzen [(...)
			((lacht))]
886	17:29	NAR:	ja abheben [(...) ((lacht))]
		INT:	<<lachend> sorry> °hh okay, also specific mental
888			skills, which set you apart from (-) others. (--)
			selbstverständnis (-) hast du beschrieben. äm für
890			mich hab ich dann, dass du positiv bleibst als
			pauschalen begriff, also vielleicht positivER, ich
892			weiß nicht ob du positiv bleibst, das anders ist als
			bei anderen. °hh äm (---) und häufiger cool
894			bleiben kannst nach (---) ausrastern. ich hab schon
			[verstanden, was du beschrieben hast (...)]
896		NAR:	[ja ausrasten wär jetzt, dass ich EINmal laut
			schreie] oder einfach mal irgend- also einmal die
898			anspannung rauslasse
	18:02	INT:	ja
900	18:03	NAR:	weil die sich schon dann, wenn ich jetzt ganz
			schlecht spiele schon aufbaut, das ja. also und
902			dann einmal rauslassen und dann aber auch
			wieder (---) ja dranbleiben, also [cool bleiben]
904	18:13	INT:	[weiterkämpfen], okay **Q8a: Using a percentage**
			as an indicator, to what extent did you already
906			**use your strength/ ability before the seminar?**
	18:26	NAR:	hm

Donovan Follow-up Interview Transcript. January 30, 2013 page 28

908	18:28	INT:	also die häufigkeit, in einer groben prozentzahl,
			oder ganz genau, wenn du meinst du kannst es
910			sagen
	18:33	NAR:	hm, da muss man sich zurück reinversetzen °hh
912	18:41	INT:	ja
	18:41	NAR:	((räuspert)) also ich hab das benutzt (--) auch
914			schon
	18:44	INT:	mhm
916	18:45	NAR:	auf jeden fall. weil ich da vorher auch schon
			immer mal drüber nachgedacht hab und mit
918			meinem trainer °h der auch n zugang dazu hat
			dran gearbeitet hab (1) aber weniger. jetzt ist nur
920			die frage <<lachend> wieviel>
	18:59	INT:	nee also, überlege kurz, aber ich, vielleicht [hilft]
922			das wenn ich verrat, als nächstes werd ich
			sowieso fragen äm, [was für ein prozent] du (-) äh
924			auf grund des seminars, also es [muss nicht
			unbedingt] jetzt sein, es ist jetzt sechs monate her,
926			dass wir das gemacht [haben], also insgesamt
	19:12	NAR:	[ja] (3) [(...)] [ja ja genau] [ja ja]
928		INT:	also ich frage nach beides, wenn es [dir] hilft das
			dann im vergleich zu sehen
930	19:16	NAR:	[mhm] (3) das hatte ich auch <<flüsternd>(...)>
			((lacht))
932	19:21	INT:	das glaub ich
	19:21	NAR:	äm (---) muss ich erstmal nachdenken
934			<<flüsternd>(...)> (10) fünfzig (2) also da hab ich
			dich richtig verstanden, dass ich jetzt was ich
936			VORher benutzt hab?
	19:43	INT:	fünfzig, also ich äm frage nach zwei
938			prozent(zahlen) °hh wenn man ein preozentzahl,
			also wenn du, also ich zwing dich jetzt ein
940			prozentzahl zu [geben]
	19:51	NAR:	[ja ja]

Donovan Follow-up Interview

942	19:51	INT:	°h inwiefern hast du bereits diese fähigkeiten vor dem seminar benutzt, inwiefern war
944			selbstverständnis (...) hat sich dann abge[setzt von anderen]?
946	20:01	NAR:	[setzt, genau, was]-
		INT:	-inwiefern hat °h positiv bleiben oder locker
948			bleiben nach so einem problemfall oder ausraster, inwiefern, also zu welchem prozent hast du das
950			davor sowieso immer gemacht?
	20:09	NAR:	genau dann würd ich sagen, dass ich jedes (-)
952			zweite mal in son tiefes loch gefallen bin und jedes zweite mal wusste, dass ich eigentlich gut
954			bin. also [50%] das würd ich dann so sagen, ja.
	20:19	INT:	[also fünzig, ah okay, sehr gut] okay °hh äm (3)
956			danach, also welchem, zu welchem prozentzahl waren DIEse stärke etwas, das sich dann absetzen
958			von (-) ähnlichen [spielern] äm auf GRUND des seminars oder auf GRUND der [tatsache], dass du
960			dann (--) ja (-) gut
	20:39	NAR:	[mhm] (4) [ja] (4) mm (--) ich (--)
962			<<flüsternd>(...)> ((räuspert))
	20:45	INT:	do you need a (--) calculator? ((lacht))
964	20:47	NAR:	((lacht)) nee nee ich, also 75 oder 80 also °h auf jeden fall schon ziemlich (-) gesteigert. sach mal
966			75, also dass ich jetzt vielleicht (--) wenn ich vier partien hab 3x (---) sehr zufrieden bin mental und
968			einmal sage ah, da waren (---) so (-) selbstbewusstseinslücken und da hättest du
970			vielleicht besser sein können. °h aber sach mal ja so (-) 75
972	21:09	INT:	is okay, okay. **Q8c: What else would you need to improve that strength/ability?**
974	21:19	NAR:	das ganz einfach zeit. ((lacht))
	21:22	INT:	AH!

Donovan Follow-up Interview Transcript. January 30, 2013 page 30

976	21:23	NAR:	also ich müsste also jetzt geRADE zum beispiel (-
			) in diesem winter hab ich (---) WEniger zeit als
978			im sommer, weil ich sehr intensiv an meiner
			masterarbeit äh °hhh und VIEL meinen sohn hab
980			und_äh das h° zum beispiel äm (--) is dann viel
			schwieriger mental zu trainieren, wenn ich ihn
982			hab, weil er mich die ganze zeit sachen fragt.
			((lacht))
984	21:42	INT:	ja ((lacht))
		NAR:	also is viel schwieriger. äm, nee, zeit und vor
986			allen dingen eine sache würde mir sehr sehr
			helfen, also °hh einmal (--) trainier ich jetzt im
988			winter auch weniger als im sommer. also ich hab
			im sommer bestimmt drei mal die woche (.)
990			gespielt, jetzt so ein bis zwei mal die woche, das
			heißt wirklich nich viel
992	21:57	INT:	okay
	21:58	NAR:	und äm (1) DANN müsste ich f- also einmal DAS,
994			also ich müsste viel mehr trainieren, dass ich (-)
			viel mehr vertrauen wieder in alle meine schläge
996			hab und in das was ich tue. °hh äm (1) UND vor
			allen dingen EINE sache würde mir unglaublich
998			helfen, das weiß ich auch aus eigener erfahrung,
			weil ich das mal mit 18, 19 viel gemacht hab:
1000			turniere spielen.
	22:20	INT:	ah, okay
1002	22:21	NAR:	also matches (--) und wirklich auf diesem (.)
			matchlevel (-) äh spielen (.) gegen leute, die mal
1004			schlechter sind, mal besser sind und °h mal gleich
			gut und immer wieder dieses suchen, dieses (--)
1006			moment, weil, wenn mans so jetzt nimmt, also ich
			(--) hab ich letzten jahr (1) ein turnier gespielt und
1008			(.) zehn punktspiele, also (-) zwölf matches, das is
			natürlich (nichts)

