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The motivational antecedents and consequences of social physique anxiety

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THE MOTIVATIONAL ANTECEDENTS AND CONSEQUENCES

OF SOCIAL PHYSIQUE ANXIETY

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.00; RMSEA = .11; CI RMSEA = .08 – .14, p = .00; CFI = .98; SRMR = .04).

The removal of two further items revealed very good fit statistics for the four-item affiliation scale (SB scaled χ^2 = 5.53, df = 2, p = .07, RMSEA = .07, 90% CI RMSEA = .00 - .14, p value RMSEA .12, CFI = .99, SRMR = .02; although the RMSEA was higher than preferred). Factor loadings were moderate to moderately strong except for item 11 which was weak. Cronbach's alpha for the scale was .82. Fit statistics for the initial four-item status model were acceptable by conventional standard although the RMSEA was large (>.06), the CFI was marginally lower than preferred (< .96), and the χ^2 was significant (SB scaled χ^2 = 28.66, df = 2, p = .00; RMSEA = .18; CI RMSEA = .13 – .25, p = .00; CFI = .95; SRMR = .06). The removal of one item resulted in an excellent fit (SB scaled χ^2 = 2.70, df = 2, p = .20; RMSEA = .03; CI RMSEA = .00 – .11, p = .03; CFI = 1.00; SRMR = .04). Factor loadings were all moderately strong (.66 to .73) and Cronbach's alpha for the scale was .72. Fit statistics for the initial four-item recognition model was acceptable by current convention although the RMSEA was higher than preferred and the model was significant (SB scaled χ^2 = 15.08, df = 2, p = .00; RMSEA = .13; CI RMSEA = .07 – .19, p = .00; CFI = 0.98; SRMR = 0.04). The removal of one item resulted in an excellent fitting three-factor model (SB scaled χ^2 = 2.33, df = 2, p = .28; RMSEA = .02; CI RMSEA = .00 – .10, p = .58; CFI = 1.00; SRMR = .03). Factor loadings were all strong (.71 to.81) and Cronbach's alpha for the scale was .81. For the relatedness model with all 15-items, fit statistics were poor (SB scaled χ^2 = 831.66, df = 90, p = .00, RMSEA = .15, 90% CI RMSEA = .14 - .16, p value RMSEA .00, CFI = .86, SRMR = .10). Eleven items were subsequently removed resulting in a four-item relatedness scale with excellent fit statistics (SB scaled χ^2 = 4.15, df = 2, p = .08, RMSEA = .05, 90% CI RMSEA = .00 - .12, p value RMSEA .29, CFI = .99, SRMR =

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RESEARCH SUMMARY

Empirical research into social physique anxiety has greatly advanced our understanding of its correlates and consequences in sport and exercise settings (e.g., Haase, Prapavessis, & Owens, 2002; Raedeke, Focht, & Scales, 2007). However, despite a plethora of research pertaining to this dispositional construct there generally remains a lack of conceptual focus. This hinders advancements in researchers' and practitioners' understanding of its psychological processes and as such the implementation of appropriate intervention strategies aimed at reducing social physique anxiety and facilitating exercise adherence. Therefore, the main objective of the present programme of research was to determine the antecedents and consequences of social physique anxiety amongst individuals considering or currently participating in recreational and health-related physical activities. Specifically, this research aims to examine individual differences in motivational factors implicated in the appraisal processes that contribute to anxiety amongst exercisers and its associated behavioural consequences.

Chapter One will first draw upon current empirical research on social physique anxiety to demonstrate the potentially debilitating nature of this construct. Second, it will further provide an outline of the theoretical frameworks guiding the individual studies in this programme of research. Chapter Two shows that one motivational factor implicated as an antecedent of state anxiety is the achievement goal (task, ego) that individuals adopt (Nicholls, 1984, 1989; Stipek, 1992). Exercise domains provide an ideal setting for social evaluation and self-presentation (Conroy & Motl, 2003; Shields, Paskevich, & Brawley, 2003), with characteristics of the environment and individuals' personalities heightening the extent to which they are motivated to seek others' approval (Leary & Kowalski, 1995). It is therefore

plausible that the endorsement of ego-oriented goals would intensify the negative affective responses experienced by physique anxious exercisers. However, current reservations over an existing exercise-related goal orientation measure (Kilpatrick, Bartholomew, & Reimer, 2003) led to the development of a new one.

Chapter Two therefore describes the development and initial validation of a four-factor measure of achievement goals through confirmatory factor analytic procedures that distinguished between socially-driven and self-directed goal orientations (Wilson, Harwood, & Hardy, 2003). However, the social goal factors were found to hold little discriminant validity. In Chapter Three social goals were re-conceptualised by examining the theoretical framework of self-determination theory (Deci & Ryan, 1985, 2000) as a viable alternative of their assessment. Specifically, it was proposed that the endorsement of social goals and achievement goals serves to *satisfy* a sense of relatedness amongst physique anxious exercisers. This study expanded on study one by further assessing the mediating role of individuals' basic psychological needs on the relationship between goal orientations and social physique anxiety and exercise intention. Additionally, the variables' ability to predict social physique anxiety longitudinally was considered.

Chapter Four describes the final study in which the notion of fitness-assessment procrastination was introduced as a potentially important maladaptive behavioural strategy among gym club participants. Using rigorous qualitative methods, the study provided an in-depth account of the motivational processes contributing to fitness-assessment procrastination amongst physique anxious exercisers. The concept of self- versus other-directed goals (study one) was re-assessed and the target of *others'* social goals (study two) was clarified in the form of individual differences in self-oriented and socially-prescribed perfectionistic

tendencies (Hewitt & Flett, 1991; Flett & Hewitt, 2002). Motivational processes

influencing fitness-assessment procrastination amongst physique anxious exercisers

were identified which hold implications for the facilitation of autonomy-supportive

fitness-assessments to satisfy exercisers' basic psychological needs and subsequent

attendance.

CHAPTER ONE

THE DEBILITATING NATURE OF SOCIAL PHYSIQUE ANXIETY: PROPOSED THEORETICAL FRAMEWORKS GUIDING INTERVENTION

1.1 Negative Consequences of Physical Inactivity

While most authorities acknowledge that major improvements in health could be achieved through lifestyle changes (Department of Health, 2004; Wanless, 2004), a growing body of evidence suggests that a considerable proportion of the population remain at risk of developing health problems primarily associated with physical inactivity and sedentary lifestyles (e.g., Blair, Cheng, & Holder, 2001; Hardman & Stensel, 2005). Potential associated physical problems have been well-documented and include increased obesity-related issues such as diabetes, hypertension (Wei et al., 2000; Wei, Kampert, et al., 1999), and increased risk of strokes, reduced bone density, and back pain (Health Education Authority, 1995). Possible mental health issues have included feelings of inadequacy, guilt, and low self-esteem influencing anxiety and depression (Biddle, Fox, & Boutcher, 2001; Szabo, 2001). A more physically active lifestyle would help to overcome potential physical and mental health problems (Biddle et al., 2001; Blair et al., 2001) while saving the British Government millions of pounds in expenditure. For example, a 10% increase in physical activity would financially benefit England by approximately £500m per annum and save around 6,000 lives (The Strategy Unit, 2001). Therefore, the underlying factors associated with variations in exercise participation are important to address.

1.2 Barriers to Exercise Participation

Amongst those individuals who do choose to exercise regularly, the *maintenance* of a regimen can prove challenging while for others, the prospect of *initiation* can be equally problematic. For example, most health and fitness clubs

require new recruits to take a standard fitness assessment prior to using club equipment and facilities. As well as familiarity with fitness-related equipment, this assessment usually takes the form of physical screening or fitness testing (Haskell, Lee, Pate et al., 2007). For many individuals, the prospect of this assessment could invoke embarrassment or anxiousness (Leary, 1992; Leary & Kowalski, 1995) particularly if holding doubts about personal attributes (e.g., appearance, fitness levels) in relation to self-set or perceived other-set standards (Leary, 1992; Leary & Kowalski, 1995; Schlenker & Leary, 1982, 1985). In fact, one deterrant of exercising in social settings is the anxiety experienced due to the prospect of negative social evaluation relating to the physique, namely, social physique anxiety (e.g., Bain, Wilson, & Chaikind, 1989; Brewer, Diehl, Cornelius, Joshua, & VanRaalte, 2004; Hart, Leary, & Rejeski, 1989; Leary & Kowalski, 1995; Focht & Hausenblas, 2001, 2003; Gammage, Hall, & Ginis, 2004; Raedeke, Focht, & Scales,1997). An understanding of the psychological processes influencing this dispositional construct could help alleviate experienced negative affect and facilitate exercise enjoyment and continued adherence.

1.3 Social Physique Anxiety

Social physique anxiety is a subtype of social anxiety (Leary & Kowalski, 1995; Schlenker & Leary, 1985) in which some individuals become nervous when interacting with others in interpersonal situations (Heimberg, Liebowitz, Hope, & Schneier, 1995). Social anxiety can be better understood when addressing its motivational antecendents as posited by self-presentation theory (Leary & Kowalski, 1995). This theoretical approach.states that anxiety arises when individuals are motivated to make a desired impression on others but are uncertain of their ability to do so (Schlenker & Leary, 1982) thereby referring to "the processes by which

individuals attempt to control the impression others form of them" (Leary & Kowalski, 1990. p.34). Subsequently, social physique anxiety is considered to reflect a combination of negative social evaluation and physique-related concerns (Martin, Rejeski, Leary, McAuley, & Bane, 1997).

Social physique anxiety was originally conceptualised by Hart, Leary, and Rejeski (1989) who further developed the Social Physique Anxiety Scale to measure the extent to which individuals became anxious when they perceived others to be evaluating their physique. Using various samples of undergraduate students initial findings indicated that physique anxiety scores were positively correlated with measures of social anxiety and body esteem (Hart et al., 1989). As some individuals are consistently more socially-anxious than others in potentially evaluative contexts such as exercise settings (Leary & Kowalski, 1995; Focht & Hausenblas, 2003), the prospect of others' negative evaluations could lead to elevated levels of anxiety, lack of exercise enjoyment, and subsequent withdrawal (Hart et al., 1989; Spink, 1992). Similarly, those individuals who regularly exercise for self-presentational reasons such as to attain or maintain a social identity (i.e., to be seen as sporty or athletic) or to achieve a desired physique (Leary, 1992) may become hesitant to participate or anxious when situational circumstances threaten their ability to create the desired impression. The prospect of heightened negative affect might induce self-presentational strategies such as avoidance behaviours (Goffman, 1959; Leary & Kowalski, 1995; Schlenker, 1980) which would temporarily alleviate negative affect unless exercise abstinence became the preferred choice of action.

Although it has been acknowledged that social physique anxiety could act as a stimulus for exercise investment (Thøgersen-Ntoumani & Ntoumanis, 2007) such as exercising to obtain others approval, the literature is equivocal. Furthermore,

empirical research findings clearly demonstrate an inverse relationship between social physique anxiety and exercise adherence (e.g., Lantz, Hardy, & Ainsworth, 1997; Treasure, Lox, & Lawton, 1998). Consequently, the potential health benefits that can be gained from regular physical activity can become undermined amongst those individuals with self-presentational concerns. To encourage exercise initiation and continued adherence, an understanding of the processes influencing social physique anxiety is warranted.

1.4 Social Physique Anxiety and Associated Research Findings

Empirical research investigating the construct of social physique anxiety appears to support a consistent pattern of negative consequences. Research has revealed its association with low perceived physical ability (Katula, McAuley, Mihalko, & Bane, 1998; Woodgate, Ginis, & Sinden, 2003), low levels of physical activity (McAuley, Bane, Rudolph, & Lox, 1995; Finkenberg, DiNucci, McCune, Chenete, & McCoy, 1998), dropout from structured exercise programs amongst sedentary participants (Treasusre, Lox, & Lawton, 1998), and negative physical self-perceptions among young females (Thompson & Chad, 2002; Crocker, Sabiston, Forrester, Kowalski, Kowalski, & McDonough, 2003). In addition, social physique anxiety has further been associated with disordered eating symptoms (Hausenblas & Mack, 1999; Monsma & Malina, 2004) and high percentage body fat among females (Bain et al., 1989; Crawford & Eklund, 1994; Focht & Hausenblas, 2001; Hart et al., 1989; Ransdell, Wells, Manore, Swan, & Corbin, 1998; Treasure, Lox & Lawson, 1998) with overweight women being more likely to avoid exercising in public due to concerns about how they appear to others (Bain et al., 1989; Crawford & Eklund, 1994). What is clear from these empirical findings is that social physique anxiety is one important motivational deterrent of exercise involvement (Eklund, 1998; Focht &

Hausenblas, 2001).

In contrast, there are many physique anxious exercisers who do choose to participate. However, these individuals have been found to prefer exercising in settings that de-emphasise the physique through wearing less revealing attire (Brewer et al., 2004; Eklund & Crawford, 1994) or by exercising in private settings (Crawford & Eklund, 1994; Spink, 1992) which potentially limits location choice. It could be argued that exercise locality becomes redundant as long as individuals do exercise on a regular basis. However, what might be considered more problematic is total exercise abstinence (McAuley et al., 1995; Finkenberg et al., 1998) or attempts to improve the physique through harmful means such as disordered eating (Krane, Choi, Baird et al., 2004; Krane, Waldren, Michalenok, et al., 2001; Haase, Prapavessis, & Owen, 1999, 2002). While exercise practitioners might find interventions directed at disordered eating difficult to address, those relating to the health club environment might be more amenable to change.

1.5 Social Physique Anxiety and Environmental Factors

Social-environmental factors have recently been recognised as negatively influencing the quality of individuals' exercise experiences amongst those holding body image concerns (Focht & Hausenblas, 2003, 2003; Raedeke et al., 2007). For example, in an effort to assist in the promotion of healthier and safer exercise regimens, the American College of Sport Medicine (ACSM, 1997) suggested that physical activity environments should "have mirrors on at least two of their four walls" (p.9). Although this guideline serves to maximise the benefits of workouts for some exercisers, for physique anxious individuals the use of mirrors in clubs may have backfired (Ginis, Jung, & Gauvin, 2003; Scheier, & Carver, 1977). For example, it has been reported that physique anxious females have significantly

lowered self-efficacy (Focht & Hausenblas, 2003; Ginis et al., 2003; Katula et al., 1998) when exercising in mirrored environments due to the evocation of self-focused attention. In contrast, highly active female exercisers have been found to report a moderate increase in self-efficacy when participating in physical activity sessions in front of mirrors (Katula & McAuley, 2001). Although social physique anxiety was not assessed, mirrors held no negative effect for these active participants.

What these findings highlight is that first, many individuals with body-image concerns demonstrate negative psychological responses when exercising in environments evoking self-focused attention and second, individual difference factors (e.g., self-efficacy) form possible precursors to the onset of cognitive anxiety. However, what still remains unclear is whether the self-focused attention highlights inadequacies in personally-set or perceived other-set standards. For example, high dispositional public self-consciousness (i.e., social physique anxiety) infers a tendency for individuals to view themselves as if from the perspective of others (McAuley, Pena, & Jerome, 2001; Plant & Ryan, 1985). Regulation of behaviour is therefore more likely to be based on the perceived expectations of others which suggest more controlling forms of regulation. This sequence of events remains to be assessed.

Those studies that have adopted a theoretical approach to studying social physique anxiety have mainly used a self-presentation (Conroy, Motl, & Hall, 2000; Leary, 1992; Martin, Rejeski, Leary, McAuley, & Bain, 1997; Lichtenberger, Martin Ginis, MacKenzie, McCartney, 2003) or self-efficacy perspective (McAuley, Blissmer, Katula, Duncan, & Mihalko, 2000; McAuley et al., 1995; McAuley et al., 2001). Despite the current interest in self-presentational theory, previous research has mainly identified the correlates and consequences associated with physique anxiety.

In contrast, self-efficacy has been found to be an important cognitive predictor of individuals' exercise investment and adherence (e.g., Biddle & Nigg, 2000). Self-efficacy focuses on individuals' sense of derived satisfaction from competence outcomes (Deci & Ryan, 2000; Thøgersen-Ntoumani & Ntoumanis, 2006) and has been defined as the belief that individuals have in their capabilities to manage identified barriers (e.g., time management) to exercise investment (McAuley, 1992). Empirical research has demonstrated that personal improvements in efficacy perceptions lead to reduced levels of social physique anxiety (McAuley, Bane, & Mihalko, 1995).