Donovan Follow-up Interview

1010	22:45	INT:	wenn du sagst dieses moment, meinst du ein punktspielsituation?
1012	22:49	NAR:	genau. also dass ich in diesem moment drin bin, °hh dass ich das sauber anwenden kann, weil im
1014			training is natürlich, trotzdem kann ich im training auch °hh gegen nen vereinskollegen
1016			mental trainieren, aber das is was ganz anderes, weil da weiß ich genau wo ich stehe und °h (-)
1018			deswegen bin ich dann (.) viel selbstbewusster, weil ich weiß, okay, egal, selbst wenn du heute
1020			verlierst, das is jetzt auch nich so schlimm. du bist sowieso der bessere, also
1022	23:11	INT:	mhm
	23:12	NAR:	deswegen kann ich viel lockerer umgehen. (--)
1024			und ich MÜSSTE, ich sach mal, ich hab im letzten jahr zwölf matches auf turnierebene
1026			gespielt und punktspielebene °h (--) ich hab früher mal bestimmt 30 gespielt pro jahr, also
1028	23:23	INT:	okay
	23:24	NAR:	drei mal so viel, also
1030	23:25	INT:	ein großer unterschied
	23:27	NAR:	riesen unterschied und (---) dadurch natürlich (--)
1032			egal ob ichs beWUSST trainiert hab oder nich war ich lockerer in den situationen, weil ich
1034			einfach die situaTION kannte, die war war mehr wie zu hause. °hh und_äh ja, das is jetzt natürlich
1036			n (anderer), also dadurch dass ich weniger zeit hab. da würd ich schon gerne (-) das wär mein
1038			hauptpunkt, also °hh mehr matches wieder spielen, mehr turniere spielen, dann könnte ich
1040			sicherlich noch weiter einiges (.) verbessern
	23:50	INT:	(auf jeden) wenn ich verstanden habe letzten-,
1042			also (.) die zeitfaktor leuchtet auf jeden fall ein. es geht um die (--) echt, also (.) punktspielsituation

Donovan Follow-up Interview Transcript. January 30, 2013 page 32

1044			zu haben, damit du dann (-) in die richtige
			situationen auch weiterhin (.) diese stärken (.)
1046			verwenden kannst.
	24:04	NAR:	genau, also im prinzip alles was ich (-) trainiere
1048			und im training gemacht habe (.) is für mich gut,
			also mm °h aber bis ichs (.) nich (.) in ner (.)
1050			situation, wo ichs dann wirklich, woFÜR ich
			trainiert habe ANwende und DA funktionierts
1052	24:17	INT:	mhm
	24:18	NAR:	kann ich nich hundert prozent drauf vertrauen
1054			quasi. also ich muss quasi schon im match
			merken, ey, (--) das is (-) hat °hh jetzt irgendwas
1056			(.) verbessert. du bist viel ruhiger und und und
			und DANN kann ich wieder darauf aufbauen [und
1058			und und]
	24:31	INT:	[ja]
1060	24:31	NAR:	also diese matchpraxis wär schon entscheidend
	24:33	INT:	**Q9: How would you describe your level of**
1062			**personal involvement and commitment to**
			improving your mental skills before the
1064			**seminar? Rate your level of personal**
			involvement and commitment on a scale of 10
1066			**with 1 being the lower end of the scale and 10**
			being the higher end of the scale.
1068		NAR:	also wie gesagt, ich hab auch schon vorher da was
			gemacht, aber nich (.) sehr (--) regelmäßig, nich
1070			systematisch
	25:08	INT:	mhm
1072	25:08	NAR:	°h also würd ich vielleicht sagen vier
	25:11	INT:	okay
1074	25:11	NAR:	weil ich schon was gemacht hab, aber eben sehr
			UNsystematisch
1076	25:14	INT:	okay vier vorm semiNAR: also es, wie du erahnen
			kannst kommt [((lacht))]

1078	25:18	NAR:	[<<lachend> ja ja ja>]
	25:18	INT:	**Q10: How would you describe your level of**
1080			**personal involvement and commitment to**
			improving your mental skills during the
1082			**seminar? Rate your level of personal**
			involvement and commitment on a scale of 10
1084			**with 1 being the lower end of the scale and 10**
			being the higher end of the scale.
1086	25:24	NAR:	mhm (---) während war während des sommers. (---
			-) und da hab ich ja gesagt, da hatte ich mehr zeit,
1088			da hatte ich mehr ruhe, weil ich vor dem (-)
			training ruhe hatte (.) und und und. also da würd
1090			ich schon °h ich hä- hätte auch mehr machen
			können deswegen. also ich sach mal schon acht,
1092			also das war schon gut
	25:38	INT:	mhm
1094	25:39	NAR:	das war schon gut
	25:40	INT:	**Q11: How would you describe your level of**
1096			**personal involvement and commitment to**
			improving your mental skills after the
1098			**seminar? Rate your level of personal**
			involvement and commitment on a scale of 10
1100			**with 1 being the lower end of the scale and 10**
			being the higher end of the scale.
1102	25:44	NAR:	danach is jetzt [mal]
	25:46	INT:	[(große änderung)]
1104	25:47	NAR:	genau (.) also (.) gut (.) der sommer war dann
			noch august september war noch gut, das war
1106			auch danach. aber jetzt im winter (.) wie gesagt (-)
			zu wenig zeit, dann hab ich °h geb ich viel
1108			training lauf immer vom training direkt zum
	25:57	INT:	mhm
1110	25:57	NAR:	tennistraining, also muss ich °h. es is (.)

immernoch besser also früher sag ich mal aber
1112 SECHS dann
26:03 INT: okay
1114 26:04 NAR: lässt sich dazwischen eintragen
26:05 INT: **Q12: What motivated you to invest time in**
1116 **mental training during the seminar?**
26:23 NAR: meine innere verzweiflung ((lacht))
1118 26:26 INT: okay ((lacht))
26:26 NAR: also, äh
1120 26:28 INT: was meinst du damit?
26:28 NAR: ((räuspert)) (--) ich hab (-) hatten wir glaub ich
1122 schon mal drüber gesprochen. ich hab immer (--)
einen super schlag gehabt. das war mein
1124 aufschlag
26:37 INT: mhm
1126 26:37 NAR: mein aufschlag war so gut, dass ich, wenn ich
fehler gemacht hab mir das völlig egal war. also
1128 ich hab dann halt °h sechs sieben doppelfehler im
match gemacht, was nich wenig is, aber das war
1130 egal, weil die ANderen aufschläge waren SO gut,
dass ich °h selbst gegen (.) nordliga
1132 regionalligaspieler (--) auf einem level war mit
meinem aufschlag also auch f- gegen so
1134 halbamateure °hh und auch gegen leute gespielt
hab, die wirklich top 100 in deutschland standen.
1136 aber durch meinen aufschlag so gut war, dass
alles in ordnung war. also °hh wirklich DArüber
1138 unglaublich viel rausgeholt hab.
27:05 INT: mhm
1140 27:05 NAR: ja und dann war der weg auf einmal, ne? ((lacht))
INT: ((lacht))
1142 27:09 NAR: also das war dann, das is dann schon, und das
aber (-) äh, wann war das (-) war (-) 2009 oder so,
1144 also schon drei jahre lang, dass ich gekämpft habe

	27:17	INT:	okay
1146	27:18	NAR:	und hab mit meinem trainer auch n paar sachen
			versucht, das hat dann immer mal funktioniert,
1148			aber ich °h äh (--) fiel auch immer wieder zurück.
			(--) °h und (.) das is jetzt (.) immer noch (-) n
1150			problem, also (-) aber wie gesagt, ich akzeptiere
			das problem mehr. und DAdurch (-) kann ichs
1152			auch lockerer nehmen, also DASS ich mich (-)
			engagiert hab für mich selber (.) mental zu
1154			trainieren war eingentlich diese °h (--) äh
			verzweiflung, dass, weil natürlich macht mir
1156			tennis gar keinen spaß, wenn ich so spiele. also
			dann, weil die probleme des aufschlags (.) dann (-
1158			-) fangen mitm aufschlag an (-) °h und weil man
			sich schlecht fühlt übersetzt sich das aufs ganze
1160			spiel und irgendwann spielt man (-) ja könnte man
			auch nach hause gehen, also man verliert sowieso.
1162			°hh und von daher natürlich, weil das (.) SEHR
			<<lachend> unbefriedigend is>
1164	28:01	INT:	ja, okay
	28:02	NAR:	äh, hatte ich dann gedacht okay, das is jetzt
1166			vielleicht ne möglichkeit (-) äm (--) wenn du da
			mal (.) zeit investierst °hh äh deine
1168			aufschlagprobleme wieder gut in den griff zu
			kriegen
1170		INT:	okay (3) i can't help yet wonder (---) to what
			extent ((lacht)) use a number if you want, you
1172			don't have to, just the next question. to what
			extent has that inner (--) innere verzweiflung äm
1174			(---) sich geändert?
	28:32	NAR:	((räuspert)) (--) mm
1176	28:36	INT:	oder ja, hats sich geändert und wenn ja
	28:38	NAR:	geändert ja, geändert ja, weil (---) diese innere

Donovan Follow-up Interview Transcript. January 30, 2013 page 36

1178			verzweiflung (--) die ich (.) sonst im spielen hatte,
			wenn ich dieses problem hatte und auch nich
1180			rausfand, °h wie gesagt, die probleme sind die
			GLEIchen geblieben
1182	28:51	INT:	[mhm]
	28:51	NAR:	[aber] die verzweiflung is nich mehr da, also °hh
1184	28:53	INT:	okay
	28:54	NAR:	ich (.) akzeptiere das, das (.) is dann immer noch
1186			manchmal schwer zu (.) erkennen, okay, du
			spielst eigentlich gegen jemanden, wo du ganz
1188			klar, wenn alles liefe normal (.) glatt gewinnen
			würdest. °h du musst schon kämpfen.
1190	29:05	INT:	ja
	29:05	NAR:	aber (--) es (.) is halt jetzt eher so, dass es (--) äm
1192			ja diese verzweiflung weg is und jetzt eher so ne
			erwartungshaltung, dass ich wieder rauskomme,
1194			also °hh eher positiv insgesamt
	29:16	INT:	okay
1196	29:17	NAR:	das heißt ich fühl mich nich mehr GANZ schlecht
	29:19	INT:	nich mehr ganz so verzwei[felt, nur <<lachend> n
1198			bisschen> ((lacht)) okay]
	29:22	NAR:	[nee genau, also immer noch] (-) weiß ich, okay,
1200			(--) du musst dran arbeiten °h äm, weil natürlich
			wäre das ziel, dass ich irgendwann aufn platz
1202			gehe und das gleiche selbstbewusstsein wie füher
			hätte und einfach aufschlagen würde und °hh
1204			mein spiel würde laufen.
	29:36	INT:	<<flüsternd> ja>
1206	29:36	NAR:	und DAS noch nich so, also ich brauch schon
			jedes mal das, wie ne erinnerung ne? jedes mal
1208			°hh äm, dieses, dass ich ah jetzt musst du schon
			dich konzentrieren, damit der aufschlag kommt
1210			und °h früher musste ich mich nich mal großartig
			konzentrieren, das lief einfach unbewusst, [also]

1212			das war äh klar, da machte ich mir keine sorgen drum
1214		INT:	[<<flüsternd> ja] (3) okay (---) okay>
	29:55	NAR:	und das wär natürlich top, wenn ich DA wieder
1216			hinkäme (2) naja (---) müsst, da müsste ich zeit für investieren
1218	30:02	INT:	zeit, ja, zeit (.) schaffen. äm (---) das wäre die wunsch die ich, wenn ich [dir die erfüllen
1220			<<lachend> könnte, (...) >] okay
	30:11	NAR:	[genau, genau]
1222	30:11	INT:	**Q13: To what extent did you feel like you could exercise freedom in creating your own MT**
1224			**program?**
	30:22	NAR:	wie me-? äh schuldigung
1226	30:25	INT:	ach so ja, inwiefern (--) hast du das gefühl gehabt, dass du [frei entscheiden könntest, weil das war
1228			entscheidend teilweise, beziehungsweise] inwiefern hast du das gefühl gehabt du könntest
1230			frei (.) entscheiden?
	30:35	NAR:	[ah okay, ja ja ja ja ja ja (1) ja] (4) also ich mein
1232			letztendlich (-) äh (--) gibt das seminar natürlich nen rahmen vor. ich weiß nich (.) genau wie viele
1234			verschiedene methoden es mental gibt (.) insgesamt gesehen und ich weiß nich wie viele
1236			DU davon ausgewählt hast
		INT:	mhm
1238	30:48	NAR:	uns darzubieten. °hhh
	30:50	INT:	ich auch nicht (-) für beide fragen [((lacht))]
1240	30:52	NAR:	[<<lachend> ja>] gibt sicherlich (.) unglaublich viele, von daher °h (-) bin ich natürlich (.) in
1242			einem bereich (.) nich frei, weil (--) diese mentalen formen (.) mir vorgegeben (.) sind von
1244			dir, aber IN diesen mentalen formen, ich weiß

Donovan Follow-up Interview Transcript. January 30, 2013 page 38

			nich wieviele, waren ja bestimmt zwanzig dreißig
1246			sachen, die [wir gemacht haben °hhh]
	31:09	INT:	[auf jeden fall, mhm]
1248	31:09	NAR:	innerhalb DIEser konnte ICH ja frei wählen. und
			ich hab ja auch nur davon vier oder fünf
1250			ausgewählt.
	31:14	INT:	mhm
1252	31:15	NAR:	°h also von daher war ich ja (--) IN den grenzen
			(.) die gegeben waren (-) frei auszuwählen. wobei
1254			man natürlich auch wiederum sagen muss, ich
			hätte auch noch weiter lesen können °hh und du
1256			wärst ja jetzt nich böse gewesen, wenn man da
			mit neuen (.) ideen angekommen wär, also °h von
1258			daher ((räuspert)) (-) war man (-) ja wie soll man
			das nennen. also man war frei (.) aber natürlich is
1260			man immer frei in dem, was man weiß. also °h (--
			) so. und ich wusste halt diese methoden, die du
1262			uns gegeben hast und dadurch is man natürlich
			leicht beeinflusst aber
1264	31:45	INT:	klar (-) ja [(...)]
	31:47	NAR:	[trotz alledem] bin ich in diesen methoden frei
1266			gewesen zu sagen ich nehm jetzt *One Breath*
			Relaxation, *Positive Imagery* und *Walk the Walk*
1268			[(oder)]
	31:54	INT:	[okay] °hh äm, da fällt mir nur jetzt gerade ein,
1270			wie hast du diese fünf ausgewählt?
	31:58	NAR:	[äm]
1272	32:00	INT:	[also] die entscheidungsprozess, wenn man das
			mal, [wie] hast du (.) gewählt?
1274	32:03	NAR:	[ja] (2) ich glaub (.) einfach nach gefühl, [also]
	32:07	INT:	[mhm]
1276	32:07	NAR:	äh, wir haben ja im seminar n paar mal (-) dinge
			gemacht
1278	32:11	INT:	mhm