Both theoretical perspectives have played a major role in the advancement of the understanding of social physique anxiety, demonstrating insight into explaining varying levels of motivation and intensity of experienced negative affect. However, the conceptual *processes* underpinning differences in physique anxiety still remain unclear and are vital to understand in order to apply appropriate intervention strategies. It is therefore the primary aim of the current programme of research to attempt to clarify these processes. To address this principal issue it might first be useful to consider more contemporary perspectives of anxiety. This is important because not only is social physique anxiety an enduring characteristic (Hart et al., 1989; McAuley et al., 1995) but is also a function of individuals' perceptions of the situation (Crawford & Eklund, 1994; Conroy & Motl, 2003; Focht & Hausenblas, 2003; Katula et al., 1998). Therefore, anxiety as a state response might be better understood as a function of individuals' cognitive appraisal process (Lazarus, 1999).

1.6 Anxiety and the Appraisal Process

According to Lazarus' conceptual framework anxiety, occurs as a result of a transaction between individual person factors and the environment (Lazarus &

Folkman, 1984). Adopting the tenets of Lazarus' (1999) theoretical approach social

physique anxiety could be said to be a result of a complex interaction of four types of

distinct appraisals. These include individuals' appraisals of the pending demands of

the situation (e.g., required exercise ability, desired appearance), the personal

resources available to deal with those demands (e.g., appropriate fitness levels), the

potential personal impact of failure to meet those demands (e.g., embarrassment), and

the personal meaning assigned to that outcome (e.g., to be perceived by others as unfit

and / or unhealthy). The complex interaction of these appraisals will determine the

likelihood of perceived threat and subsequent variations in levels of anxiety (Lazarus,

1999; 2000) as evidenced in physique anxiety.

Threat appraisal in exercise settings is likely to result from first, exercisers'

perceptions of environmental demands that are deemed to exceed personal capabilities

and second, worry about the impact this might have on personal worth (Lazarus &

Folkman, 1984, 1987). In an attempt to downplay perceived threat and meet

situational demands the exerciser might select certain cognitive or behavioural coping

strategies (i.e., problem-focused coping) such as planning, information seeking or

invested regimen effort (Folkman & Lazarus, 1984). Conversely, and perhaps more

applicable to physique anxious exercisers are emotion-focused coping strategies such

as denial in an attempt to regulate emotional arousal and discomfort resulting in

subsequent behavioural withdrawal (Folkman & Lazarus, 1984). In this way,

Lazarus' approach rejects coping as a stable trait in which individuals are classified as

either good or bad copers. Rather coping is viewed as a process in which the

individual is continually making and altering cognitive and behavioural efforts in an

attempt to manage perceived environmental demands (Lazarus & Folkman, 1984).

While current social physique anxiety research is beginning to address evaluative

threat in exercise domains (Focht & Hausenblas, 2003; Marquez & McAuley, 2001;

Raedeke et al., 2007), there still remains a lack of assessment into the convergence of

the appraisal process. To fully understand the cognitive processes influencing

physique anxious individuals, the current programme of research will further consider

Lazarus' conceptual framework of threat and anxiety.

1.7 Threat Appraisal and Related Research Findings

Researchers assessing the antecedents of anxiety in sport and educational

settings (e.g., Covington, 1992; Hall & Kerr, 1997, 1998; Hall, Kerr, & Matthews,

1998; Hammermeister & Burton, 2001; Roberts, 1986) have presented strong

arguments for the importance of the appraisal process. Research findings have clearly

indicated that individuals' inability to attain personal goals and / or favourable social

comparisons is a precursor of state anxiety (Hammermeister & Burton, 2001; Lazarus,

1999), particularly cognitive anxiety (Lazarus, 1999, 2000; Lazarus & Folkman,

1984). However, it is individuals' *construal* of their personal goals and their

definition of favourable comparisons that determines the likelihood of experienced

threat and resultant anxiety. This cognitive schema could be said to be in part, a result

of predispositional motivational variables.

One construct that has been found to be an important motivational individual

difference factor (Maehr & Braskamp, 1986) and a critical determinant of adaptive or

maladaptive cognition, affect, and behaviour is achievement goals (Stipek, 1992).

The strong evidence supporting the influence of achievement goals on anxiety in

settings such as academia (Midgley & Urdan, 2001), sport (Hall & Kerr, 1997; Hall,

Kerr, & Matthews,1998; Harwood, 2002; Harwood, Cumming, & Fletcher, 2004;

Harwood & Swain, 2002) and physical activity (Biddle, Duda, Papaioannou, &

Harwood, 2002; Spray, Biddle, & Fox, 1999; Wang & Biddle, 2004) suggests its

plausibility in other domains such as recreational and health-related exercise settings.

1.8 Achievement Goal Orientations as Precursors of Anxiety

Achievement goal theory is a social cognitive approach to motivation (Ames, 1984, 1992; Duda, 1992; Dweck & Leggett, 1988; Maehr & Nicholls, 1980; Nicholls, 1984, 1992; Roberts, 1992) derived from educational settings (Ames, 1984, 1992; Dweck, 1986; Dweck & Leggett, 1988; Nicholls, 1984, 1992). This motivational framework suggests that variations in behaviour are not manifestations of high or low levels of motivation per se, but rather the expression of different achievement goals pursued by individuals.

This conceptual approach is primarily based on the work of Nicholls (1984, 1989) and suggests that there are two main achievement goals (task, ego) that represent different conceptions of, and different reasons for, approaching and engaging in achievement activities. They involve different ways of thinking about one's task and the outcomes of that task (Nicholls, 1984). According to the intentional framework of Nicholls' theory, the subjective experience and overt behaviour of individuals should differ in predictable ways with differing goal orientations. Specifically, perceptions of success and failure are subjectively defined in accordance with the demonstration of ability (Kavussanu & Roberts, 1996; Nicholls, 1992) and reflect individual differences in personal criteria for success. Therefore, the meaning of the situation is likely to be interpreted differently with each goal orientation and as such the likelihood of experiencing anxiety.

In the first conception of ability, the endorsement of a task-orientation is reflected in self-referenced criteria for success including personal mastery, exhibited effort, trying hard, and improvement on the task at hand (Duda, 1989, 2001; Maehr & Nicholls, 1980; Nicholls, 1984). A greater gain in mastery would indicate feelings of

success and enhanced competence (Duda & White, 1992; Treasure & Roberts, 2001) while a lack of mastery would only signify that the current strategy may require revising (Dweck & Leggett, 1988). Consequently, sustained performance is likely, even in difficult situations (Bong & Skaalvik, 2003) and a sense of pride is felt with accomplishments (Weiner, 1994). Clearly, task-orientation is an adaptive motivational disposition which is in contrast to the cognitive, affective, and behavioural outcomes associated with physique anxiety. Individuals who endorse task goals are less likely to experience high levels of anxiety as their sense of self does not become threatened by normative comparisons (Bong & Skaalvik, 2003; Maehr & Nicholls, 1980; White & Duda, 1993)

In contrast, the endorsement of an ego-orientation is related to a preoccupation with the adequacy of personal ability and the demonstration of superior competence (Maehr & Nicholls, 1980; Nicholls, 1984). Subjective success amongst ego-oriented individuals' entails social comparisons with others' exerted efforts and attainments (e.g., Lochbaum & Roberts, 1993). Low exerted effort would imply high ability while high exerted effort would imply low ability (Nicholls & Miller, 1984). The endorsement of this goal infers a fragile sense of self as perceived success is judged in terms of social comparison. Self-focused attention is likely, particularly if doubting that one's ability compares favourably with others (Newton & Duda, 1993). As such, anxiety is likely to ensue as ones self becomes threatened due to the likelihood of failure. In this way, individual differences in achievement goals are clearly implicated in the cognitive appraisal process.

However, recent research has recognised that individuals are capable of being high, moderate, or low in both orientations in combination (e.g., Biddle, 1994; Hardy, 1997). Furthermore, adaptive repercussions such as high motivation are more likely

to arise from being high in both task and ego orientations (Duda, 2001). These variations in goal perspectives are manifested at the dispositional and state level and differentially influence motivational processes in achievement domains.

1.9 Achievement Goals and Related Research Findings

A considerable body of research has found that task goals are conceptually linked to intrinsic motivation (Duda, Chi, Newton, Walling, & Catley, 1995; Nicholls, 1984, 1989), perceived competence (Chi, 1994; Vlachopoulos & Biddle, 1997), effort, and cooperation (Sarrazin, Cury, Roberts, Biddle, & Famose, 1999; Treasure & Roberts, 2001; White & Duda, 1993). In contrast, ego goals can undermine intrinsic interest through perceptions of threat and evaluative pressure (Elliot & Harachiewicz, 1996). Mastery experiences alone may not be sufficient to derive satisfaction as the demonstration of normative ability necessitates outperforming others (Treasure & Roberts, 2001; Roberts, 2001). In this way highly ego-oriented individuals could develop a dependency on outcomes in order to derive feelings of satisfaction (Roberts, 2001). This dependence on outcomes can precipitate threat and has further been associated with self-consciousness (Hatzigeorgiadis, 2004) and withdrawal from activities (Hall & Kerr, 1997; Hatzigeorgiadis, 2004). It is evident that achievement goals are important motivational variables that differentially contribute to the onset of anxiety (Maehr & Braskamp, 1986; Roberts, 1986).

1.10 Achievement Goals and Social Physique Anxiety

Exercise domains clearly provide an ideal setting for social evaluation and self-presentation (Conroy et al., 2000; Marquez & McAuley, 2001; Shields, Paskevich, & Brawley, 2003), with characteristics of the environment and individuals' personalities interacting to heighten the extent to which individuals' are motivated to seek others' approval (Lazarus, 1999; Leary & Kowalski, 1995). It is therefore

plausible that the endorsement of ego goals could intensify the negative affective

responses experienced by physique anxious exercisers. The present research will seek

to assess this contention.

Although some research has assessed goal orientations among young

recreational (Biddle & Goudas, 1996) and adult exercisers (Gill et al., 1996) it is

important to provide a sound theoretically-based measurement instrument from

which to assess such goals. Due to a current lack of appropriate existing measures

the aim of the first study in the current programme of research will be to develop a

suitable exercise-related goal orientation measure. However, in alignment with more

contemporary perspectives of achievement goals (Harwood & Swain, 2001, 2002;

Harwood, et al., 2003), social goals will also be considered in its development. This

is of particular relevance to the present research given the interpersonal nature of

exercise settings and the importance of others' approval (Leary & Kowalski, 1995;

Schlenker, 1980) amongst physique anxious exercisers.

1.11 Contemporary Achievement Goal Perspectives: Social Competence Goals

Social goals address a fundamental aspect of human motivation (Baumeister &

Leary, 1995) that has largely been ignored in achievement domains (Blumenfeld,

1992; Dowson & McInerney, 2004; Juvonven & Weiner, 1994; Maehr & Braskamp,

1986; Maehr & McInerney, 2004; Wentzel, 1999). This void in the literature serves

to provide an incomplete perspective of the processes underpinning activity

investment as competence goals are not necessarily the sole driving force of

individuals in activity domains. Rather, the development or maintenance of

friendships might be equally as salient.

The relevance of social goals was recognised in the original theory of

achievement motivation (Maehr & Nicholls, 1980) in relation to adolescent

developmental issues and peer relationships (Maehr & Braskamp, 1986; McInerney, Roche, McInerney & Marsh, 1997). It was found that social goals such as friendship acquisition or gaining significant others' approval (i.e., from coaches, parents, peers) could be achieved through the demonstration of physical competence (e.g., Evans & Roberts, 1987; Weiss & Duncan, 1992). In this way, gaining approval and acceptance from peers could be acquired through the demonstration of personal attributes deemed important to others.

However, the assessment of social goals has not been without criticism. Educationalists frequently aired concerns about the combining of possibly two distinct constructs, namely, social goals and competence goals. The main objection of this merger was that it potentially served to conceal the distinct effects of these goals on motivation and achievement (e.g., Blumenfeld, 1992; Hamilton, Blumenfeld, Akoh, & Miura, 1989; Maehr & Nicholls, 1980; Urdan & Maehr, 1995). While debates exist about the merits and limitations of this approach, more recent empirical support (Harwood, & Swain, 2002; Harwood, et al., 2003) has been found for the application of social-approval competence goals in sport thus serving to advance and placate our current understanding.

Preliminary assessment and support for social-approval competence goals derived from initial findings of an in-depth study of young tennis players (Harwood and Swain; 2001) in which task and ego goals emerged in terms of being either self-directed or socially-driven (i.e., directed at gaining others' approval). As a follow-up to this study the Profile of Goal Involvement Questionnaire (Harwood & Swain, 2002) was developed in an attempt to clarify and assess self-directed and social-approval aspects of task and ego goals. Given preliminary research findings (e.g., Harwood & Swain, 2001, 2002) for their applicability amongst athletes, Harwood and

colleagues further sought to test a conceptually distinct four-factor goal orientation model in an attempt to provide a more comprehensive and contemporary measurement of goal involvement.

1.12 An Alternative Multidimensional Four-Factor Goal Orientation Model

The four-factor achievement goal orientation model (Wilson, Harwood, & Hardy, 2003) advances current achievement goal assessment by distinguishing between socially driven and self-directed goal orientations: social-approval task (SAT), social-approval ego (SAE), self-directed task (SDT), and self-directed ego (SDE). SAT goals were conceptualised as individuals feeling successful when they *show to others* how much *improvement* or *mastery* has been gained whereas SAE goals referred to individuals feeling most successful when they *show to others* their *superior ability*. In contrast, SDT goals lead individuals to feel successful if they can *prove to themselves* how much they've improved and SDE goals referred to individual's proving *to themselves* they have superior ability. The difference between the self-directed and socially directed aspect of the goals is the *direction* or *target* of the goal (i.e., self or other) which is of particular relevance to the present programme of research for two reasons. First, self- and other- directed personal assessments have been supported in social comparison theory (Festinger, 1954; Wood, 1989) and may therefore be applicable in evaluative contexts such as exercise settings. Second, the direction of the goals in relation to social physique anxiety might resolve an earlier query in the thesis regarding whether the arousal of physique anxiety arises primarily from perceived dissatisfaction from personally-set standards or perceived other-set standards. The endorsement of differing goal orientations would be expected to influence affective responses.

1.13 Goal Orientations and Affective Responses

Social-approval task and ego goals are more likely to lead to more negative affective consequences than self-directed goals. Individuals endorsing social-approval goals are motivated towards the potential gains to be acquired from achievement activities and will likely only feel satisfied when they have gained others' approval (e.g., Allen, 2003; Anderman, 1999). Approval sought through the demonstration of physical superiority heightens attention toward the behaviours of others as a source of favourable comparison. In contrast, a focus on more self-directed goals should serve to reduce negative affect due to the controllable nature of personal improvement or task mastery (Wood & Bandura, 1989; Deci & Ryan, 1985; Hall & Kerr, 1997). In alignment with research pertaining to the processes associated with task and ego goals it would be expected that self-directed and social-approval goals would differentially influence motivational processes in achievement domains.

The conceptualisation of social competence goals as posited by Harwood and colleagues appears compelling and will serve to guide initial conceptualisation and measurement of achievement goals in the current programme of research. This is important as using our understanding of the information gleaned from different achievement domains will assist in the assessment of similar processes in exercise settings. However, as little support was found in the current body of research for the discriminant validity of social competence goals and therefore little advancement regarding the motivational antecendents of physique anxiety, a different theoretical approach was addressed.

1.14 Self-Determination Theory

Self-determination theory not only considers the role of perceived competence as an inherent motivational force but in contrast to achievement goal theory further considers the role of autonomy and relatedness (Deci & Ryan, 1985; 2000).

Autonomy refers to the innate desire to act in accordance with one's genuine preferences and values and to experience such actions as emanating from oneself (Ryan & Deci, 2000). Relatedness refers to individuals feeling connected with others and feeling a sense of involvement in their social world (Baumeister & Leary, 1995; Ryan, 1993). The interpersonal nature of this construct supports its viability in exercise domains. Furthermore, social physique anxiety is a salient factor for many in exercise settings due to individual's bodies being on display. As such, physique anxiety could be influenced by individuals perceiving a lack of the need for relatedness due to concerns over others' negative evaluations. Each of these three basic psychological needs (competence, autonomy, relatedness) are essential nutriments which independently contribute to healthy psychological functioning (Veronneau, Koestner, & Abela, 2005) with their realisation facilitating the natural process of self-motivation (Ryan & Deci, 2000).