Donovan Follow-up Interview

	32:11	NAR:	äh diese *One Breath Relaxation* war für mich
1280			erstmal simpel zu erlernen
	32:15	INT:	ja
1282	32:16	NAR:	also (.) fand ich sehr simpel, weil das irgendwo
			alltagsnah ja auch noch is. °hhh äm (--) zum
1284			beispiel, oder *Positive Imagery* (--) fand ich
			immer hat schon sinn (.) auch (.) also das war für
1286			mich wie so SINN, [also]
	32:28	INT:	[mhm] okay
1288	32:29	NAR:	zum beispiel dieses, was wir mal gemacht haben
			(...). °hh das funktioniert bei mir nich. also das
1290			weiß, also da muss ich auch nich großartig
			ausprobieren
1292	32:36	INT:	((lacht)) [ja]
	32:36	NAR:	[äh] ich hab dann SCHON ab und zu mal gedacht,
1294			okay du, man kann sowas auch aufm
			TENNISplatz machen, dass man (---) den zaun
1296			nimmt oder so und sagt so tst °hh aber (.) ich kenn
			mich, also das, ich würd dann (---) das würde
1298			mich dann irritieren und ich würde vielleicht
			noch mehr dran denken [oder so]
1300		INT:	[ja]
	32:52	NAR:	also °hh ich hab einfach genau die sachen (.)
1302			benutzt wo ich (.) sofort ne (-) äh verbindung zu
			gesehen hab [irgendwie]
1304	32:59	INT:	**Q13 b: From your perspective, did that have**
			more advantages or disadvantages? Explain.
1306	33:35	NAR:	dass wir frei bleiben durften
	33:37	INT:	mhm
1308	33:38	NAR:	°h also ich find das vorteilhaft
	33:40	INT:	okay
1310	33:41	NAR:	äm, weil wie gesagt, also ich muss quasi so ne ver-
			, also grade bei sowas, weil das ja hochindividuell
1312			is, also, ich muss dann eben grade

spüren, dass ich (-) mich innerlich dazu (.) also (.)
1314 mich damit personifizieren kann mit der [übung]
33:55 INT: [mhm]
1316 33:55 NAR: oder mit dem (--) mentalen training °h und DAS
könntest du mir ja nich vorgeben. also, wenn du
1318 mir jetzt fünf sachen geben würdest und sagen
würdest üb das mal das ganze seminar lang und
1320 dann gucken wir mal am ende was bei rauskommt
°hh dann (--) kanns sein, dass du mir fünf gibst,
1322 die ich hh° selber (-) gar nicht irgendwie
verstehen kann. °h äm, und ich würd vielleicht in
1324 ne sackgasse laufen (--) und sagen okay mental (.)
training is für mich gar nichts. °hh von daher is
1326 schon auf jeden fall besser da frei zu bleiben
34:25 INT: okay (--) thank you ((…)) [PAUSE/START MP3 DATEI 3]
1328 **Q14: Please describe a key situation, which**
stands out in your mind, in which you felt or
1330 **noticed that the new (or refined versions of)**
mental training techniques you learned and
1332 **used were making a difference. Describe the**
situation including what you did before,
1334 **during, and after it occurred in as much detail**
as possible.
1336 NAR: äh, ich hab ja vorhin schon gesagt, dass für mich
ganz wichtig is (--) dass das nich im training
1338 funktioniert, sondern im (-) match wirklich, also
(--) dann in der matchsituation
1340 00:54 INT: mhm
00:54 NAR: °hh und_äh ich hatte (-) anfang des sommers zwei
1342 matches gegen zwei bessere spieler (---) also die
(.) eigentlich besser sind °h äh objektiv betrachtet
1344 (---) und_äh (-) hab (.) das eine knapp, also beide
(.) sehr knapp verloren (-) und im einen match
1346 auch wirklich chancen gehabt zu gewinnen. also

			°hh und (--) DA (.) hatte ich mich sehr sauber auf
1348			diese matches eben auch vorbereitet, also wirklich
			(--) viertel stunde vorher bin ich aufs klo
1350			gegangen, weil man sonst keine ruhe findet,
			irgendwo im tennisverein quatschen einen alle
1352			voll °hh so und hab dann wirklich mich (--) drauf
			eingestimmt, mich hingesetzt in ruhe,
1354			nachgedacht, konzentriert und und und, und ich
			war sehr [fokussiert]
1356	01:35	INT:	[aber] so dieses und und und, äm, genau das
			interessiert [mich ((lacht))]
1358	01:38	NAR:	[ach so <<lachend> okay>] okay wie ich das
			gemacht hab quasi. also °h ich hab vorhin schon
1360			mal gesagt, dass ich (.) äm (-) immer dann so (.)
			das gemacht hab (.) also einmal °h (-) wenn man
1362			ganz früh anfängt, ich schlag mich immer ein,
			aber das mach ich immer. also der unterschied
1364			war dann eben, dass ich °h also zu früher der
			unterschied (.) äh (.) war heute eben, dass ich
1366			dann wirklich mir diese zehn fünfzehn minuten
			zeit genommen hab DIREKT vorm match [°hh]
1368	02:01	INT:	[mhm]
	02:02	NAR:	und (---) erstmal (.) *One Breath Relaxation*
1370			gemacht hab, das heißt mich entspannt hab, weil
			ich schon (--) höheres aufgeregtheitslevel dann
1372			hab vor nem match, also °hh ich bin dann schon
			so, dass ich (.) innerlich so ne unruhe n bisschen
1374			spür, aufgeregt bin °hh (ne?) so das heißt mich
			erstmal entspannt hab °h (---) DANN (--) mir (--)
1376			diese sechs sieben sätze, die ich mir mal
			aufgeschrieben hab äm (1) fünf, sechs mal in
1378			folge gesagt hab
	02:31	INT:	mhm
1380	02:32	NAR:	°h und dann ganz bewusst mir vorgestellt hab wie

Donovan Follow-up Interview Transcript. January 30, 2013 page 42

			(-) die einzelnen schläge (-) also *Positive Imagery*
1382			wäre das ja dann °hh ganz bewusst vorgestellt
			hab, wie meine schläge kommen (--) also wie sie
1384			ins feld kommen. °hh (---) ja (.) im prinzip das
			und das (.) hat so zehn, fünfzehn minuten
1386			insgesamt [(gedauert)]
	02:51	INT:	[okay]
1388	02:51	NAR:	und dann aufn platz gegangen und (.) eben auch (-
			) das umgesetzt mit viel ruhe °hh (-) äm (1)
1390			manchmal war ich früher eben auch unruhig, ich
			hab dann fehler gemacht und bin eher NOCH
1392			schneller wieder zum neuen punkt gegangen, was
			natürlich gerade <<lachend> falsch is> also °hh
1394			DAS hab ich dann nich mehr gemacht, sondern
			dann gerade bewusst umgedreht, (-) rausgelassen
1396			was drin war, aber dann auch wieder fokussiert °h
			auf den nächsten punkt. und IMmer wieder diese
1398			hoffnung gehabt (.) das wird schon. (.) °h und
			diese beiden spiele, die ich da gespielt hab, waren
1400			auch sehr hohem niveau, also das war dann schon
			schon (-) °h wirklich gut. mm und das hat mir
1402			eben gezeigt, dass ich da spielen kann
	03:30	INT:	okay
1404	03:31	NAR:	wenn ich (--) mich sauber (-) vorbereite und (.)
			gut konzentriert arbeite und auch das feedback
1406			von meinen spielern und äh mitspielern und auch
			vom trainer war (-) dass ich eben (.) mal
1408			konSTANT gespielt hab, also [°hh]
	03:44	INT:	[mhm]
1410	03:45	NAR:	nich dieses FALLEN, wegfallen hatte. (-) ich hab
			immer mal n satz sehr sehr gutes tennis gespielt,
1412			aber (.) da hab ich wirklich zwei matches auf
			gleichem niveau das ganze match lang
1414			durchgespielt [°hh]

Donovan Follow-up Interview

	03:55	INT:	[<<flüsternd> okay>]
1416	03:55	NAR:	und das (--) ja (-) war schon stark, also das war schon (...)
1418	03:59	INT:	<<flüsternd> okay> (--) **Q14a: What feelings did you experience? Are there specific words, expressions, or images you would use to describe the experience? Take your time to consider your response.**
1420			
1422			
	04:01	NAR:	((lacht)) gut natürlich
1424	04:04	INT:	((lacht))
	04:05	NAR:	nee, das war schon, also das (-) klar ich hab trotzdem die beiden matches verloren, also ich hätte ganz gerne natürlich eins davon gewonnen,
1426			
1428			das wär dann die krönung [°hh]
	04:13	INT:	[mhm]
1430	04:13	NAR:	äm (--) aber trotz alledem hats sich gut angefühlt und is auch bis heute gut äh als erinnerung
1432			geblieben, dass ich weiß, ich kann da spielen, wenn ich eben
1434	04:23	INT:	<<flüsternd> okay>
	04:23	NAR:	mich (.) gut vorbereite (---) also (.) dieses, diese selbstverständnis, was ich vorhin ansprach und das selbstvertrauen is dadurch schon gestiegen (--
1436			
1438			) °h weil ich weiß, das is (nun), also das liegt in meinem möglichkeitsrahmen
1440	04:38	INT:	[<<flüsternd> okay>]
	04:39	NAR:	[und is nich] (-) (...)
1442	04:41	INT:	mhm. (--) gut (.) also ich, also wenn ich nach einem schlüsselwort fragen würde, weil (...) die
1444			reaktion, gut wäre ein schlüsselwort. °h sieben (5) °h äm (3) (...) actually (1) gut, also ich äh hab ein
1446			bild in meinem kopf, wie du zuvor gestrahlt hast und gut natürlich [gesagt hast]
1448	05:09	NAR:	[((lacht))]

Donovan Follow-up Interview Transcript. January 30, 2013 page 44

	05:09	INT:	äm
1450	05:09	NAR:	ich hätte auch großartig sagen [können, das wär
			jetzt ((lacht)) (...) da bin ich relativ (offen)]
1452	05:11	INT:	[ja nein nein nein, also ich will deine wortwahl
			nich ändern (--) ich will deine wortwahl nich
1454			ändern, aber ich frag mich dann jetzt sofort], also
			gibts denn, es kann dabei bleiben, aber andere
1456			wörter oder ausdrücke oder (--) bilder, etwas als
			(.) ja (2) °h ich versuche (--) von dir (.) also in
1458			deinen, also dass du in deinen worten (auch was)
			was ich sofort gesehen habe. also das war (.) du
1460			sagtest gut aber ich sah etwas. ich frag mich, gibts
			dann
1462	05:36	NAR:	((lacht))
	05:36	INT:	andere bilder, die du verwenden könntest, also (.)
1464			die du siehst, [wenn] du an dieses °h situation
			denkst oder nachfühlst, weil du meintest das, das
1466			fühlt sich immer noch gut an. ah also wenn du
			daran denkst, also
1468	05:47	NAR:	[mhm] (8) also das is eben so ne (.) gewisse ruhe,
			ne? (-) und deswegen hab ich vielleicht auch
1470			gestrahlt, also [°h]
	05:53	INT:	[ja]
1472	05:53	NAR:	äm (--) allgemein im leben bin ich jemand, der
			ruhe sucht
1474	05:57	INT:	okay
	05:57	NAR:	also, wenn ich ruhig bin, das heißt vor so nem
1476			match auch stundenlang meine ruhe hab und
			meine sachen bewusst mache, bewusst meine
1478			tasche packe, bewusst duschen gehe, bewusst
			mich rasiere und und und, DANN spiel ich auch
1480			besser °hh
	06:09	INT:	[mhm]
1482	06:09	NAR:	[wenn ich] unruhig bin, dann äh funktioniert alles

			nich so richtig. °h also von daher (-) deswegen
1484			hab ich vielleicht auch gestrahlt, also äh DAS zu
			wissen gibt mit eben (-) ne gewisse gelassenheit,
1486			ne?
	06:20	INT:	okay
1488	06:21	NAR:	und zu wissen, dass ich da auch wieder spielen
			KANN, also ich hhab ja vorhin mal erwähnt, dass
1490			ich mit achtzehn neunzehn mal (.) die sommer
			genutzt hab °h und wirklich auf turnierreise
1492			gegangen bin und dann durch halb deutschland
			und da trainiert, da gespielt, da. °h und DAmals
1494			spielte ich auch schon mal auf diesem level. aber
			da hab ich fünf mal die woche trainiert, °h am
1496			wochenende meine punktspiele gehabt und da hab
			ich auch immer mal gegen wirklich gute leute aus
1498			der regionalliga und so SEHR ausgelichene
			matches gespielt, also °hhh ((räuspert)) und (-)
1500			das zu sehen, okay auch mit weniger training (-)
			aufm platz (-) kann ich vielleicht mit dem
1502			psychischen training (--) was (--) für mich (.)
			weniger ZEIT kostet
1504	06:57	INT:	mhm
	06:58	NAR:	doch (.) wieder an diesem level spielen, ne?
1506	07:00	INT:	[<<flüsternd> okay>]
	07:01	NAR:	[also], weil das is natürlich irgendwo in mir drin
1508			das level, aber °h is nich mehr so parat wies mal
			mit neunzehn war, ne?
1510	07:06	INT:	mhm
	07:06	NAR:	das is [(...)]
1512	07:09	INT:	[(...)] **Q14b: If you had to be concise, how**
			would you summarize in one sentence what
1514			**made that experience special?**
	07:32	NAR:	okay da muss ich jetzt (.) den einen satz erstmal
1516			(.) [überdenken]