Deci and Ryan (1991) suggest that self-determined motivation results from the satisfaction of these three basic fundamental needs and that the thwarting of need satisfaction may lead to distress and psychopathology such as anxiety-related concerns (Ryan & Deci, 2000). For example, those individuals exercising to obtain others' approval or avoid others' disapproval (i.e., socially physique anxious individuals) are more likely to experience negative affective responses than those exercising for more self-determined motivation (such as enjoyment) due to the controlling nature of attempting to alleviate others negative evaluations. Due to the interpersonal nature of the conceptualisation of relatedness and therefore its relevance to social settings (Allen, 2003, 2005; Baumeister & Leary, 1995), it might be one important construct with sound theoretical underpinnings that might shed further insight into the motivational processes underpinning social physique anxiety.

1.15 Relatedness

Relatedness represents a critical aspect of personal development (Baumeister & Leary, 1995; Ryan et al., 1995) that is as salient as competence (Harter, 1978; White, 1959) and autonomy (Deci, 1975) in the pursuit of well-being (Baumeister & Leary, 1995; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). The need for relatedness is reflective of individuals' need to feel securely connected with others in their social environment (Connell & Wellborn, 1991). The benefits of a strong sense of relatedness have been considered by some theorists as conducive to greater adjustment and achievement (Grolnick & Ryan, 1989), and more positive wellbeing (Blatt, 1990; Blatt & Blass, 1996; Ryan et al., 1995; La Guardia, Ryan, Couchman, & Deci, 2000). A sense of relatedness therefore appears to be a vital innate need supporting optimal psychological functioning (Baumeister & Leary, 1995; Ryan & Powelson, 1991) and as such is conceptually *distinct* from acquired goals or individuals' motives (Ryan & Deci, 2002). For example, goals or motives can enhance or impede individuals' overall well-being by facilitating or thwarting the satisfaction of individuals' three basic psychological needs (Deci & Ryan, 2000; Ryan, Sheldon, Kasser, & Deci, 1996). If individuals focus their attention on goals such as demonstrating physical competence or attaining physical attractiveness, their self-worth becomes contingent upon the acquisition of such goal pursuits (Williams, Cox, Hedberg, & Deci, 2000). A focus on the gains to be acquired from goal pursuits suggests that a sense of relatedness will be less likely to be met as it is in contrast to the satisfaction of individuals' basic needs. However, internalisation of external goals and values will differ in the degree to which they are experienced as fully self-determined or automonous and therefore fulfilling of basic needs (Deci & Ryan, 1985;

Ryan & Deci, 2000).

In this way, relatedness as a basic need generally contrasts with social cognitive theories (e.g., Bandura, 1977) that adopt a more mechanistic approach to motivation in which goals and motives can be endorsed as a means to acquiring something of importance to the individual. This conceptual distinction is important as it exemplifies the theoretical stance taken with respect to social *needs* in the second study in the present programme of research. In contrast to the conceptualisation of social goals in Chapter Two which combined competence goals with social-approval goals (i.e., social-approval task), Chapter Three will propose that the endorsement of certain goals serves to satisfy exercisers' needs for relatedness, competence, and autonomy. By supplementing achievement goal theory with self-determination theory in the prediction of social physique anxiety, a deeper conceptual understanding of the psychological processes involved can be gained.

1.16 The Behavioural Consequences of Social Physique Anxiety

Based on findings from studies one and two in the current programme of research, the author sought to further clarify what were deemed important unresolved issues. These included the efficacy of self- and other-directed forms of goals and the target of physique anxious individuals' approval (e.g., friends, fitness instructors) in exercise domains. In order to meet these objectives, the final study (study three) sought to provide an in-depth account of fitness-assessment procrastination (i.e., postponement of fitness assessments) amongst physique anxious females. The design of the study was of particular relevance to the objectives sought and was based on explicit theoretical perspectives (Deci & Ryan, 1985; 1991; Hewitt & Flett, 1991; Nicholls, 1989) while also allowing for the emergence of new concepts through open interviews (Patton, 2002).

Postponement of fitness assessments was deemed an important maladaptive behavioural strategy among gym users for several reasons. First, avoiding professional guidance from exercise practitioners could contribute to a lack of motivation which potentially holds negative health implications from reduced exercise investment. Second, the potentially threatening nature of evaluative situations such as fitness assessments may precipitate anxiety in some individuals, contributing to avoidance behaviours, and third, current empirical research pertaining to procrastination is sparse and predominantly focused on academic settings (Ferrari, Johnson, & McCowan, 1995; Schraw, Wadkins, & Olafson, 2007). Therefore, the assessment of procrastination in exercise domains could contribute to researchers' current understanding while facilitating practitioners in the design of assessments to promote more positive fitness-assessment experiences and adaptive exercise behaviours.

1.17 Procrastination

Procrastination has often been viewed as a negative disposition with findings equating it with laziness and indifference (Bliss, 1983; Ferrari & Tice, 2000), counterproduction (Schouwenburg, 1995), and a neurosis which detracts from autonomous living (Ellis & Knaus, 1977). In general, it has been defined as an irrational tendency to delay tasks that should be completed within a certain timeframe to the point of creating emotional discomfort (Ferrari & Tice, 2000; Lay, 1994; Rothblum, Solomon, & Murakami, 1986; Solomon & Rothblum, 1984; Schouwenburg, 1992; Senécal, Koestner, & Vallerand, 1995). Procrastination is therefore an important construct to address as tasks that are not completed promptly may reduce individual effectiveness (Ferrari, 1991, 1992, 1994) while also being a source of anxiety to those individuals who are expected to complete the task at hand

(Ferrari & Tice, 2000).

1.18 Procrastination and Previous Research Findings

Much of the research pertaining to procrastination has assessed it as a general

tendency to delay tasks across life domains (Lay, 1986; Lay & Silverman, 1996;

Mann, 1982; McCowan & Johnson, 1991; Saddler & Buly, 1999) using mainly

clinical or academic samples of the population (e.g., Ferrari, et al., 1995; Flett,

Blankenstein, & Martin, 1995; Lay, 1992; Lay & Silverman, 1996; Martin, Flett,

Hewitt, Krames, & Szanto, 1996; Senécal et al., 1995; Schraw et al., 2007;

Onwuegbuzie, 2000; Solomon & Rothblum, 1984; Wolters, 2003). Research findings

in educational settings have found that compared to non-procrastinators,

procrastinators tend to experience higher levels of anxiety and maladaptive cognitions

and behaviours. Specifically, academic procrastination has been found to have a

negative influence on learning in the form of study cramming, missing deadlines for

assignments, worry which contributes to experienced anxiety, and giving up studying

for more attractive alternatives (e.g., Lay & Schouwenburg, 1993; Wolters, 2003).

Furthermore, despite its negative implications, approximately 70% of students have

reported that they regularly engage in procrastination (Schouwenburg, 1995)

suggesting that despite its deleterious affects it is commonplace.

Although research has examined the prevalence of this maladaptive

behavioural strategy amongst students, no studies to date have assessed its relevance

amongst exercise participants. This is despite links to suggest the likelihood of its

occurrence amongst physique anxious exercisers. For example, procrastinators have

been known to be highly sensitive to social-evaluative information and tend to avoid

information concerning the self (Ferrari, 1991, 1992). These findings suggest that

procrastinatory behaviour could be seen as a form of protection whereby individuals

are shielded from self-knowledge regarding personal shortcomings such as perceived indadequate appearance. The evaluative nature of fitness assessments further suggests the likelihood of their postponement amongst physique anxious exercisers. One important focus of interest within the procrastination field of particular relevance to the current programme of research due to its social dimension and its association with evaluative contexts and procrastination is the role of perfectionistic standards (Flett, et al., 1995; Flett, Hewitt, & Martin, 1995).

1.19 Perfectionism

Research assessment into procrastination suggests that this dispositional tendency reveals similar characteristics to the stable personality trait of perfectionism including excessive concerns with fear of failure to meet unrealistically high standards of performance (Flett, Hewitt, Blankenstein, & Mosher, 1995; Flett, Hewitt, Blankenstein, & Pickering, 1998; Metzger, et al.,1990; Sherry, Hewitt, Flett, & Harvey, 2003; Solomon & Rothblum, 1984; Stöber & Joormann, 2001). When perfectionism is considered as a multidimensional construct consisting of intra- and inter-personal dimensions (Hewitt & Flett, 1991) the apparent difference in goal-directed behaviour, namely, self- or socially-directed (Campbell & Di Paula, 2002; Flett, Sawatzky, & Hewitt, 1995) holds certain implications for its contribution toward social physique anxiety. For example, there may be a strong link with the social dimension of perfectionism and physique anxious exercisers due to their need for others' approval. An understanding of the debilitative nature of perfectionism and its influence on the motivational processes underpinning fitness assessment procrastination amongst physique anxious exercisers will constitute the main aim of the final study in the present programme of research.

1.20 Overall Purpose of the Present Programme of Research

In conclusion, the overall objectives of the present research were to assess the antecedents and consequences of social physique anxiety. This objective was primarily guided by addressing the theoretical approaches of Lazarus' cognitive appraisal process (1999), achievement goal theory (Harwood & Swain, 2001, 2002; Harwood et al., 2001; Nicholls, 1989), and self-determination theoretical perspectives (Deci & Ryan, 1985; 2000). As certain achievement goals have been heavily implicated as motivational antecedents of cognitive anxiety, they could also be a salient antecedent construct of experienced negative affect amongst socially physique anxious exercisers.

In order to address this contention an exercise-related measure of achievement goals was initially developed that incorporated contemporary social components of goal orientations (Chapter Two; Harwood & Swain, 2001, 2002; Harwood et al., 2003). The current research then re-conceptualised social goals by individually assessing the role of various goals as a means of meeting individuals' basic needs for competence, autonomy, and relatedness in exercise settings (Chapter Three). Study three in the present programme of research then sought to provide an in-depth account of exercise procrastination by re-assessing the notion of self- and other-directed goals in the form of individual differences in self-oriented and socially prescribed perfectionistic tendencies as possible contributors of physique anxiety (Chapter Four).

CHAPTER TWO

THE DEVELOPMENT OF A GOAL ORIENTATION IN EXERCISE MEASURE

2.1 Introduction

Research underpinned by social cognitive principles of achievement goal theory (Nicholls, 1984, 1989) has considerably increased researchers' understanding of the motivational processes operating in sport and educational settings. Nicholls' approach, widely documented in the sport psychology literature (see Duda, 1992, 2001) maintains that individual's achievement goals in a specific context are a function of the meaning of ability construed by that individual. In this way, achievement goals determine reasons for individuals' participation in an activity and their criteria for judging successful competence outcomes (Pintrich, 2000). As exercise domains clearly provide an ideal setting for social evaluation and self-presentation (Conroy et al., 2003; Shields, et al., 2003) it is contended that responses to exercise among physique anxious exercisers will be influenced in a way that is consistent with a goal orientation perspective.

While two dominant goal perspectives (task, ego) prevail in the achievement literature, their assessment has not been without its critics. Concerns have been directed toward the conceptual premises of achievement goals (Hardy, 1997, 1998; Harwood & Hardy, 2001) while more contemporary perspectives have argued for the incorporation of social goals in their assessment (Allen, 2003, 2005; Harwood & Swain, 2001; Stuntz & Weiss, 2002; Urdan & Maehr, 1995). This is of particular relevance among physique anxious individuals due to the importance placed on acquiring others' approval. The present research will therefore attempt to firstly,

determine the relevance of achievement goals in exercise domains with due consideration of these critiques, and secondly, assess their relationship with social physique anxiety. Furthermore, if individuals endorse a strong.dispositional ego goal or social approval goal but doubt their ability compares favourably or meets with other exercisers expecations evaluative threat is likely to be evoked. As such, the constructs of ability and threat and their relation to ego and social approval goals and physique anxiety will also be determined.

Some research has assessed goal orientations among young recreational (Biddle & Goudas, 1996) and adult exercisers (Gill et al., 1996). However, it is important to provide a sound theoretically based measurement instrument from which to assess such goals. One study by Kilpatrick, Bartholomew, and Reimer (2003) has addressed the feasibility of goal perspectives (task, ego) in exercise domains by developing the Goal Orientation in Exercise Scale (GOES) using Nicholls' conceptual approach.

The GOES was developed in an attempt to provide a valid measure of exercise-related goal orientations. According to the authors, the resultant measure was adapted from the widely used 13-item (seven ego-items, six task-items) Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda & Nicholls, 1992). While the development of such a measure is commendable, the GOES has several limitations. These are important to address as advances in researchers' current understanding of exercise motivation should derive from a sound theoretical perspective.

2.2 Conceptualisation and Measurement Issues

First, the TEOSQ has been criticized on the grounds that the task scale confounds the definition of a task orientation (self-referenced perceptions of competence) with its correlates (e.g.. effort, learning, enjoyment; Hardy, 1997, 1998).

This can be problematic because as the two orientations are theoretically held to be orthogonal (Nicholls, 1984, 1989), it suggests that ego-oriented individuals do not experience such processes and outcomes. It is likely, however, that ego-oriented individuals could gain a sense of enjoyment from activity investment as long as their conception of achievement has been met (i.e., the demonstration of ability). Similarly, it is likely that both task and ego-oriented individuals could respond equally to *effort* items in the TEOSQ, potentially providing little differentiation between the two goal orientations.

In addition, Kilpatrick and colleagues did not specifically state the stem used in their original 21-item GOES. However, it was implied that the TEOSQ stem *I feel most successful in sport when...* was adapted for exercise settings. The relevance of the term 'success' as applied to exercise domains could be questionable as it implies the notion of winning which is more applicable to competitive situations. Furthermore, although the authors suggested that exercise type was assessed (aerobic vs weight training) it was not clear as to the type of aerobic exercise participated in. In addition, 63 participants reported exercising as part of training for competition. This figure serves to constitute 30.9% of the overall sample (N = 204) and as such could obfuscate the assessment of exercise-related goal orientations with sport-related orientations.

There are also some inconsistencies in the reporting of the results of the analyses by Kilpatrick et al. (2003). Statistical analyses took part in two phases. Phase one involved refinement of the 21-item GOES through item analysis in which a random sample of responses from 75 exercise participants from the original sample was assessed. Phase two involved running a confirmatory factor analysis of the resultant ten items (five-item task, five-item ego) using the original sample of 204

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participants. This resulted in what the authors deemed acceptable fit indices ($\chi^2 / df =$ 2.20, GFI = .98, AGFI = .96; NFI = .96, NNFI = .97, RMSEA = .08) in the reported abstract of their published article. However, this was in part a contradiction to the figures reported in the body of the article which reveals certain discrepancies (i.e., GFI = .96, AGFI = .98) and an additional fit index (CFI = .98). RMSEA was greater than the recommended ≤ .06 (Hu & Bentler, 1999) and similarly to those values reported in the abstract, the actual value of the observed χ^2 and its significance level were not reported. This absolute fit index tests the null hypothesis that the observed and model-implied covariance matrices are not significantly different. In this way, a good fit is indicated by a non-significant χ^2 (Hu & Bentler, 1995). Overall, the factorial validity of the GOES remains unclear while a lack of consideration toward the relevance of social goal perspectives provides an incomplete view of the processes underpinning exercise investment. Social goals are likely to be of particular relevance amongst physique anxious individuals due to their concern over others' approval.

Although past concerns have been aired with regards to combining achievement goals with social goals (Blumenfeld, 1992; Hamilton et al., 1989; Urdan & Maehr, 1995), the usefulness of devising an exercise- related measure outweighs such trepidation. Devising a theoretically and statistically sound exercise-related measure that incorporates a social component will serve to facilitate future exercise-related research by first, providing a sound conceptual framework from which to work, and second, provide a broader perspective of the motivational processes evident in exercise domains.

The main purpose of the present study was to address the current limitations of the GOES by developing a more theoretically and statistically sound instrument; the Goal Orientation in Exercise Measure (GOEM). The proposed measure will

assess task and ego goals in alignment with contemporary achievement perspectives by further assessing their social dimensions (Profile of Goal Orientation Questionnaire; Harwood *et al.*, 2003). This will assist in providing additional insight into the motivational processes influencing physique anxious exercisers.

Confirmatory factor analytic procedures were used to test the hypothesised model and assess the invariance of the factor structure across gender. Invariance testing assesses whether a set of measurement parameters (e.g., factor loadings) is equivalent between two or more groups of interest (Byrne, 1994). When the factor structure is found to be invariant this provides support that the derived factor items are being interpreted and responded to in similar ways by the different groups.

The second purpose was to assess the relationship between goal orientations and indices of self-determination for exercise in an attempt to provide initial construct validity for the GOEM. Although early research adopted a dichotomous conception of intrinsic and extrinsic motivation, organismic integration theory, a sub-type of self-determination theory describes how extrinsic motivation can be more adequately conceptualised as varying in its attendant degree of self-determination or relative autonomy (Deci & Ryan, 1985; Ryan & Deci, 2000). Thus, extrinsic motivation can be experienced as controlling when behaviour is regulated by demands or sanctions imposed by others (external regulation) or through internally imposed pressures such as guilt (introjected regulation). However, when behaviours are performed out of personal identification or valuing of the outcomes (identified regulation), or because they are consistent with one's core values and sense of self (integrated regulation) extrinsic motivation is experienced as more self-determined. These different forms of extrinsic motivation are contrasted with intrinsic motivation, where behaviours are engaged in for the inherent interest and enjoyment they provide

and are fully self-determined, and amotivation which refers to a lack of intention to engage in a behaviour is non-self-determined. Achievement goals have been theoretically and empirically linked to variations in self-determination (e.g., Ntoumanis, 2001) therefore its link with achievement goals in exercise settings would provide further insight into the conceptual processes in existence.

On the basis of previous research findings on the relations between approval goals and motivation in sport (e.g., Anderman, 1999; Anderman & Anderman, 1999; Midgley & Urdan, 2001; Roeser, Midgley & Urdan, 1996; Standage & Treasure, 2002) and physical education (e.g., Spray, et al., 2004) and findings relating to achievement goals and self-determination in sport and PE (Cury et al., 1996; Deci & Ryan, 1985; Frederick & Ryan, 1995; Ntoumanis, 2001; Standage & Treasure, 2002; Vallerand & Losier, 1999) it was hypothesised that 1) self-directed task goals would be positively related to more self-determined behavioural regulations (identified regulation and intrinsic motivation) and negatively related to self-determined behavioural regulations (external and introjected regulation) and amotivation, and 2) self-directed ego goals would be positively related to less self-determined behavioural regulations (external and introjected regulation) and amotivation. The relationship between social-approval task and social-approval ego goals and self-determination is at present unknown. However, given the previous supporting literature on the potentially maladaptive nature of these goals it was hypothesised that 3) both social-approval task and social-approval ego goals would be related to less self-determined measures of behavioural regulation. To determine the relationship between social goal orientations and social physique anxiety to provide credence for research pertaining to the cognitive appraisal process and certain goals implicated in the arousal of anxiety (Lazarus, 1999, 2000) it was further hypothesised that 4) social physique anxiety

would be positively related to social-approval task and social-approval ego goals. In alignment with theoretical predictions discussed in Chapter One it was further expected that 5) ability and threat would be related to self-directed ego and social-approval ego goals, and 6) threat would be related to social physique anxiety, providing initial support for the convergent and discriminant validity of the hypothesised four-factor model.

2.3 Method

2.3.1 Participants and Procedures

Questionnaires together with a letter explaining that the research assessed exercise motivation and also requiring informed consent (see Appendix A) were individually administered by both the researcher and physical activity club organisers to individuals from 15 recreational physical activity clubs and one private health and fitness club in Southeast England. After receiving permission from physical activity club secretaries, chairpersons or managers, respondents were approached after exercise participation. Each was informed that the purpose of the study was to gain a better understanding of exercise motivation, that their participation was voluntary, and that the questionnaire would take ten minutes to complete and would be answered anonymously. Written consent was obtained and the respondents then completed the questionnaire immediately after exercise participation.

Data were returned from 372 participants; 248 females (M age = 42.1, SD = 13.1) and 124 males (M age = 41.1, SD = 11.1). Participated activities included walking (n = 29), gym work (weight training, circuit training, cardiovascular equipment; n = 43), running (n = 61), athletics (n = 1), dance (n = 8), racket sports (tennis, badminton; n = 40), hockey (n = 1), aerobic dance classes (n = 65), swimming (n = 23), rowing (n = 9), cycling (n = 28), yoga and pilates (n = 51), aqua aerobics (n

= 1), basketball (n = 1), rugby (n = 2), bowling (n = 1), football (n = 2), martial arts (n = 2), and gymnastics (n = 4). Whilst many sports were reported, according to physical activity leaders the activities were engaged in primarily for recreational or fitness purposes. For example, the four gymnasts were retired from competition and participated for fitness reasons.

Activity experience for both males and females (n = 360) ranged from one to 60 years (M = 9.7, SD = 10.8) with males (n = 123) reporting more experience (M experience = 11.4, SD = 10.2) than females (n = 237, M experience = 8.5, SD =11). Mean Body Mass Index (BMI) as reported by females and males was 25.0 (SD = 4.1) and 24.9 (SD = 2.9), respectively. Fifty-two percent (males = 70, females = 126) of the exercisers were considered to be above the healthy BMI (20-24; Allender, Peta, Scarborough, Boxer, & Raynor, 2006). A summary of descriptive statistics can be found in Appendix B.

2.4 Measures

2.4.1 Goal Orientations. An initial pool of 26 items (Appendix C) developed for the GOEM were derived from the GOES (Kilpatrick *et al.*, 2003) and the TEOSQ (Duda, 1993), although confounding items were not included, and additional items generated were based on the conceptualisation of self-directed and social-approval task and ego goals. The self-directed task (SDT) construct referred to competence being defined in terms of self-referenced performance that is dependent upon personal improvement and mastery. A greater gain in mastery of a task indicates greater physical competence and therefore a feeling that things have gone well. The social-approval task (SAT) construct referred to competence being defined in terms of having demonstrated or shown to others their personal mastery of a task or personal progress in that task. In contrast, the self-directed ego (SDE) construct referred to

defining competence in terms of individuals proving to themselves that they compared favourably or had demonstrated superior physical competence over other exercisers. The social-approval ego (SAE) construct referred to competence being defined in terms of demonstrating normative superiority over other exercisers. In this way, if outperforming others can be *demonstrated* to others, a sense of physical competence was more likely and therefore a feeling that things had gone well.

The intitial item pool was evaluated by a panel of four doctoral level judges expert in achievement goal theory and exercise psychology. Each expert reviewer individually examined the items for (a) lack of item clarity, (b) conceptual redundancy and/or confounding, and (c) complex readability to determine which were most appropriate. Suggested refinements and subsequent amendments were made (see Appendix D). For example, the SDT dimension included rewording *perform* to *exercise* (items two, four), rewording item three from *I learn something that I enjoy doing* to *I feel like I've improved* and the addition of a ninth item (*I achieve the exercise goal I set myself*). Changes to all seven items in the SAT dimension were made to ensure clarity of the direction of the statement. For example, *I perform the best* was changed to *I know I perform better than other exercisers*. Similarly, adjustments to all five items in the SAE dimension were made which clarified the direction of the statements. For example, *I show others that I'm better than anybody else* was amended to *I can show other exercisers that I'm better than anybody else*.

The final item pool comprised 26 items: SDT (eight-items; e.g., *I make progress*), SAT (six-items; e.g., *I show others how well I can master the skills*), SDE (seven-items; *I know I perform better than other exercisers*), and SAE (five-items; *I prove to others that I'm better than anybody else*). In response to each of the items participants were asked to think, "*While exercising, I feel that things go well when...*"

This was considered to be an appropriate item stem for the context of exercise participation undertaken for health and recreational purposes. Responses were recorded on a 5-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The GOEM is scored by calculating a mean score for each of the four dimensions.

2.4.2 Behavioural Regulation in Exercise Questionnaire-2 (BREQ-2; Markland & Tobin, 2004). Based on Deci and Ryan's (1985, 1991) conceptualisation of a continuum of extrinsic and intrinsic motivation, this measure assesses exercisers' external regulation (e.g., *I exercise because others say I should*), introjected regulation (e.g., *I feel guilty when I don't exercise*), identified regulation (e.g., I value the benefits of exercise), intrinsic regulation (e.g., *I exercise because it's fun*), and amotivation (e.g., *I don't see why I should have to exercise*), reflecting the extent to which individuals are self-determined in the regulation of their behaviour. Individuals are asked to respond to 19 items on a 5-point Likert-type scale from 0 (Not true for me) to 4 (Very true for me). Higher scores on each subscale are reflective of higher levels of the indices of motivation the particular subscale is measuring. The instrument has been shown to be factorially valid and internally consistent with reliability coefficients ranging from .73 to .86 (Markland & Tobin, 2004).

2.4.3 Social Physique Anxiety Scale. The social physique anxiety scale was developed by Hart et al., (1989) in order to assess individuals' concerns about others' perceptions of their physiques (e.g., *I am comfortable with the appearance of my physique*) and is a trait measure of self-presentational anxiety related to the physique. These negative perceptions are said to deter individuals from participating in exercise programs. The 12-item self-report measure is scored on a 5-point Likert-type scale from 1 (Strongly Disagree) to 5 (Strongly Agree). Internal consistency for this

instrument has been shown to be good (e.g., Hart et al., 1989, .90; Focht & Hausenblas, 2003, .86). Items 1, 2, 5, 8, and 11 are reverse scored and all item responses are summed to create an overall Social Physique Anxiety Scale score that could range from 12 (low social physique anxiety) to 60 (high social physique anxiety).

2.4.4 Perceived Ability. This construct was assessed using a three-item scale adapted for exercisers based upon the work of Eccles and Harold (1991). This measure required participants to rate their ability as an exerciser, rate how good they thought they were compared with others, and how good they were compared with other exercisers of a similar age (e.g., *compared with others your age, how good are you at physical activity?*). Responses to each item were made on a 7-point Likert-type scale that ranged from 1 (Very Poor) to 7 (Excellent). Internal consistency for this instrument has been shown to be .89 (Hall, et al., 1998).

2.4.5 Endler Multidimensional Anxiety Scale – Perception Subscale (EMAS-P). This measure was designed to assess respondents' subjective perception of the degree of threat evoked by a specific situation. The EMAS-P scale (Endler, Edwards, & Vitelli, 1991) consists of two items measured on a 5-point intensity scale ranging from 1 (Not at all) to 5 (Very Much). Respondents were instructed to report the degree to which they perceive the situation as threatening or evaluative (e.g., *when participating in your activity, to what degree do you perceive yourself as being in a situation where you are being evaluated or judged by other people?*).

2.5 Model Testing Strategy (GOEM) and Assessment of Fit

In order to investigate the adequacy of the proposed GOEM the model was tested using confirmatory factor analysis (CFA) procedures using LISREL 8.54 (Jöreskog & Sörbom, 1993). Analyses took part in two phases. Phase one involved

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the elimination of items that were theoretically and statistically poor indicators of their respective factors and model re-estimation. Phase two involved testing for the factorial invariance of the resultant model across gender.

Model fit was assessed through the χ^2 likelihood ratio test statistic and examination of several goodness-of-fit indices. This is a preferred approach (Bollen, 1990) as good fitting models will produce consistent results on various indices in most instances. The distribution of the variables violated the assumption of multivariate normality (Mardia's coefficient = 18.95), and so the maximum likelihood method of estimation was used along with the Satorra-Bentler scaled χ^2 (Satorra & Bentler, 2001) which corrects for non-normality and produces more trustworthy standard errors of the estimates (Chou & Bentler, 1995). The Satorra-Bentler scaled χ^2 test statistic tests the null hypothesis that the observed and model-implied covariance matrices are not significantly different, thus a good fit is indicated by a non-significant χ^2. This was complemented using the root mean square error of approximation (RMSEA; Steiger, 1990) and its 90% confidence interval (CI), the Comparative Fit Index (CFI; Bentler, 1990), and the Standardised Root Mean Square Residual (SRMSR).

The RMSEA assesses the approximation of the model-implied covariance matrix to the population covariance matrix (Browne & Cudeck, 1993). The CFI (Bentler, 1990) index compares the existing model fit with a null model which assumes the observed variables in the model are uncorrelated. The SRMR represents the average discrepancy between the observed and model implied covariances. Endorsing Hu and Bentler's (1999) recommendations, the criteria for evaluation of fit included a non-significant chi-square, CFI $\geq$ .96, SRMSR $\leq$ .08, and RMSEA$\leq$ .06. In addition to assessing global fit, a detailed examination of the standardized

residuals and modification indices was conducted, in conjunction with a consideration of the item wording, in order to identify potentially factorially ambiguous items. Such items were iteratively eliminated and the model re-specified and tested until the global fit indices of the models indicated acceptable model fit (Hofmann, 1995). Once the final items had been identified in the GOEM, Cronbach's (1951) alpha was calculated for each of the subscales as a measure of internal consistency.

Phase two involved testing for factorial invariance of the four-factor GOEM across gender by simultaneously fitting the model to the data for males and females. A baseline model was established by fitting the model to the data for males and females combined and then to the male and female data separately. Then a hierarchical series of constraints were imposed (Byrne, 1989; Jöreskog & Sörbom, 1981, 1993). First, the invariance across gender of the pattern of constraints on the factor loadings was assessed. Second, invariance of the pattern of constraints on the factor loadings and the covariance between the factors was assessed. Finally, constraints were imposed on the factor loadings, the interfactor covariances, and the item error variances. Goodness of fit was assessed at each stage and direct comparisons made using the S-Bχ^2 scaled difference test. If there is no significant loss of fit for the more constrained models then it can be concluded that the constrained parameters are invariant across gender (Marsh, 1993). The calculation of a scaling correction for the the S-Bχ^2 scaled difference test was undertaken as the difference between two scaled χ^2s is is not itself χ^2 distributed (Satorra & Bentler, 2001). Finally, the construct validity of the model was assessed by examining the correlations between the self-directed and social-approval task and ego scales and the measures of behavioural regulations.

2.6 RESULTS

2.6.1 Phase One: Confirmatory Factor Analyses of the GOEM

The effective sample size after listwise deletion of participants with missing data was 372. Mardia's normalised coefficient was 22.12, $(p < .001)$ indicating that the data departed significantly from multivariate normality. The initial four-factor model had a poor fit according to the χ^2 test and only met two of the a-priori criteria for the approximate indices (S-B χ^2 = 1125.49, df = 318, p = .00, RMSEA = .08, 90% CI RMSEA = .08 - .09, p value RMSEA .00, CFI = . 96, SRMR = .08) with χ^2 significant, RMSEA large but an acceptable CFI and SRMR. The correlations between the four factors revealed high and significant correlations between SDE and SAE $(r = .96)$, SAT and SDE $(r = .82)$ and SAT and SAE $(r = .83)$ suggesting a lack of discriminant validity between these constructs. In addition, significant moderate to minimal correlations were found between SDT and SAT $(r = .40)$, SDT and SDE $(r = .17)$ and SDT and SAE $(r = .15)$. Consequently, SDE and SAE were collapsed into a single ego dimension while SAT and its indicative six-items were dropped from analysis as it appeared to be tapping the ego dimensions more than the task dimensions. This resulted in the re-estimation of a two-factor 21-item model (nine-item task, 12-item ego; Appendix E).

2.6.2 Two-Factor GOEM

The effective sample size after listwise deletion of participants with missing data was 372. The revised two-factor 21-item model had a poor fit according to the χ^2 test and did not meet all the a-priori criteria for the approximate indices (S-Bχ^2 = 630.51, df = 188, p = .00, RMSEA = .08, 90% CI RMSEA = .07 - .09, p value RMSEA .00, CFI = .97, SRMR = .07). After analysis of standardised residuals and modification indices, eleven factorially ambiguous or redundant items were

eliminated, one at a time with the model re-estimated at each step. Four items were removed from the task dimension and seven from the ego dimension. The fit of the final 10-item model was excellent (S-B χ^2 = 45.62, df = 34, p = .09, RMSEA = .03, 90% CI RMSEA = .00 - .05, p = .54; CFI = .99; SRMR = .04) with χ^2 non-significant, RMSEA and SRMR small, and CFI approaching unity. The correlation between the two factors was non-significant (r = .07). Individual item factor loadings ranged from .56 to .90. Cronbach's alphas for the two factors were acceptable (task .78; ego, .88). For a summary of the remaining 10-item means, standard deviations, and factor loadings (all p < .01) with their standard errors see Table 1.

2.6.3 Phase Two: Factorial Invariance Across Gender

This phase involved testing the factorial invariance of the model across gender. Table 2 shows the fit statistics of the male and female data combined and the model fitted to male and female data separately. Model fit was excellent for the separate male and female data, with non-significant SBχ^2 tests in both cases. When invariance constraints were placed on the factor loadings, there was no significant deterioration in model fit. There was a marginally significant loss of fit when constraints were imposed on both the factor loadings and inter-factor covariance. Imposing constraints on the error variances did not lead to further significant loss of fit at stage three of the hierarchy of tests. Overall, these tests provide good support for the invariance of the two factor model across gender. There was no significant difference between males' and females' scores on the task scale (males $mean$ = 4.20, SD = .52; females $mean$ = 4.12, SD = .62). Males scored significantly higher than females on the ego scale (males $mean$ = 2.53, SD = .98; females $mean$ = 2.03, SD = .85; t = 5.11, p < .001).