Donovan Follow-up Interview Transcript. January 30, 2013 page 46

	07:35	INT:	[was?] ja ja nimm dir ruhig zeit, is okay. also in
1518			diese situation was du beschrieben hast (---) was
			machte es besonders?
1520	07:42	NAR:	(16) mhm, also ich war (-) in den beiden matches
			(---) in gewisser weise versunken in dem was ich
1522			tat
	08:06	INT:	mhm
1524	08:07	NAR:	allerdings wars (-) trotz alledem (--) beWUSST,
			wie ich gespielt hab
1526	08:13	INT:	((lacht)) okay
	08:16	NAR:	hast du das jetzt schon [(...)? ((lacht))]
1528	08:17	INT:	[versunken in dem was du tatst? <<lachend> ne
			ne ne], gott sei dank, also ich muss es dann
1530			zusammenfassen>
	08:21	NAR:	°h ja
1532	08:22	INT:	okay
	08:23	NAR:	also s- also ich [durfte nur einen satz, sonst würd
1534			ichs dir jetzt] erklären noch, aber
	08:27	INT:	[(...)] (-) also du kannst, äh ich äm, genau das,
1536			also da- du kannst weiter erklären, aber ich wollte
			genau (-) von dir, weil ich muss es [nich] sofort
1538			nachvollziehen können in einem satz das ganz
			klar
1540	08:36	NAR:	[mhm]
	08:37	INT:	doch bitte (--) erklär das für mich
1542	08:39	NAR:	also versunken mein ich (.) dass ich (-) DA war
			wo ich jetzt bin (-) äh da war wo ich damals war,
1544			also [wirklich] aufm platz
	08:47	INT:	[ja]
1546		NAR:	und nich (.) äh (--) in meinen universitätsaufgaben
			oder in meinen °hh äh in (.) meinem sohn und wo
1548			er hin muss oder oder, sondern ich war wirklich
			im jetzt, also ich hab
1550	08:59	INT:	mhm

Donovan Follow-up Interview

	08:59	NAR:	war versunken in dem moment. hab nur tennis
1552			gespielt in dem moment [°hhh]
	09:05	INT:	[mhm]
1554	09:05	NAR:	DAS. (--) allerdings (.) war das nich (.) als wenn
			ich träume (.) sondern (.) es war ne beWUSST (.)
1556			alle entscheidungen, die ich in dem moment
			getroffen hab, waren bewusst. spiel ich die
1558			vorhand jetzt cross oder spiel ich sie longline
			[°hh]
1560	09:16	INT:	[<<flüsternd> okay>]
	09:17	NAR:	LAUF ich jetzt (.) und RUTSCHE ich am ende
1562			oder laufe ich und sprinte, also laufe aus, also das
			sind jetzt so technische feinheiten, ne? aber es war
1564			beWUSST was ich tat
	09:24	INT:	<<flüsternd> okay>
1566	09:25	NAR:	also es wär dann so, ich hatte ne hohe kontrolle °h
			über das was ich getan habe
1568	09:29	INT:	<<flüsternd> okay>
	09:30	NAR:	das is so (--) würd ichs erklären
1570	09:34	INT:	versunken ((lacht)) bewusst
	09:36	NAR:	genau
1572	09:36	INT:	[okay also zumindest] (...)
	09:38	NAR:	[versunken] (1) versunken im moment (--) einer (-
1574			--) inneren bewusstheit
	09:43	INT:	okay
1576	09:44	NAR:	((lacht))
	09:45	INT:	<<lachend> das is ein zweiten satz, aber ich
1578			nehme> vielleicht beide saätze. okay (-) sehr gut
			(3) wir sind im grunde genommen am ende. (-)
1580			also ich (.) hab (.) eine letzte frage
			Q15: Naturally, everyone has different needs.
1582			**Still, from your perspective, if only FOUR**
			performance strategies were introduced in
1584			**future seminars, which top four (in**

Donovan Follow-up Interview Transcript. January 30, 2013 page 48

			chronological order) would you suggest ought
1586			**to be a part of the seminar and why?** (...)
	10:37	NAR:	also GANZ (.) sicher (.) das kann ich jetzt schon
1588			sagen [ohne lange nachzudenken] is dieses *One*
			Breath Relaxation als methode der relaxion, weil
1590			ich kann das immer anwenden sehr schnell auch
			zwischen punkten kann ich einmal *One Breath*
1592			*Relaxation* machen °hh zu- äh tennis hat ja diese
			ganzen pausen, also zwischen den spielen kann
1594			ichs anwenden, dass ich aufer bank sitze und (.)
			mich äh relaxe. nach nem satz hab ich ne längere
1596			pause, da kann ichs länger machen. also das ganz
			°hh als sehr simple methode, dass jemandem
1598			beizubringen, denn ich denke man darfs auch nich
			zu komPLEX machen, wir sind ja keine
1600			profisportler (irgendwie)
	11:09	INT:	[((lacht))] (28) mhm
1602	11:10	NAR:	die können sicherlich nochmal viel komplexer in
			alles ein(--)dringen, aber das denk ich auf jeden
1604			fall. *One Breath Relaxation*. °hhh ((räuspert)) (2)
			mm (---) DANN (3) okay (--) wenn wir zum sp-
1606			also zum match gehen, dann sicherlich so nen
			Game Plan. (1) also dass ich ganz sicher weiß,
1608			was muss ich vorher machen (-) um dann gut zu
			spielen
1610	11:37	INT:	mhm
	11:37	NAR:	weil ich glaub das wissen viele gar nicht, also (--)
1612			äh die (--) kommen dann (-) denken dann (.) ah
			ich geh nochmal schnell (.) das auto tanken und
1614			waschen und geh dann schnell zum punktspiel
			und und und. ich glaub das (-) machen viele so
1616			und dann denken sie das wird schon. °hh das is
			denk ich auf jeden fall diese *Game Plan*, dass ich
1618			mich beWUSST auf das vorbereite, was kommt

	11:58	INT:	mhm
1620	12:00	NAR:	(4) okay ja, ich weiß jetzt nich, im *Game Plan*
			sind ja solche sachen dann (---) ich weiß n-, das
1622			ent(.)hält ja schon wieder andere techniken
	12:11	INT:	vier (-) sachen? [((lacht))]
1624	12:14	NAR:	[nee, weil wenn, ja aber (.) is ja irgendwie so im]
			Game Plan sagt man [dann
1626	12:17	INT:	[ich] geb dir nichts vor ((lacht))
	12:19	NAR:	okay
1628	12:18	INT:	also wenn du meinst, dass es sachen impliziert,
			dann nenn mir die, ich ich schreibs mir nur auf
1630			und ich gebs dann, du [segnest es] am ende ab
	12:24	NAR:	[mhm]
1632	12:25	INT:	°hh wenn du meinst, dass ein *Game Plan* andere
			sachen beinhaltet, was (.) sollte es (.)
1634			[(offensichtlich) behinhalten]
	12:29	NAR:	[°h okay kann auch nich] sagen, weils vielleicht
1636			für leute (-) aber von MIR aus gesehen °h würde
			dann n *Game Plan* eben noch diesen (-) äh ich
1638			weiß nich mehr wie wir die genannt haben (.)
			diese (.) *sätze*, zum beispiel, ich sag mir eben (-)
1640			diese sechs sieben sätze mit °h du hast n starken
			aufschlag, deine vorhand kommt sehr gut, deine
1642			[rückhand] is solide, und und und, also
	12:49	INT:	[*(...)*]
1644		NAR:	*(...)* [genau]
	12:50	INT:	[ja] mhm
1646		NAR:	also DAS wär für mich auf jeden fall im *Game*
			Plan mit drin
1648	12:53	INT:	[okay]
	12:53	NAR:	[und] *One Breath Relaxation*, das hatte ich schon
1650			vorher gesagt. °h also dann wären wir bei drei
			jetzt, oder?
1652	12:57	INT:	ah, nein nein, also (.) weil

Donovan Follow-up Interview Transcript. January 30, 2013 page 50

	12:59	NAR:	oder bleibt das [zwei]
1654	13:00	INT:	[ich] gehe mit dir mit, wenn du meinst, dass in ein *Game Plan* für DICH
1656		NAR:	okay
	13:04	INT:	es gehört einige sachen, also ich schreib jetzt auf
1658			was [gehört] dazu
		NAR:	[okay] (.) ja
1660	13:07	INT:	äm (1) eine *(...)* auf jeden fall
	13:12	NAR:	mhm
1662	13:12	INT:	gehört dazu, gibts etwas anderes offensichtliches,
			was dazu gehört, aber nicht der (1) ein
1664			grundsteinthema sein soll?
	13:20	NAR:	ja also einschlagen und sowas is standard, das is
1666			auch irgendwie nich mentales training, also das
			würd [ich dann nich] dazu zählen
1668	13:26	INT:	[ja (.) genau] es geht um sachen vom seminar
	13:29	NAR:	genau
1670	13:29	INT:	techniken, [strategien, die angesprochen worden
			sind]
1672	13:33	NAR:	[nee nee, genau, das wär dann (normal)] mm
	13:34	INT:	also diese *sätze* oder so, könntest denn doch als
1674			dritten punkt, wenn du möchtest, aber (.) [im
			moment]
1676	13:40	NAR:	nee nee, ja (.) wär dann für mich *Game Plan*
			irgendwie [und] auch *Positive Imagery* vorher
1678			wär für mich im *Game Plan*, dass ich mich gut
			FÜHLE vorm match, also das würd ich auch (...)
1680		INT:	[okay] (5) okay
	13:48	NAR:	°hhh gut dann wären wir bei zwei (2) mm, WAS
1682			dazu gehören würde, auf jeden fall wär, dass ich,
			äm, VORM training mental arbeite, also vor
1684			JEdem training, ich würde jedem RAten, der zu
			mir kommt, °hh äh (.) eben (.) weil das (.) passiert
1686			bei uns <<lachend> auch immer>, also mein

bestes beispiel is mein bruder. der kommt aufn
1688 platz gerast noch mitm handy aufm (-) am ohr.
°hh sondern wirklich zu sagen mein training
1690 beginnt nich um sechs, sondern um zehn vor
sechs
1692 14:17 INT: mhm
14:18 NAR: und diese zehn minuten nutze ich (.) um (-) äh (---
1694) denk vielleicht (.) noch auch nochmal über
sachen überm tag nach und hak die dann ab und
1696 dann (-) entspann ich mich, konzentrier mich und
geh dann aufn platz
1698 14:29 INT: ja, okay
14:30 NAR: das ganz sicher, das wär dann drei (---) °h ja (.)
1700 okay und dann (-) das (.) ganz entscheidende sich
mit seinen stärken und fehlern auseinandersetzen.
1702 °hh und ich weiß nich, ob wir das (.) haben wir
das bewusst irgendwie benannt? im seminar?
1704 14:42 INT: i-ich (.) schreibe mit. (--) ach so=
14:45 NAR: (...) in meiner
1706 14:45 INT: sag mir genau das was du vorhin gesagt hast
nochmal bitte. sich mit seinen stärken (.)
1708 [auseinander] setzen
14:50 NAR: [und] (.) genau (.) fehlern (-) oder (.) schwächen.
1710 wir nennens mal schwäche, fehler ist so negativ
belegt
1712 14:54 INT: mhm
14:55 NAR: °h mit seinen (.) äh (-) schwächen (.) aber auch
1714 eben stärken (-) auseinanderzusetzen,
aufzuschreiben wo sind die, wo liegen die, dass
1716 ich bewusst bin
15:04 INT: doch, profiles. *Profiling* haben wir gemacht (...)
1718 das wär eine möglichkeit
15:09 NAR: ach so, das wär dieses (-) mit diesem (--) kreis,
1720 wo man sich (---) [okay] ich meinte aber jetzt

		INT:	[genau ach so, mhm]
1722		NAR:	[äh] (---) äh okay, das würd ich, ich würds anders
			bezeichnen, weil ich (.) würd dann sagen okay,
1724			dass ich wirklich sätze aufschreibe. sowas wie (.)
			meine beinarbeit ist gut (.) weiß ich zum beispiel,
1726			mein aufschlag is gut, °h in der °h situation spiel
			ich gut und und und, aber (--) mein (--) äh (.)
1728			meine vorhand (-) macht (.) immer wieder fehler
			und und und, und dann bewusst diese f- °h äh
1730			technischen, taktischen fehler angucken, um
			psychologisch mal so [technik] taktisch, °h mental
1732			drangucken und dann (.) sich beWUSST sein
			erstmal. wo LIEgen überhaupt meine schwächen,
1734			um dann zum beispiel (.) jetzt mit *Positive*
			Imagery dann daran arbeiten zu können
1736	15:51	INT:	[mhm] (10) äm
	15:53	NAR:	ich weiß nich
1738	15:55	INT:	glaubst du denn nich, wir haben auch ein, also die
			die is egal wie man das nennt, wir haben auch *Self*
1740			*Talk* gehabt wo es darum ging die positiven und
			negativ- negativen sachen aufzuschreiben, und
1742			genau das und die (...)]
	16:04	NAR:	[ja irgendwann haben wir das mal gemacht] ich
1744			wusste [nur nich mehr]
	16:07	INT:	[das war]unter *Self Talk* auch, [ja]
1746	16:08	NAR:	[okay], ja dann wär das *Self Talk*
	16:10	INT:	okay
1748	16:10	NAR:	(...)
	16:12	INT:	°hh hhh° ich (---) wir müssen sammeln, also ich
1750			brauch auch deine hilfe. also (.) ich hab jetzt
			aufgeschrieben, jetzt ohne nummern, weil ich
1752			möchte (-) eine absegnung haben
	16:21	NAR:	ja
1754	16:21	INT:	*One Breath [Relaxation]*

	16:23	NAR:	[ja]
1756	16:23	INT:	*Game Plan*
	16:25	NAR:	mhm
1758	16:26	INT:	in diesem *Game Plan* (...) noch, wir haben die (.) *sätze*, oder ich (.) beschrieb das als eine *(...)*
1760	16:31	NAR:	*(...)*
	16:32	INT:	äm wir haben (...) *Positive Imagery* VOR (.) dem
1762			trainieren. also die waren die zwei sachen, die du meinst, dass [äm]
1764	16:39	NAR:	[mhm]
	16:40	INT:	teilweise zusätzlich zum *One Breath Relaxation*,
1766			aber da es sowieso zuerst ist, ich lass das im moment aus. °hh DIE gehören dazu, aber welche
1768			ist (.) wichtiger unter <<lachend> *Game Plan*>? °h die *sätze, (...)*, *Positive Imagery* oder gehören
1770			die zusammen? äh (---) die auflistung is für [mich]
1772	16:56	NAR:	[also bei] mir is immer zusammen, also ich sach mir dann zum beispiel dein Aufschlag is
1774			gut, aber ich hab automatisch auch den blick °h äm des bild im kopf, wie der dann gut kommt,
1776			also das is für mich so ne art verbindung
	17:06	INT:	nachfrage, ich möchte dich auf keinen fall lenken.
1778			es ist nur, ich habe stark den eindruck, dass alle DREI zusammen gehören. ist das richtig, oder ist
1780			das [(falsch)]?
	17:13	NAR:	[welche drei]?
1782	17:14	INT:	naja, *One Breath Relaxation.* da du das als [Grundstein genannt hast]
1784	17:16	NAR:	[das mach ich immer vorher]
	17:17	INT:	ah, okay, das is bewusst (.) eins punkt
1786	17:20	NAR:	genau, damit ich mich besser, also damit man (-)