Table 1. Final 10-item GOEM: Item means, SDs, and factor loadings (all $p < .01$) with their standard errors

Scale/Items		Mean	SD	Factor Loading	Standard Error
Task Goals					
B 1.	I make progress	4.20	.71	.58	.05
B10.	I exercise at a level that reflects personal improvement	3.87	.89	.72	.05
B11.	I feel like I've improved	4.18	.79	.77	.05
B15.	I exercise to the best of my ability	4.25	.80	.56	.06
B27.	I achieve the exercise goal I set myself	4.17	.86	.62	.06
Ego Goals					
B4	I prove to myself that I am the only one who can do a certain exercise task	2.62	1.21	.57	.06
B6.	I know that I am more capable than other exercisers	2.38	1.20	.84	.04
B7.	I can show other exercisers that I'm better than everyone else	1.98	1.07	.90	.05
B12.	I can prove to others that I'm the best	2.06	1.11	.80	.05
B19.	Other exercisers can't do as well as me	2.00	1.04	.75	.04

2.6.4 Construct Validity

Pearson bivariate correlations revealed that task goals were significantly and positively related to intrinsic regulation ($r = .36$, $p < .01$), identified regulation (r = .35, $p < .01$), and introjected regulation ($r = .12$, $p < .05$) while being significantly and negatively related to external regulation ($r = -.17$, $p < .01$) and amotivation ($r = -.25$, $p < .01$). In contrast, ego goals were found to be significantly and positively related to introjected regulation ($r = .21$, $p < .01$) and external regulation ($r = .14$, $p < .01$). Bivariate relationships further revealed an inverse significant relationship between task goals and social physique anxiety ($r = -.13$, $p < .05$) and task goals and perceived

physical ability ($r = -.47, p <.01$). Ego goals were found to be significantly and positively related to perceived ability and threat ($r = .39, p <.01$). Table 3 summarizes the means, standard deviations, scale reliabilities (diagonal of matrix), and bivariate relationships between all five scales of interest. All reliability coefficients revealed adequate internal consistency (>.70; Nunnally, 1978).

2.7 DISCUSSION

The main purpose of the present study was to develop an exercise-related goal orientation in exercise measure (GOEM) that included a social component, test the invariance of its factor structure across gender, and assess the patterns of correlations between the four hypothesised scales and measures of behavioural regulations, ability, threat, and social physique anxiety. This would serve to address previous doubts about the viability of competence goals in exercise settings (e.g., Duda, 2001) while improving upon existing measures (GOES; Kilpatrick et al., 2004).

With regard to the main aim of the study, following the removal of the SAT factor and the collapse of SDE and SAE into a single ego factor, and following item elimination, a two-factor 10-item model had an excellent fit to the data. Unlike *post hoc* model modifications involving the freeing of initially fixed parameters, item elimination is a legitimate tactic in model testing because it does not compromise the integrity of the *a priori* hypothesised factor model (Hofmann, 1995). The resultant model simply has fewer indicators of its latent variables.

The main modifications of the initial 27-item four-factor model were the merging of the SDE and SAE factors and the removal of the SAT factor. The high inter-factor correlations found between SDE and SAE suggested that their indicative items were tapping the same construct, namely an ego goal. Similarly, although SAT was operationally defined as *seeking approval from others via self-referenced*

Table 2. Fit statistics for the two-factor GOEM model for males and females combined, separately, and for invariance tests.

10-Item GOEM Model	N	SBχ^2	df	p	RMSEA	RMSEA CI	p RMSEA	CFI	SRMR	SBχ^2 difference test
Males and females combined	372	45.62	34	.09	.03	.00-0.05	.54	.99	.04	
Males only	124	27.40	34	.78	.00	.00-0.04	.94	1.00	.06	
Females only	248	42.40	34	.15	.03	.00-0.06	.27	.99	.05	
FL invariant		77.59	76	.43	.01	.00-0.04	.78	1.00	.05	29.76 $_{42}$, p = .92
FL, FCov invariant		85.45	79	.29	.02	.00-0.05	.67	1.00	.07	8.43 $_3$, p = .04
FL, FCov, ME invariant		105.01	89	.12	.03	.00-0.12	.33	.99	.08	17.40 $_{10}$, p = .07

Note: SBχ^2 = Satorra-Bentler scaled chi-square; RMSEA = Root mean square error of approximation; CFI = Comparative fit index; SRMR = Standardised root mean square residual; FL = factor loadings; FCov = factor covariances, ME = measurement error.

Table 3. Overall scale means, SDs, reliabilities (on diagonal of matrix) and bivariate correlations between Social Physique Anxiety (SPA), Goal Orientations in Exercise Measure (GOEM), Behavioural Regulation in Exercise Questionnaire-2 (BREQ-2), ability, and threat

		1	2	3	4	5	6	7	8	9	10
1	SPA	**.91**									
	GOEM										
2	Task	-.13 *	**.78**								
3	Ego	-.04	.07	**.88**							
	BREQ-2	-.03									
4	Amotivation	.21 **	-.25 **	.08	**.72**						
5	External	.26 **	-.17 **	.14 **	.43 **	**.78**					
6	Introjected	.21 **	.12 *	.21 **	.06	.26 **	**.78**				
7	Identified	-.22 **	.35 **	.02	-.49 **	.20 **	.30 **	**.72**			
8	Intrinsic	-.22 **	.36 **	-.04	-.47 **	-.24 **	-.02	.61 **	**.89**		
9	Ability	-.47 **	.28 **	.27 **	-.34 **	-.28 **	.11 *	.48 **	.41 **		
10	Threat	.18 **	.03	.39 **	.11 *	.23 **	.34 **	.04	-.10	.07	
	Scale *Mean*	2.87	4.14	2.19	1.28	1.38	2.65	4.10	4.10	4.64	2.07
	Scale *SD*	1.26	0.80	1.12	0.74	0.77	1.27	0.98	1.01	0.97	1.12

Note: * $p = < .05$, ** $p = < .01$, Note $\underline{N} = 372$. Correlations are presented below the diagonal and alpha coefficients are presented in bold on the diagonal.

accomplishments it would appear that respondents were interpreting this construct as more reflective of an ego goal than a task goal. The high inter-factor correlations found between SDE and SAE, SAT and SDE, and SAT and SAE suggested a lack of discriminant validity. Thus the decision to merge factors was based on model parsimony.

The initial rationale for attempting to generate a measure of the four factor conceptualisation of achievement goals in an exercise context was undertaken based on initial evidence for their discriminant validity in sport settings (Harwood et al., 2002; Wilson et al., 2003) in which preliminary results revealed lower inter-factor correlations (i.e., SDE and SAE, $r = .76$; SAT and SDE, $r = .58$; SAT and SAE, $r = .77$; Harwood et al., 2002) than those found in the present study. However, results of a follow-up study (Wilson et al., 2003) revealed high inter-factor correlations (i.e., SDE and SAE, $r = .93$; SAT and SDE, $r = .88$; SAT and SAE, $r = .92$) similar to those found in the present study. In contrast to the current decision to merge factors, Wilson and colleagues retained their highly correlated four factor goal orientation model primarily based on four criteria. First, the high-inter factor correlations led to further assessment of four alternative models (SDT, SDE, and social-approval consisting of combined SAT and SAE; SDT, SAT, and ego consisting of SDE and SAE; SDT, ego/social-approval consisting of SDE, SAE, SAT; task consisting of SDT and SAT and ego consisting of SDE and SAT) in an attempt to gain a better fitting model than the original hypothesised model. Results revealed that none of the alternative model combinations revealed as good a fit to the data as their original model which, according to the authors, provided support for the feasability of the original hypothesised model. However, a limitation of testing these alternative models was that there were no *clear* theoretical justifications provided for their

combinations. Although every possible goal combination was assessed this was more akin to an exploratory factor analysis.

Second, Wilson and colleagues (2003) further assessed the concurrent validity of the original four-factor model with task and ego dimensions of the perceptions of success questionnaire (POSQ; Roberts, Treasure, & Balague, 1998). Although most findings were in the expected direction with significant positive correlations found between SDT and POSQ task, SDE and POSQ ego, and SAE and POSQ ego; SAT was found to correlate with the POSQ ego dimension ($r = .39$). The authors suggested the unlikelihood of the constructs being completely independent from one another due to shared elements of both task and ego or self-directed- or social-approval dimensions (Wilson et al., 2003). However, this argument ignores the fact that constructs with little discriminant validity are of little empirical use as they may not represent the conceptual definitions within the theory (Bollen, 1989). Therefore, the merging of social goals with competence goals would support previous concerns aired by educationalists over the concealment of their potentially distinct effects. Fourth, the highly correlated SAT and SDE constructs ($r = .93$) were deemed by the authors (Wilson et al., 2003) to share little in common and were said to be partly explained by the limited number of items reflecting their SAT factor (i.e., four). However, item numbers become arbitrary as long as well-chosen items are good indicators of their relevant latent variable (Hofmann, 1995).

Although the intercorrelations found between factors in the present study were similar to those of Wilson et al.'s (2003), the decision to merge and delete certain constructs in the present study was based on both theoretical and statistical grounds. Specifically, social-approval has been suggested to be one form of social validation (i.e., social recognition, social acceptance) that is conceptually similar to an ego goal.

Social-approval goals reflect externally regulated behaviour (Deci & Ryan, 1985) and are related to perceptions of threat and negative affective consequences (Ryan, Hicks, & Midley, 1997). SAT could therefore be seen to be more reflective of an ego-orientation (Deci & Ryan, 1985) than a task orientation, providing one explanation for the high intercorrelation found. The only problem with endorsing this latter statement is that SAT goals do not outwardly contain a normative element which is a necessary aspect in the conceptualisation of ego goals (Nicholls, 1989). Therefore, although the theoretical distinction may be clear to many researchers, they evidently were not as clear to the present sample of exercise respondents. One further consideration for the lack of construct distinction was that past research has predominantly assessed goal orientations amongst younger samples of the population (i.e., adolescents to 25 year olds). Given the present findings, their relevance amongst adult populations remains unclear. Overall, these findings, and indeed those of Wilson et al. (2003) lend little if any support for social-approval goals as conceptualised by Harwood and colleagues.

After mergence of the factors and removal of the SAT factor, the main modifications of the 21-item two-factor task and ego goal model were predominantly as a result of shared method variance among items and involved the removal of four items from the task dimension and seven items from the ego dimension. For example, in the task dimension, item 7 (*I do my very best*) was similarly worded to item 4 (*I exercise to the best of my ability*) while item 6 (*I better my standards*) was similarly worded to item 2 (*I exercise to a level that reflects personal improvement*). Comparable wording arose due to the more focused conceptualisation of a task orientation (mastery, improvement) in contrast to previous conceptualisations (i.e., mastery, improvement, effort, learning) in such instruments as the TEOSQ and GOES.

Similarly, the removal of seven of the original 12 ego items was mostly due to

shared method variance. For example, item 17 (*I can prove to others that I have*

superior ability) and item 20 (*I can show others that I have greater ability than other*

exercisers) were redundant with item 13 (*I can show other exercisers that I'm better*

than anybody else). Another consideration for the removal of item 17 may be due to

the ambiguity of the word 'others'. Exercisers could have interpreted this as referring

to significant others (i.e., family, friends) rather than with other exercisers as

explicitly stated in retained ego items 12, 13, and 18. However, this remains a matter

of debate as item 15 (*I can prove to others that I'm the best*) was retained in the final

GOEM model.

The tests for invariance across gender resulted in a small sample size for

males. The scaled χ^2 difference tests revealed no significant decrements in model fit

at stage one and three of analysis, although in stage two the test just reached

significance. This was due to a difference in the correlation between the two factors

across males and females. However, in both cases the correlation was not

significantly greater than zero, indicating that the observed difference was in fact

trivial. Furthermore, the non-significant correlation between the task and ego scales is

in line with the theoretical conceptualisation of goal orientations as being orthogonal

(Nicholls, 1989). Thus the invariance tests and overall results support the factorial

validity of the measure of task and ego goal orientations in exercise domains for both

males and females.

Results further indicated that there was no difference between males and

females in task-orientation scores but males were significantly more ego-oriented

than females. This finding is consistent with past research in the sport domain (e.g.,

Petherick & Weigand, 2002; Roberts, Treasure, & Kavussanu, 1996; White &

Zellner, 1996) that has demonstrated that males are more concerned with winning and demonstrating ability than females (White & Zellner, 1996). The pattern of correlations between motivational indices of self-regulation, ability, threat, and task and ego-orientations were in alignment with theoretical predictions and previous findings (e.g., Ntoumanis, 2001; Petherick & Weigand, 2002) providing initial evidence for the construct validity of the two-factor GOEM. Task goals were significantly and positively related to more self-determined motivation while being significantly and negatively related to less self-determined motivation. Overall, these findings were as expected and largely supported the first hypothesis. However, one limitation of these findings is that no correction was made to the significance levels for the multiple correlations undertaken in this study. This will have increased the likelihood of a Type I error occurring. Given the sound theoretical perspectives on which the correlations were run, the author of this study would still expect significant findings even after correction. What they suggest is that when individuals endorse a task goal they experience their activity engagement as freely chosen, enjoyable, and an opportunity to improve (i.e., intrinsic regulation) and personally value their engagement (i.e., identified regulation). In this way the endorsement of a task goal facilitates more autonomous activity engagement which is theoretically conducive to positive affective experiences and behavioural persistence. However, the small but significant correlation found between task-orientation and introjected regulation was unexpected. This finding suggests that when exercisers endorse goals focused on personal improvement they can still experience a degree of internal pressure to engage in their activities. This would be in alignment with the theorising of Sheldon (2002) who suggested that goal pursuits in themselves can be experienced as controlling. If personal improvement is imperative to exercisers' overall well-being.

then a sense of guilt might arise if they also feel a lack of goal fulfilment.

In contrast, ego goals were found to be significantly and positively related to introjected regulation and external regulation but unrelated to more self-determined regulations and amotivation. These findings largely support the second hypothesis although the relationship between ego goals and amotivation was non-significant. This might have been expected as to endorse an ego-goal is to be motivated. When endorsing ego goals the focus of attention is on the anticipated outcomes of participation rather than on the activity itself (Nicholls, 1989). Making favourable comparisons with others and seeking social-approval and other expected outcomes will be experienced as controlling. Therefore, ego goals are more likely to undermine autonomy and be related to less self-determined types of motivation.

Although achievement goal theory has advanced researchers' and practitioners' understanding of individuals' motivation in various settings, its applicability among recreational and health-related exercisers has been a matter of debate (e.g., Duda, 1989; Roberts, 2001). The main issue has been whether task and ego goals are relevant to physical activity that is not expressed directly toward competition and the demonstration of physical skills. However, research has clearly demonstrated that recreational exercisers have been found to endorse motives that reflect personal improvement and competition (Duda & Tappe, 1988; Frederick & Ryan, 1995; Gill, Williams, Dowd, Beaudain, & Martin, 1996; Markland & Ingledew, 1997; Tappe, Duda, & Menges-Ehrnwald, 1990) which are that are clearly indicative of task and ego goals, respectively. In addition, social comparison (Festinger, 1954; Wood, 1989) and self-presentation theories (Conroy & Motl, 2003; Leary, 1992; Leary & Kowalski, 1990) provide further theoretical support for the existence of normative comparisons in domains other than sport. For example, social

comparison theory suggests that individuals are compelled to compare themselves with others in many life situations for varying reasons such as maintaining or acquiring optimistic beliefs about levels of competence (Lockwood & Kunda, 1997). Similarly, self-presentation involves processes by which individuals actively attempt to control the impressions others form of them, an inevitable process within social interactions. Both theories provide substance for naturally occurring normative comparison processes similar to those shown by highly ego-oriented individuals in sport.

Ego goals were further found to be significantly and positively related to ability and threat, providing further support for the GOEM's convergent and discriminant validity. These findings are in alignment with previous research in sport (e.g., Duda & Hall, 2001; Hall & Kerr, 1997) and suggest that the endorsement of comparison goals and the focus on ability results in higher levels of perceived threat due to normative comparisons. The items from the task and ego scales tapped distinct definitions of satisfying experiences in physical activity settings. Five items were reflective of personal improvement and five items tapped superior exercise ability compared to other exercisers. What this demonstrates is that similar processes exist in exercise directed toward physical activity and health as those in achievement sport domains.

The pattern of correlations between motivational indices of self-regulation and social physique anxiety further revealed significant and positive correlations with amotivation and extrinsic regulation. These findings suggest that apprehension over others negative evaluations are related to a lack of interest directed toward physical activity engagement. Similarly, when individuals are regulated by controlling motivation such as avoiding others disapproval, they are more likely to experience

elevated anxiety which could result in exercise withdrawal (Ryan & Deci, 2007).

Both forms of motivation stem from lack of need satisfaction (Deci & Ryan, 2000)

and hold potential health implications. The present findings further indicated

negative and significant positive correlations with identified and intrinsic regulation.

This suggests that exercising because one values the benefits of exercise or the

enjoyment derived from participation are not related to physique anxiety which can

undermine future intentions to participate (e.g., Wilson & Rogers, 2003).

Findings further revealed significant negative relationships between social

physique anxiety and task goals suggesting the unlikelihood of intrinsic motivational

processes in the development of exercisers' cognitive anxiety. While this might imply

a focus on more social comparative processes, the relationship between social

physique anxiety and ego goals was non-significant. What this might suggest is that

physique anxious exercisers would not feel satisfied in their activity investment if

comparing themselves to others. This seems plausible given the concerns they have

over others negatively evaluating them and their negative physical self-perceptions

(Thompson & Chad, 2001, 2002; Crocker et al., 2003). To downplay comparative

processes is to perhaps avoid the possibility of perceived failure.

The lack of support provided for social-approval task and ego goals suggests

that further investigation is required into the social processes influencing physique

anxious exercisers. In contrast, the significant positive correlation found between

social physique anxiety and threat is in alignment with current predictions and

suggests that physique anxious exercisers' interpretation of environmental aspects of

the exercise context exacerbates negative affective responses which in turn hold

implications for situational intervention strategies. However, more research is

required to ascertain specifically which aspects of exercise contexts are perceived as

threatening amongst physique anxious individuals before appropriate interventions might be implemented. The significant negative relationship found between social physique anxiety and perceived ability suggests that generally, physique anxious individuals did not rate their ability at physical activity or felt any good in their ability compared to other exercisers. This finding supports previous research findings (Katula et al., 1998; McAuley & Burman, 1993; Woodgate et al., 2003) and demonstrates the importance of assessing individual difference factors as contributors of anxiety (Lazarus, 1999). It further highlights the negative self-perceptions held by physique anxious exercisers which could impede exercise participation.

Although no specific hypotheses were made regarding the relationship between social physique anxiety and self-determined motivation it was interesting to find significant positive relationships with less self-determined motivation and significant negative relationships with more self-determined motivation. These correlations clearly suggest that physique anxious exercisers do not feel that their exercise investments will produce any desired outcomes (amotivation), feel under pressure from significant others to participate, and feel a sense of guilt when not participating. What is apparent amongst these physique anxious participants is that exercise participation is undertaken from a sense of external pressures and inner coercion. In this way the likelihood of continuing participation or more enjoyable exercise experiences is doubtful. However, although physique anxiety was related to less self-determined forms of regulation, the majority of respondents were experienced exercisers. This could suggest that activity investment through internal coercion might be enough to facilitate adherence but is not enough to overcome any experienced anxiety.

Before concluding there were limitations of the study. First, it could be

argued whether or not the GOEM subscales had sufficient content validity given the restricted conceptualisation of a task goal compared with previous conceptualisations (e.g., TEOSQ). However, the professional advice given by the panel of experts in the field suggests that the items adequately reflect the conceptualisation of the goal constructs and appear relevant for males and females participating in exercise domains. Second, although item 15 remains potentially ambiguous, what is required is a specific definition of the target of *others* or more importantly, an assessment of the relevance of certain significant others in exercise contexts. Finally, the item reduction strategy to improve model fit led to an increase in the number of parameters to be estimated relative to the number of observed variances-covariances in the data. Thus the final 2-factor model could have been overfitted to the data. More research is clearly required to determine the replicability of the factor structure of the GOEM and assess its construct and predictive validity.

Nevertheless the initial findings suggest that the GOEM may be useful for researchers and practitioners alike. Knowledge of the relevance of achievement goals amongst individuals engaging in activities not explicitly directed at competition could allow the application of interventions derived from other achievement domains. This will serve to broaden the current knowledge base of those interested in facilitating exercise adherence. Given the influence of goal orientations on individuals' cognitions, affect and behaviour in other achievement domains it seems appropriate to examine their impact in exercise contexts. The evidence presented here suggests that the GOEM could prove useful in this endeavour.

The present study also provides support for the hypothesis that social physique anxiety is related to perceptions of threat. Initial findings indicate that appraisal of environmental demands arise in part from a lack of experienced self-

determination as indicated in the present correlational findings. Physique anxious exercisers' pre-occupation with appearance-related issues detract from personal enjoyment which may have implications for long-term activity investment.

The present study however provided little support for social competence goals which added little to our understanding of the assessment of the antecedents of social physique anxiety. As this was one of the main purposes of the overall research in this thesis it was deemed appropriate to re-consider the conceptualisation of social goals. This will constitute the main purpose of Chapter Three in the present research.

CHAPTER THREE

SOCIAL PHYSIQUE ANXIETY: THE INFLUENCE OF GOALS AND PSYCHOLOGICAL NEED SATISFACTION

3.1 Introduction

Although achievement goals have received some attention in exercise domains (Kilpatrick et al., 1993) a lack of research investment regarding social goals serves to provide an incomplete perspective of the processes underpinning activity investment. In an attempt to address this limitation, study one in the current body of research made preliminary attempts to assess social competence goals in exercise settings by endorsing those conceptualised by Harwood and colleagues. However. little support was found in study one for their discriminant validity amongst exercise participants. The present study will therefore re-conceptualise social goals in an attempt to offer researchers a unique insight into the possible motivational antecedents of social physique anxiety. To ensure that any further assessment serves to enhance rather than hinder advances in research, careful consideration of alternative social goal conceptualisations underpinned by sound theoretical perspectives is warranted.

3.2 The Conceptualisation of Social Goals

One contributing factor that is likely to impede social goal assessment is the varying terms used to reflect them. For example, *social motives* have been recognised as one reason for individuals' exercise involvement (Markland & Ingledew, 1997) whilst the construct of *affiliation* has been identified as an important individual difference factor in explaining exercise participation amongst adults (Duda & Tappe, 1989; Frederick & Ryan, 1993; Gill, et al., 1996; Markland & Ingledew, 2007; Ingledew, Markland, & Medley, 1998; Ingledew & Sullivan, 2002; Markland, Ingledew, Hardy, & Grant, 1992; Ogles & Masters, 2000, 2003). Constructs *alluding*

to social goals such as *belonging* have further been assessed in exercise contexts among adults (Bailey & McLaren, 1995; Kilpatrick, Hebert, & Jacobsen, 2002) and youths (Allen, 2003, 2005; Ferrari & Turner, 2006) and is reflective of gaining others' approval or acceptance for the sake of belonging to some social group (Ford, 1992; Ford & Nichols, 1991). What is apparent is the various uses of similar terms sometimes deemed to reflect social goal involvement.

While such variations in terminology may not initially be problematic, their assessment could contribute to conceptual confusion amongst researchers unless underpinned by a sound theoretical stance. For example, the construct of relatedness refers to feeling a sense of security and connectedness with others in a specific social context. While this is similar to that of the goal of affiliation which refers to individuals feeling connected with others (Baumeister & Leary, 1995; Ryan, 1993), conceptually there are distinct differences. It is argued that interpersonal interactions that meet individual's psychological needs (one of which is the need for relatedness) are characterised by a sense of warmth and care from others (Kasser & Ryan, 1999). This need constitutes an innate universal propensity toward closeness to others and a desire for feelings of connection with others (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000). As such is not overtly concerned with the attainment of any outcome.

In contrast, the focus of an affiliation goal is on the development and maintenance of reciprocal relationships with others (Allen, 2003, 2005; Lewthwaite & Piparo, 1993) which can be attained through perceived frequency or amount of interpersonal interactions. Therefore the main distinction between the two constructs is that satisfaction of the innate need for relatedness is an essential nutriment for health and well-being. In contrast, the goal of affiliation is focused on the acquisition of social goals which does not necessarily ensure psychological well-being (Ryan,

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Sheldon, et al.. 1996).

To ensure conceptual clarity of social goal assessment in the present study, the construct of relatedness will be considered as it is derived from the sound theoretical perspectives of self-determination theory (Deci & Ryan, 1985, 2000). Given the negative affect experienced by physique anxious individuals and their concerns over others' negative evaluations it could be expected that a perceived lack of satisfaction of the need for relatedness is one contributory factor in the development of social physique anxiety. To determine the relevance of relatedness amongst adult exercisers in physical activity settings, research findings pertaining to attachment experiences (conceptually similar to relatedness; Bowlby, 1982) will be considered.

3.3 Relationship of Attachment to Well-Being

Developmental theorists (Bowlby, 1982; Bretherton, 1990) have suggested that early attachment experiences derived primarily from childhood care-giving interactions are believed to influence future interactions with others outside of the family environment into adulthood (Baldwin, 1992; Bretherton, 1990). While some researchers have argued that individuals tend only to have true attachment relations with proximal others such as parents or romantic partners others have found support for attachments with more distal relations such as friends (Trinke & Bartholomew, 1997). As such, early attachment relationships are expected to influence individuals' subsequent emotional and behavioural responses to different people in various situations (Ryan, Stiller, & Lynch, 1994). Furthermore, secure attachments tend to result in consequent competencies and more sociable orientations such as exploration, curiosity, perceived control, affirmations of worth and personal efficacy (Baldwin, Keelan, Fehr, Enns & Koh-Rangarajoo, 1996; Bowlby, 1982; Bretherton, 1987, Ryan, et al., 1994; Niemiec, Lynch, et al., 2006).

In adults, close relations with significant others have been found to be predictive of adaptive emotional regulation (Thompson, 1999) in the form of positive beliefs about themselves and other individuals (Bartholomew & Horowitz, 1991) and less emotional distress and negative affect (Simpson, 1990). With regards to interpersonal functioning, those who perceive a sense of relatedness tend to have a sense of overall trust, commitment, and satisfaction (Mikulincer, 1998; Shaver & Hazan, 1993) within their lives. Evidence for the positive benefits of a sense of relatedness among adults is considered to be a general resilience factor across the life span (Mikuliner & Florian, 1998) and as such is a vital factor influencing well-being. In contrast, those adults who lack a sense of relatedness have been found to display more emotional distress and negative affect (Simpson, 1990) such as holding insecure personal views (Bartholomew & Horowitz, 1991; Collins, 1996; Pietromonaco & Feldman Barrett, 1997), experiencing more perceived threat to self-worth than securely attached individuals (Pietromonaco & Feldman Barrett, 1997), and relying on others for self-validation (Mikulincer, 1998; Mikulincer, Orbach, & Iavnieli, 1998).

What these studies highlight is the importance of satisfaction of the need for relatedness in the development and maintenance of individuals' overall sense of well-being in social interactions. What they further suggest is that physique anxious individuals could be said to display a lack of perceived relatedness with other exercisers in potentially evaluative situations such as exercise domains. This seems feasible given that various types of social relationships other than true attachment figures have been identified as important sources of individuals' affective and behavioural responses (Argyle, Henderson, Bond, Lizuka, & Contarello, 1986; La Guardia, et al., 2000).

The current societal pressures in today's society for individuals to lead a more

active and healthier lifestyle (Maltby, Giles, Barber, McCutcheon, 2005) could

reinforce a lack of perceived relatedness amongst sedentary individuals and / or those

contemplating exercise initiation and regular exercisers. Similarly, physique anxious

individuals may perceive a lack of experienced relatedness due to their pre-occupation

with self-presentational body image (Hart et al., 1989) and concerns over others'

approval (Leary & Kowalski, 1995). One means of overcoming self-presentational

doubts and a lack of perceived relatedness could be to endorse exercise goals that are

believed to be important to other exercisers. This in turn might lead to a sense of

connectedness with others and satisfy physique anxious exercisers need for

relatedness. While there is no known research to date that has directly tested this

proposition in relation to social physique anxiety and recreational and health-related

exercise contexts, there is evidence in sport domains that attests to the endorsement of

goals in this way.

3.4 Goal Endorsement as Antecedents of Psychological Need Satisfaction

Research assessing peer relations and friendships in sport have found that

physical competence contributes to gaining a sense of social status, coolness,

popularity, and social acceptance amongst children and adolescents (e.g., Adler,

Kless, & Adler, 1992; Biddle, Wang, Kavussanu, & Spray, 2003; Chase & Dummer,

1992; Evans & Roberts, 1987). Furthermore, perceived relations with others in the

same activity context have been found to be predictive of greater physical activity

interest, commitment, and a more intrinsic motivational orientation (Allen, 2005).

What this suggests is that satisfaction of the need for relatedness is important amongst

youths and is thought to be acquired through the demonstration of something of value

to others such as one's ability. Although the notion of popularity and friendship

arguably represent different types of interaction (Moran & Weiss. 2006) with the former more likely to be short-lived than the latter. it follows that differing affective consequences (e.g., social physique anxiety) will be experienced when the endorsement of certain goals are used to acquire a sense of relatedness.

3. 5 The Predominance of Two Social Goal Perspectives

One social goal that has consistently emerged in the academic and physical activity literature among children and adolescents is the goal of *affiliation* (e.g.. Anderman, 1999; Anderman & Anderman, 1999; Ryan, Hicks, & Midgley. 1997: Weiss & Chaumeton, 1992). As previously stated, the main focus of this goal is on the development and maintenance of reciprocal relationships with others (Allen, 2003, 2005; Lewthwaite & Piparo, 1993). Those adopting this goal orientation are likely to engage in activities to socialise and develop relations with similar others and experience positive affective consequences from their interactions (Stunt & Weiss, 2002). It therefore seems unlikely that physique anxious individuals endorse similar goals due to their reported lack of positive affective consequences.

In contrast, the second goal places an emphasis on personal social *validation*. Validation is reflected in goals such as social-approval (Maehr & Nicholls, 1980; Whitehead, 1995), social status (Anderman. 1999; Anderman & Anderman, 1999: Papaioannou, Ampatzoglou, Kalogiannis, & Sagovits, 2007; Passer. 1982; Rubin et al.. 1998; Ryan et al.. 1997), and social acceptance (Evans & Roberts, 1987: Lewthwaite & Piparo, 1993; Rubin et al., 1998: Stuntz & Weiss, 2002) and can be obtained through recognition from others such as one's peers (Moran & Weiss, 2006). Endorsement of this goal yields an outward-oriented focus towards the potential gains to be acquired from activity participation. In this way. individuals will likely only feel satisfied with activity participation when they have gained others' approval. As a

result of the heightened self-focused attention prompted by others' evaluations and concerns about others' judgements of personal ability (Roeser. et al.. 1996; Ryan et al.. 1997), social validation has been found to be most related to negative affective consequences (Anderman, 1999; Roeser et al.. 1996; Ryan et al.. 1997) and is more indicative of the types of goals that physique anxious individuals would endorse.

3.6 Measuring and Conceptualising Social Goals

Although some attempt has been made to systematically assess social goals (e.g., Ewing, 1981), concerns have been expressed over the lack of consistent findings regarding the factor structure of measures (Vealey & Campbell, 1988; Weiss & Chaumeton, 1992; Whitehead, 1995) and their discriminant validity with ability goals (Vealey & Campbell, 1988). For example, educational research findings have demonstrated that the constructs of social-approval and ego-oriented goals appear to be highly correlated (Nicholls, Cobb, Wood, Yackel, & Patashnick, 1990). In contrast, social goals (e.g., peer acceptance, friendship, coach approval) and task and ego goals have been found to be conceptually distinct constructs (e.g., Stuntz & Weiss, 2003). In an attempt to address previous weaknesses and develop a more theoretical and psychometrically sound measurement instrument the Social Motivational Orientations in Sport Scale was developed (SMOSS; Allen, 2003, 2005).

This measure sought to assess the predominance of two social goal perspectives, social affiliation and social validation. Results of initial exploratory factor analytic procedures revealed that in contrast to the initial hypothesised two-factor social goal structure was a *three* factor social goal solution: social affiliation, social status (i.e., popularity amongst peers), and social recognition (i.e., recognition for one's physical ability; Allen, 2003). Additional findings of a follow-up study (Allen, 2005) revealed further evidence for the three-factor social motivation solution

using confirmatory factor analytic procedures. However. the three social goals were all found to be positively related to interest suggesting a possible lack of discriminant validity. Given the problematic nature of social goal conceptualisation and measurement issues, it is likely that further research assessment based on sound theoretical underpinnings might clarify the preliminary relationships found. For example, it might be that each of the three social goals varies in degrees of experienced autonomy. Therefore to dismiss them at this stage might be premature. Overall, what these findings do highlight is first, the motivational significance of two predominant social goal perspectives (affiliation, validation) in achievement domains. and second, the social gains that could be acquired through the endorsement of certain goals.