			damit ICH mich besser konzentrieren kann mach
1788			ich dann immer, egal WAS ich mache, immer
			erstmal *One Breath Relaxation*
1790	17:28	INT:	okay
	17:28	NAR:	für (.) paar minuten. und dann (.) würd ich
1792			*Positive Imagery* und *(...)* machen
	17:34	INT:	gemeinsam, okay. °h so wir haben *One Breath*
1794			*Relaxartion*, (-) *Game Plan*, dazu *Sätze*, (--) vorm
			training äm etwas machen. ich schrieb für mich
1796			dann zeitmanagement oder einteilung, ich werde
			es, also ich gehe mit deinen worten aus. aber diese
1798			(--) bewusste vor dem training zeit machen und
			das [einzubauen]
1800	17:51	NAR:	[mhm]
	17:51	INT:	das (.) is etwas, das auf JEden fall °h im seminar
1802			behandelt werden sollte. °h äm und sich mit
			seinen stärken (.) und fehlern oder schwächen
1804			auseinandersetzen
	18:01	NAR:	mhm
1806	18:01	INT:	also °h das sind (.) vier themen. (--) *Game Plan*
			(halbwegs) dazu. °hh BLEIBT es in der
1808			reihenfolge oder würdest du das ändern? (-) *One*
			Breath Relaxation
1810	18:11	NAR:	ach das is auch noch ne (.) [äh (.) reihenfolge von
			signifikanz]?
1812	18:14	INT:	[das (.) mir auch wichtig, weil] (-) genau
	18:14	NAR:	also da muss ich nochmal, also [äh *One Breath*,
1814			*Game Plan*]
		INT:	[deswegen hab ichs aufgeschrieben] °hh *One*
1816			*Breath Relaxation*, *Game Plan*, vor dem training
			das einbauen, wie auch immer, zeitplan
1818			hinterführen, oder ein(.)planen dafür
	18:27	NAR:	mhm
1820	18:27	INT:	und (.) sich mit seinen stärken, fehlern,

			schwächen auseinandersetzen. (---) also, (wie ist
1822			[die], für mich ist da) und wenn nur vier sachen
			eingebaut werden in einem seminar
1824	18:37	NAR:	[mhm] (4) nee nee nee nee ich versteh schon,
			DANN würd ich glaub ich *One Breath Relaxation*
1826			(.) als (.) Grundstein °h
	18:42	INT:	mhm
1828	18:42	NAR:	DANN aber stärken und schwächen (---) weil ich
			[erstmal] wissen muss wo LIEgen überhaupt
1830			meine stärken und schwächen
	18:47	INT:	[okay] (2) okay
1832	18:48	NAR:	um dran arbeiten zu können. (-) dann (.) würd ich
			(.) äh (-) was hatten wir *Game Plan* und?
1834	18:53	INT:	°h *Game Plan* und vor dem training [zeit machen
			und es] einbauen vor dem training
1836	18:57	NAR:	[vor dem, genau] (---) okay, dann würd ich glaub
			ich VOR dem training und dann *Game Plan*, weil
1838			*Game Plan* is dann wirklich spezifisch schon auf
			das game ausgerichtet, ne? °hh also wenn ichs
1840			jetzt hintereinander wegmachen würde, dann
			wären [die anderen so ne]
1842	19:07	INT:	[vor dem training]
	19:07	NAR:	preparations quasi °hh damit ich sauber trainiere.
1844			und erst wenn ich sauber trainiere, kann ich
			natürlich im match gut funktionieren und dann
1846			wär auch (.) *Game Plan* wär dann fürs match
	19:17	INT:	okay
1848	19:19	NAR:	so würd ichs dann aufbauen
	19:21	INT:	okay ((…)) [ENDE/ START MP3 DATEI 4]
1850		NAR:	ja ja dann hab ichs vielleicht auch n bisschen (.)
			falsch verstanden, weil das andere wär für mich
1852			quasi son <<lachend> Play (--) Plan> ((lacht))
			dass ich vor dem spielen, also im training °h also
1854			ich glaub is jetzt wort (-) weil ich dann vielleicht

Donovan Follow-up Interview Transcript. January 30, 2013 page 56

			game (.) nich sauber übersetzt hab, weil ich hätte
1856			dann game °h NUR so übersetzt, dass ich das
			VOR nem wettkampf mache. dann wär der game
1858			der wettkampf
	00:20	INT:	wir haben Game P- *Game Plans* für (.) VOR (.)
1860			dem [also (.) VOR dem wettkampf], während des
			wettkampf und was man danach macht
1862	00:27	NAR:	[practice, stimmt, erinner ich mich, mhm]
	00:27	INT:	es gab auch äm
1864	00:29	NAR:	[ja, pracitce ne? (-) mhm]
	00:30	INT:	[konzentrationspläne, also (.) für mich] °hh also (.)
1866			vielleicht war das eine übersetzungsschwierigkeit,
			aber (--) *Game Plan* is äm (-) auch mit dem was
1868			du beschrieben hast, die sätze aufschreiben,
			Positive Imagery machen
1870	00:41	NAR:	[ja ja ja ja]
	00:41	INT:	[also um klar zu sein] du meintest °h THEma
1872			sollte sein, dass man diese sachen EINbauen
			[sollte] (-) und nicht, dass man die sachen (-) [an
1874			((lacht))]
		NAR:	[mhm] (1) [°h nee, dann würd ich, müsste man
1876			das drehen]
	00:51	INT:	[das müsste man das]
1878	00:52	NAR:	[also, dann müsste] mans drehen (1) also dass man
			quasi (.) dann müsste man natürlich, is klar, du ha-
1880			also da hast du recht, weil °hh ich hatte das (.)
			hatte ich äh echt nich bedacht und auch (.)
1882			irgendwie hatte ich dann den *Game Plan* nur so
			abgespeichert, der is wirklich NUR für den
1884			wettkampf, also
	01:06	INT:	(...)
1886	01:07	NAR:	aber wenn der dann fürs training auch geht, klar,
			dann müsste ich erstmal den *Game Plan*
1888			aufschreiben (--) und ihn dann im training

Donovan Follow-up Interview

			anwenden und dann im (-) wettkampf hh°. also
1890			klar, dann müsste ich mich erstmal damit
			auseinandersetzen
1892	01:19	INT:	okay. sorry, and ich sagte es damit ich das habe.
			ich wollte dich nich lenken, sondern [war wirklich
1894			sehr verwirrt]
		NAR:	[nee nee ich, ja ja ja ja]
1896	01:26	INT:	mit dem was äm, also wollte nur sichergehen,
			dass, hm, okay
1898			
			[TRANSCRIPT ENDE]

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Penelope Ann-Scott Murdock
Bremen, June 27, 2016