3. 7 Goal Pursuits, Relatedness, and Physical Activity Domains

While physical activity is often promoted as a means of maintaining or acquiring positive health outcomes (Department of Health. 2004), many exercisers have been known to participate for various reasons other than ill-health-avoidance including (amongst others): affiliation, challenge, competition. recognition, and appearance-related concerns (e.g., Kasser & Ryan, 1996; Markland & Ingledew. 1997; Vansteenkiste. Lens, & Deci, 2006). Given the theoretical distinctions identified between affiliation and validation goals (e.g., Allen, 2005: Anderman. 1999; Deci & Ryan, 2000) and the applicability of such goals amongst adult exercisers (e.g., Markland & Hardy, 1993; Markland & Ingledew. 1997) it seems reasonable to suggest that endorsement of similar goals by physique anxious exercisers might lead to a sense of perceived experienced relatedness. However. as goal endorsement amongst physique anxious individuals has not yet been assessed in exercise domains. an accurate sequence of the relationships leading to negative affect

still remains unclear. Self-determination theory allows more precise predictions as it concerns the quality of the experience of motivated behaviour (Markland & Ingledew. 2007).

3.8 Self-Determination Theory, Goals, and Social Physique Anxiety

Self-determination theory clearly attests to the problematic nature of pursuing visible indicators of self-worth such as validation goals (status, recognition. ego: Deci & Ryan, 2000; Kasser & Ryan, 1996; Kasser. Ryan, Couchman. & Sheldon. 2004; Vansteenkiste, Matos, Lens, & Soensens, 2007: Williams. et al., 2000). A pre-occupation with the attainment of extrinsic goals such as these is reflective of a need to acquire external signs of personal self-worth. In this way individuals may perceive one means of attaining need fulfilment but in contrast will inadvertently be perpetuating a lack of need satisfaction (Deci & Ryan, 2000) as the pursuit of extrinsic goals will only serve as need substitutes (Deci, 1980).

In contrast, intrinsic goals that orient individuals' efforts toward realising their natural inherent growth tendencies, such as affiliation or task goals, are more likely to be conducive toward the satisfaction of the three basic psychological needs (Deci & Ryan, 2000: Ryan, Sheldon, Kasser, & Deci. 1996; Sheldon, Elliot, Kim, & Kasser. 2001; Vansteenkiste, Lens, & Deci, 2006). These goals are gratifying in their own right and are likely to facilitate the experience of autonomy, competence, and relatedness (Ryan, et al., 1996: Vansteenkiste, et al., 2006) resulting in overall satisfaction and well-being (Deci & Ryan, 2000).

Research findings support this proposition having found that more importance placed on extrinsic goals leads to higher levels of anxiety and lower levels of life satisfaction than those of intrinsic goals (e.g.. Hagger. Chatzisarantis. Barkoukis. Wang. & Baranowski. 2005: Kasser & Ryan. 1996: Vansteenkiste et al.. 2007).

Similarly, perceived psychological threat to personal worth orients individuals toward extrinsic goal strivings such as image and popularity (e.g.. Kasser, Koestner, Lekes, 2002) rather than toward goals such as personal growth.

In sum, goals directed towards mastery and affiliation will be more likely to satisfy individuals' three basic needs than goals directed toward validation and others' approval. However, while the goal of affiliation could be interpreted similarly to the need for relatedness, it can also be instrumental in acquiring a sense of fitting-in with others in the exercise environment. As long as this potentially extrinsic goal does not become an external indicator of personal worth then it would still facilitate need satisfaction. The endorsement of goals in this way may be instrumental in arousing anxiety amongst physique anxious exercisers and remains to be assessed. What remain unclear are the implications of these different goals for need satisfaction over time and subsequent future exercise intentions.

3.9 Long-Term Need Satisfaction and Intentions to Exercise

Given the significant role that physical activity plays in improving public health (Sallis & McKenzie, 1991) it is important to understand the constructs underpinning future exercise intentions. Intentions to engage in an activity could be seen to be an adaptive behavioural outcome that is more likely to arise if individual's basic needs in a specific context are met (Vallerand, 1997, 2001). These needs are more likely to arise from endorsing more intrinsic-oriented goals relative to extrinsic goals. This is because a focus on mastery, learning, and affiliation are more closely related to need satisfaction and more enjoyment and personal values (Deci & Ryan, 2000; Vansteenkiste, Simons, & Lens, Sheldon, Deci, 2004) than extrinsic goals. However, extrinsic goals are arguably motivational for many individuals (Vansteenkiste, Simons, Lens, Soenens, Matos, & Lacante, 2004) as they are

instrumental in achieving some desirable outcome. In contrast to intrinsic goals, they have been found to lead to limited activity persistence due to a lack of need fulfilment (Vansteenkiste et al, 2004). Furthermore, activity engagement is more likely to be perceived as anxiety-inducing as individuals' self-worth underpins activity investment (Deci & Ryan, 1995; Kernis, 2003). Therefore, while validation goals could prompt initial motivation and exercise persistence, it is more likely that they would diminish basic need satisfaction over time. It is important to emphasise that all three needs must be satisfied for continued psychological growth (Deci & Ryan, 2000). It is for this reason that in addition to the assessment of relatedness, the present study will further assess the satisfaction of the needs for competence and autonomy and their influence on physique anxiety and exercise intention.

3.10 Proposed Model

The main purpose of the present study was to extend the research findings in Chapter Two in an attempt to assess whether exercisers' endorsement of competence goals and social goals influenced social physique anxiety and exercise intention through the mediational role of competence, autonomy, and relatedness. Additionally, the ability of goals to predict need satisfaction, social physique anxiety, and exercise intention longitudinally will be considered. Goal orientations are said to reflect dispositional tendencies (Nicholls, 1989) which are relatively enduring and not easily amenable to change. Therefore, data collection of individuals' basic needs, social physique anxiety, and exercise intention alone will take place at a second time point (T2), three months from receipt of the first completed questionnaires.

The hypothesised relations in the model follow from previous empirical research in education, sport (e.g., Allen, 2003, 2005; Maehr, 1991; Midgley et al., 1995; Standage et al., 2003) and exercise settings (Vansteekiste et al., 2004). First,

affiliation goals are focused on the development and maintenance of relationships and as such are reflective of an intrinsic orientation which is more likely to facilitate well-being as a result of need satisfaction (e.g., Allen, 2003, 2005; Deci & Ryan, 2000; Stuntz & Weiss, 2004). However, a need to maintain friendships can also be perceived as controlling (Sheldon, 2002) which is more likely to arise amongst physique anxious individuals who are in need of others' approval. Therefore it was first hypothesised that the endorsement of an affiliation goal (Time 1; T1) would be positively associated with relatedness (T2) and negatively associated with autonomy (T2). Second, as status and recognition goals have been identified as forms of validation goals (Allen, 2003, 2005) and therefore linked with others' approval, perceived threat, and negative affective consequences (e.g., Anderman, 1999; Rubin et al., 1998; Moran & Weiss, 2006; Ryan et al., 1996) it was hypothesised that they would both (T1) be negatively associated with competence (T2), autonomy (T2), and relatedness (T2). Third, as task goals are focused on the development of competence and personal improvement which is more likely to result in need satisfaction, it was hypothesised that task goals (T1) would be positively associated with competence (T2), autonomy (T2), and relatedness (T2). In contrast, the main focus of ego goals is on the attainment of extrinsic factors which is less likely to meet one's basic needs. Therefore, it was hypothesised that fourth, ego goals (T1) would be negatively associated with autonomy (T2) and relatedness (T2). Fifth, it was hypothesised that competence, autonomy, and relatedness would be negatively associated with social physique anxiety. The association of goals (T1) with social physique anxiety (T2) and exercise intention (T2) was also hypothesised to be mediated by need satisfaction (see Figure 1 below for hypothesised relations amongst variables). Assessing mediators of the relationship between goals and anxiety is important for exercise

practitioners. The mediators could be targeted with appropriate interventions rather than attempting to alter goal endorsement which might be less amenable to change. Furthermore, the direct effects of goals on social physique anxiety will be assessed. As ego goals have consistently emerged as being potentially anxiety-provoking (Cumming, Hall, Harwood, & Gammage, 2002) they were expected to positively directly influence social physique anxiety. In contrast both affiliation and task goals are more likely to meet individuals' basic needs due to their inherently satisfying nature (Deci & Ryan, 2000). However, as affiliation may be more of a concern amongst physique anxious individuals its effect was expected to be positive while the effect of the intrinsic nature of task goals on physique anxiety was expected to be negative.

3.11 METHOD

3.11.1 Participants and Procedures

Questionnaires (see Appendix F), together with a letter explaining that the research assessed exercise motivation and also requiring an informed consent form, were individually administered by the researcher to health club managers for review or were sent online to organisational Human Resources department managers previously contacted by telephone. Agreed access from health club managers resulted in the researcher individually distributing questionnaires to health club members after physical activity sessions. Each was briefly informed of the purpose of the study and that the questionnaire would take 15 minutes to complete and would be answered anonymously. Participants were also told that if they were willing, additional information would be gathered three months from receipt of the first questionnaire. Therefore identification numbers would be placed on initial questionnaires in which postal address details may be disclosed. Written consent was obtained, and the

respondents completed the questionnaires and returned them directly to the researcher.

Similarly, organisational department managers were briefed on the study details (as above). Agreed access resulted in the managers distributing initial study details via email to all company employees stating the purpose of the study and a request for voluntary participation along with a website address where voluntary online access to the study questionnaire could be gained. The merits of online data collection are that it allows the researcher to have a wider access to a diverse sample of participants and that data responses are usually within 2 to 3 days (Harris, 1977). Initial contact from management assured employees that any communication received from the researcher was not unsolicited communication. On access to the website address (piloted amongst academic colleagues), participants were re-informed of the purpose of the study and that their participation was voluntary, and responses would remain confidential. Informed consent was obtained by asking participants to print their name on the online form. The questionnaire then provided participants with some background information of the study along with a rationale and further assurance of the confidentiality of their responses. Participants could then complete the questionnaire by clicking on their chosen response box where a cross would automatically be inserted. Participants were informed that the questionnaires would take approximately 15 minutes to complete. Once completed the questionnaire could be returned online, directly to the researcher. Returned online data was formatted into an Excel spreadsheet and transferred in the same way as returned paper questionnaires into the SPSS statistical package (Version 9).

Figure 1. Hypothesised relationships between variables.
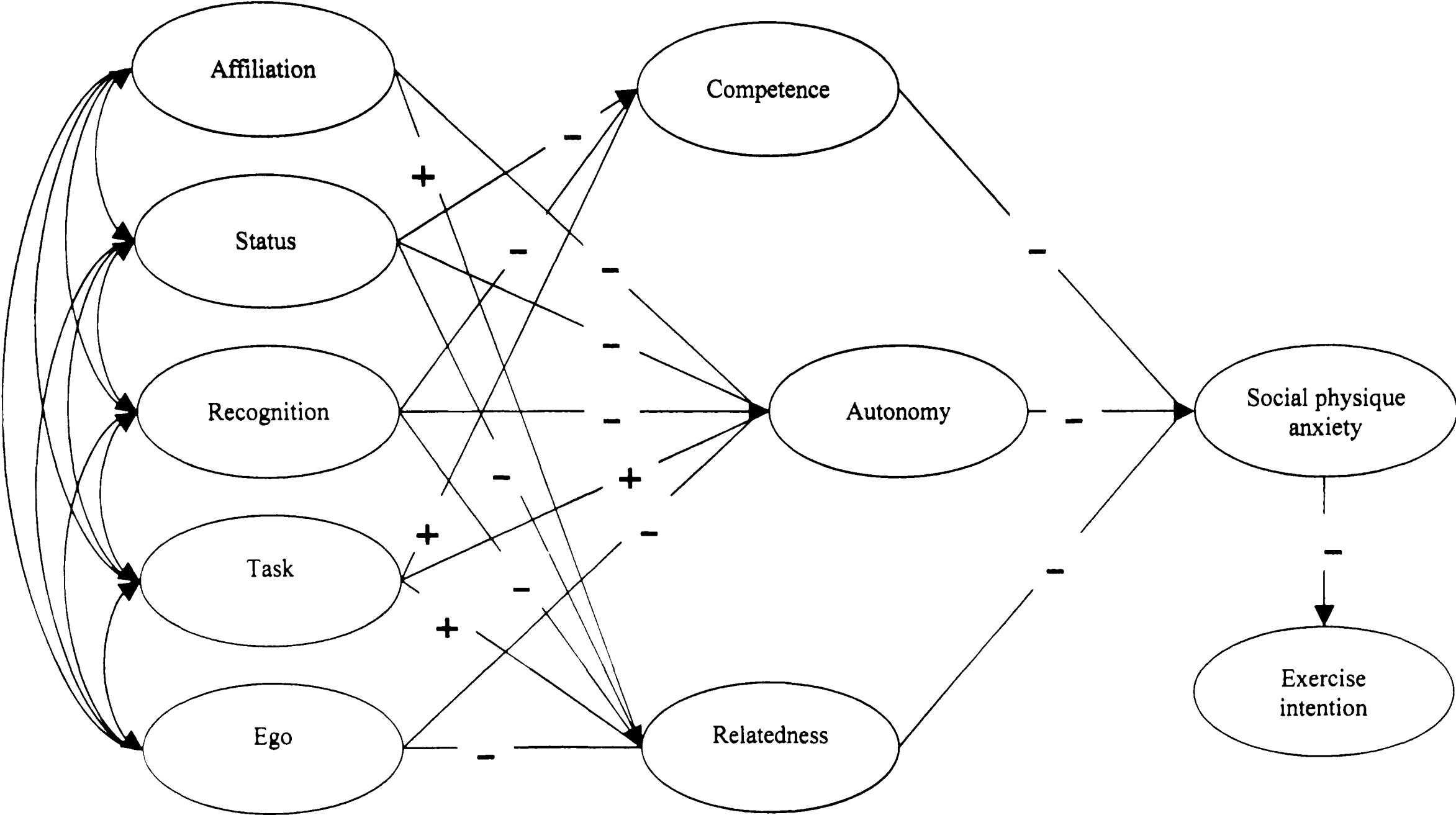
Footnote: + denotes a positive influence, - denotes a negative influence

All received on-line questionnaires were provided with identification numbers in order that the researcher could distribute the second questionnaire to the relevant email address, three months from receipt of the first. Written consent was obtained, and the respondents and completed questionnaires at T2 were also returned directly to the researcher.

Data were returned from 420 participants (T1) from four physical activity venues (one private health club, three public aerobic dance venues; n = 145) and two organisational work settings (n = 275) in Southeast England. Upon initial analysis, 10 data sets were removed due to missing data or incorrect responding (e.g., two responses per item) within them. This left a sample of 410; 192 males (*mean* age 37.7, *SD* = 9.5; 6 non-specified) and 203 females (*mean* age 37.9, *SD* = 10.1; 9 non-specified).

The majority of participants (n = 156; 75 males, 81 females) reported exercising at least 2-3 times each week. Nineteen (7 males, 12 females) reported that they never exercised, twenty three (16 males, 7 females) reported that they exercised less than once a month, twenty two (14 males, 8 females) exercised once a month, eighty nine (41 males, 47 females) exercised once a week, eighty eight (37 males, 50 females) exercised 4-6 times a week and twelve (8 males, 4 females) exercised seven days a week. The majority of participants (56 male, 64 female) reported exercising at least two to three hours per week to the point where they were breathless or sweaty while forty-two (21 males, 21 females) participants did not exercise to the point of breathlessness. In addition, thirty four participants (20 males, 14 females) reported exercising half an hour per week to the point of breathlessness, eighty-three participants (39 males, 44 females) exercised an hour per week to the point of breathlessness, ninety-five (44 males, 51 females) participants exercised at least four

to six hours per week while thirty two (17 males, 15 females) participants reported exercising seven hours or more per week to the point of breathlessness. Three participants (2 male, 1 female) left such details unspecified. Overall mean body mass index (BMI) for males and females was 26.9 (SD = 4.4) and 24.9 (SD = 4.2), respectively. 200 participants (males = 117, females = 81; 2 gender unspecified) were considered to be above the healthy BMI (20 – 24; British Heart Foundation, 2006).

At time two (T2) data were returned from 212 participants. However, twelve questionnaires were discarded due to incomplete responses resulting in a sample of 200 participants (101 females, 99 males; 99 females, mean age = 37.41 years, SD = 10.19; 97 males, mean age = 39.8 years, SD = 8.52). Eighty three participants (39 males, 44 females) reported exercising at least 2-3 times each week. Seven reported that they never exercised (3 males, 4 females), nine reported that they exercised less than once a month (5 males, 4 females), thirteen exercised once a month (9 males, 4 females), fifty two exercised once a week (28 males, 24 females), while thirty two exercised 4-6 times a week (13 males, 19 females) and four exercised seven days a week (3 males, 1 females). Thirty-eight male and 33 female participants reported exercising at least 2-3 hours a week. Sixteen (7 males, 9 females) reported that they did not exercise to the point where they got out of breath or sweated, fourteen (11 males, 3 females) exercised about half an hour, thirty eight (16 males, 22 females) exercised about an hour, fifty-two (25 males, 27 females) reported exercising at least 4-6 hours, eight (3 males, 5 females) reported exercising seven hours or more. One female participant did not report the number of hours per week exercised.

Overall the mean BMI for males and females (n = 190) was 26.2 (SD = 4.9) with males (n = 96) having a mean BMI of 27.4 (SD = 5.0) and females (n = 94) a mean of 24.9 (SD = 4.4). As a healthy BMI is considered to be 20 – 24 (British Heart

Foundation, 2006); of the present sample, 118 participants were considered to be above the *healthy* mass index. For responses to exercise intention only 76 valid responses were returned with 124 participants having incorrectly indicated more than one response (when only one was required) out of a possible three. Exercise intention was subsequently removed from further analysis.

3.12 Measures

3.12.1 Exercise Participation. Two questions were taken from a pan-European World Health Organisation survey (Wold, Aaro, & Smith, 1994). The first question referred to exercise frequency and asked '*How many times a week do you usually exercise in your free time so much that you get out of breath or sweat: never, less than once a month, once a month, once a week, 2-3 time a week, 4-6 times a week, every day*? The second question referred to length of exercise sessions and asked '*How many hours a week do you usually exercise in your free time so much that you get out of breath or sweat?*': *none, about half an hour, about 1 hour, about 2-3 hours, about 4-6 hours, 7 hours or more*?

3.12.2 Social Physique Anxiety Scale (Hart et al., 1989). This scale was origninally developed as a 12-item trait measure of self-presentational anxiety relating to the physique. However, consistently problematic items have lead researchers to suggest the modification of this scale and the use of either a nine-item (Martin, et al., 1997) or seven-item version (Motl & Conroy, 2001). For example, item one (*I am comfortable with the appearance of my physique)* has been shown to lack relevance for certain populations (McAuley & Burman, 1993); item two (*I would never wear clothes that might make me look too thin or overweight)* and item five (*when I look in the mirror I feel good about my physique)* lacks a socially-evaluative component (Martin et al., 1997); item 11 (*I usually feel relaxed when it is obvious that others are*

looking at my physique) appears redundant with item 8 (*I am comfortable with how my body appears to others*) while item 12 (*when in a bathing suit, I often feel nervous about the shape of my body*) was deemed more relevant for females than males (Motl & Conroy, 2001).

Based on conceptual and statistical arguments over the social physique anxiety scale, the present study assessed the factor structure of the 12-item, 9-item, and 7-item scale using confirmatory factor analytic procedures. Results indicated a poor fit of the 12-item (SB scaled χ^2 = 391.97, df = 54, p = .00, RMSEA = .13, 90% CI RMSEA = .12 - .14, p value RMSEA = .00, CFI = .94, SRMR = .07) and 9-item (SB scaled χ^2 = 169.24, df = 27, p = .00, RMSEA = .16, 90% CI RMSEA = .10 - .13, p value RMSEA = .00, CFI = .95, SRMR = .06) models to the data. However, there was an excellent fit of the seven-item model to the data (SB scaled χ^2 = 4.53, df = 6, p = .61, RMSEA = .00, 90% CI RMSEA = .00 - .08, p value RMSEA = .82, CFI = 1.0, SRMR = .01) providing support for the utility of this model in the present study. Cronbach's alpha for this measure was .88.

3.12.3 Social Motivational Variables. The fourteen items used to assess social goals (see Table 4 below) were adapted from an existing measure (Allen, 2003) developed to assess three social motivational orientations in physical activity contexts. *Social affiliation* was conceptualised as reflective of individuals' need to develop or maintain satisfying relationships with others in the same social setting. *Social status* reflected individuals' need to be part of the 'in-crowd' and *social recognition* reflected individuals' need to gain recognition from others and impress others through their ability. The item stem was worded to encompass both sedentary individuals and current exercisers by referring to the extent to which participants in exercise domains "would feel / currently feel that things go well when..." In the present study, six

items reflected the construct of *affiliation* (e.g., Item 3, "I make friends from my activity involvement"), four items reflected *status* (e.g., Item 7, "I am the centre of attention"), and four items reflected *recognition* (e.g., Item 1, "Other exercisers tell me I have performed well"). Cronbach's alphas for the goals were .72, .72, and .80 for affiliation, status, and recognition, respectively. Responses to the social motivational orientations were scored on a 5-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

3.12.4 Goal Orientations in Exercise Measure. The 10-items for this two-factor goal orientation measure were derived from Chapter Two in the present research. The task construct referred to individuals who defined competence in terms of self-referenced performance including personal improvement and mastery (e.g., Item 5, "I make progress"). The ego construct referred to individuals who defined competence in terms of having made favourable comparisons with others or having demonstrated superior physical competence to other exercisers (e.g., Item 9, "I can prove to others that I'm the best"). Items referred to the extent to which individuals would feel / currently feel that things go well when exercising. Responses to the GOEM were recorded on a 5-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). In the present study, Cronbach's alpha for the task and ego dimensions were .84 and .80, respectively.

3.12.5 Competence. Perceived competence was assessed with three items adapted for exercisers based upon the work of Eccles and Harold (1991). This measure required participants to rate how good they thought they were at physical activity, compared with others, and compared with other exercisers of a similar age (e.g., compared with others your age, how good are you at physical activity?). Responses to each item were made on a 7-point Likert-type scale that ranged from 1

(Very Poor) to 7 (Excellent). Internal consistency for this instrument has been shown to be .89 (Hall et al., 1998). In the present study. Cronbach's alpha for the competence dimension was .92.

3.12.6 Autonomy (Locus of Causality for Exercise Scale. LCE: Markland. 1999; Markland & Hardy, 1997). Three items assess the extent to which individuals exercise out of choice rather than because they feel they have to exercise. Responses to the LCE are scored on a 7-point Likert-type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Items are scored by reversing items two and three and then calculating the mean for the three items. The LCE has been shown to have good reliability; .83 and .84 (Markland & Hardy, 1997). In the present study, Cronbach's alpha for the autonomy dimension was .83.

3.12.7 Relatedness. An initial pool of fifteen items (see Table 5 below) was derived and adapted from theoretical definition and from the Basic Psychological Needs Scale (BPNS; Rochester University) relatedness dimension. The need for relatedness in the BPNS is assessed in two different domains, life in general and the workplace. In the present study items referred to the extent to which participants "would likely feel / currently feel" a sense of relatedness in exercise situations (e.g.. item 11 "that I get along with others at my activity club"). Responses were scored on a 7-point Likert-type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Items 1, 3. 4. 6. 9, 12. 14. and 15 were reversed so that higher scores on items indicated higher levels of relatedness. In the present study, Cronbach's alpha for the autonomy dimension was .64.

Table 4. Social motivational variables

Stem: 'I would feel / currently feel that things go well in my exercise routine when...'

Affiliation

1. I make friends from my activity involvement

2. My exercise colleagues and I have a laugh together

3. I make new friends who I socialise with outside my activity

4. I have fun with others in my club

5. Spending time with the other exercisers is enjoyable

6. I become friends with some of the others in my activity club

Status

7. I belong to the popular crowd at the activity / leisure club

8. I am the centre of attention

9. I am part of the "in crowd"

10. I am one of the more popular exercisers

Recognition

11. Others tell me I have performed well

12. Other exercisers think I'm really good at my activity

13. I receive recognition from other exercisers for my exercise accomplishments

14. Others are impressed by my exercise ability

3.12.8 Exercise Intention. The three items for this measure were based on previous theoretical issues associated with behavioural intention (Dawson, Brawley, & Maddux, 2000; Godin, 1993). The three statements concerned individuals' intentions to exercise either once, twice, or three times a week for the next 3 months (e.g., Item 1, "I intend to participate in physical activity at least once a week for the

next 3 months"). Participants then indicated the extent of their agreement with one of the three items on an agreement scale ranging from 1 (<u>Low Agreement</u>) to 9 (<u>Strong Agreement</u>). The agreement rating reflected the strength of the individuals' intention to complete the indicated exercise frequency.

Table 5. Relatedness items

Stem: 'In exercise situations, I would likely feel / I currently feel...'
1. Isolated when I exercise
2. Supported by other exercisers
3. Out of place when I exercise
4. That I don't fit in when I exercise
5. Accepted by other exercisers
6. Lonely when I exercise
7. Like I belong there
8. That others are interested in me
9. Different from everyone else
10. That I really like the others I exercise with
11. That I get along with others at my activity club
12. That the others I exercise with do not seem to like me much
13. That the others at my activity club are pretty friendly towards me
14. Like I don't belong
15. Very different from most of the other exercisers

3.13 Analytical Strategy

The data were analysed by structural equation modelling with latent variables

using LISREL 8.72. Model fit was assessed through the χ^2 likelihood ratio test statistic and examination of several goodness-of-fit indices. The distribution of the variables violated the assumption of multivariate normality and so the maximum likelihood method of estimation was used along with the Satorra-Bentler scaled χ^2 (Satorra and Bentler, 2001) which corrects for non-normality and produces more trustworthy standard errors of the estimates (Chou & Bentler, 1995). The Satorra-Bentler scaled χ^2 test statistic tests the null hypothesis that the observed and model-implied covariance matrices are not significantly different therefore a good fit is indicated by a non-significant χ^2. This was complemented with the root mean square error of approximation (RMSEA; Steiger, 1990) and its associated 90% confidence interval (CI), the comparative fit index (CFI; Bentler, 1990), and the standardized root mean square residual (SRMR). Endorsing Hu and Bentler's recommendations (1999), the criteria for evaluation of fit included a non-significant chi-square, CFI $\geq$ .96, SRMSR $\leq$ .08, and RMSEA $\leq$ .06. To ensure thorough testing of the measurement properties of the models prior to assessment of their structural relationships a sequential approach to model testing is advised (Anderson & Gerbing, 1988; Jöreskog, 1993).

This approach first tested separate single-factor models for four (affiliation, status, recognition, relatedness) of the ten variables of interest in order to identify potentially factorially ambiguous items. Such items were iteratively eliminated and the models re-specified and tested. Once the final set of items for each model had been identified. Cronbach's alpha reliability coefficient (Cronbach, 1951) was calculated for each of the subscales as a measure of internal consistency. Next, a three-factor social goal model (affiliation, status, recognition), a two-factor social goal model that combined both the status items and recognition items to reflect a single

construct *validation* (affiliation, validation), and a three-factor psychological needs model (competence, autonomy, relatedness) were further tested to identify factorially ambiguous items. Global fit was assessed and standardised residuals and modification indices that indicated a potential improvement in fit if items were allowed to load on non-intended factors were examined. These items were iteratively removed and the models re-specified and tested until their fit was acceptable with no remaining indications for further improvement.

Having established the adequacy of the separate measurement models the structural model was tested. However, the structural model could not be tested as latent variable models with all of the items included, due to the relatively small sample size (Marsh, Richards, Johnson, Roche, & Tremayne, 1994) compared to the number of parameters to be estimated. Rather, parcels were computed by taking the mean of subsets of the items for each latent variable to produce two parcels for each of the latent variables. The advantages of parcelling with small sample sizes is that they increase the stability of parameter estimates (Bandalos & Finney, 2001). In addition, if items are not normally distributed, the combination of the items into parcels may overcome non-normality (West, Finch, & Curran, 1995).

The structural model was then run which tested the indirect effects from each of the goals on their hypothesised corresponding needs which in turn had a direct effect on social physique anxiety and exercise intention. In addition, the direct effects of goals on social physique anxiety were assessed.

3.14 RESULTS

3.14.1 Single Factor Models

Fit statistics for the initial six-item affiliation model were good although the RMSEA was large (>.06) and the χ^2 was significant (SB scaled $\chi^2 = 50.12$, df $= 9$, $p =$

.02). Factor loadings ranged from moderate to moderately strong (.40 to .70) and Cronbach's alpha for the scale was .64.

3.14.2 Three-Factor Models

To assess conceptual and statistical overlap between the affiliation, status, and recognition factors a three-factor social goal model was tested. The initial 10-item three-factor model fit statistics were acceptable by current convention although the RMSEA and SRMR were > .06 and the χ^2 was significant (SB scaled χ^2 = 137.06, df = 32, p = .00, RMSEA = .09, 90% CI RMSEA = .08 - .11, p value RMSEA .00, CFI = .96, SRMR = .08). However, a review of standardised residuals, modification indices for correlated error variance, and item wording revealed correlated error terms and negative standardised residuals between status and validation and within factor-items suggesting shared method variance and item mis-specification. The status and validation factors were subsequently collapsed to reflect a single validation goal factor and a two-factor (affiliation, validation) social goal model was run. The initial 10-item two-factor model fit statistics was acceptable by conventional standards although the RMSEA > .06, CFI marginally < .06, SRMR > .06, and the χ^2 was significant (SB scaled χ^2 = 175.62, df = 34, p = .00, RMSEA = .10, 90% CI RMSEA = .09 - .12, p value RMSEA .00, CFI = .95, SRMR = .09). Subsequently four items were removed; one item from the affiliation factor and three from the validation factor (two from the originally hypothesised status factor and one from the recognition factor). The six-item two-factor model fit statistics were excellent (SB scaled χ^2 = 14.51, df = 8, p = .07, RMSEA = .05, 90% CI RMSEA = .00 - .08, p value RMSEA .00, CFI = 1.0, SRMR = .02). However, there were several negative standardised residuals and correlated error terms within and between factors further revealing that three validation items were statistically and conceptually potentially ambiguous with the

affiliation items. The validation factor was therefore removed from further analysis.

Table 6. below shows the means, SDs, standardized factor loadings and standard

errors for the remaining affiliation items. Cronbach's alpha reliability coefficient for

the scale was .81.

Table 6. Item means, SDs, and factor loadings (all $p < .01$) with their standard errors

for the *affiliation* scale.

Items	Mean	SD	Factor Loading	Standard Error
1. I make friends from my activity involvement	3.49	1.00	.80	.05
5. Spending time with other exercisers is enjoyable	3.58	.91	.58	.05
6. I become friends with some of the others in my activity club	3.29	.97	.85	.04

For psychological needs with all 11-items, fit statistics were excellent (SB

scaled $\chi^2 = 82.33$, $df = 41$, $p = .00$, RMSEA = .05, 90% CI RMSEA = .03 - .07, p

value RMSEA = .17, CFI = .99, SRMR = .05) although the χ^2 remained significant.

Table 7 below, shows the means, SDs, factor loadings for the items with their

standard errors, inter-factor correlations. Cronbach's alpha reliability coefficients for

the scales were 0.92, 0.83, and 0.64 for competence, autonomy, and relatedness

respectively.

3.14.3 Intention

At the preliminary stages of analysis the construct of exercise intention was

removed due to incorrect responding. 125 participants indicated more than one

response out of a possible three (when only one was required) resulting in only 76

valid responses.

3.14.4 Intercorrelations Between the Seven Factors.

Pearson bivariate correlations (see Table 8 below) revealed that affiliation

goals were significantly and positively related to relatedness ($r = .23$. $p < .01$) and ego

goals were significantly and positively related to autonomy ($r = .18$. $p = .01$).

Competence was significantly and positively related to autonomy ($r = .30$, $p = .01$)

and relatedness ($r = .29$, $p = .01$) while being significantly and negatively related to

social physique anxiety ($r = -.32$). Autonomy and relatedness were both significantly

and negatively related to social physique anxiety ($r = -.24$, $p = .01$ and $-.30$, $p = .01$,

respectively).

Table 7. Correlations between the seven factors

	Factors	1	2	3	4	5	6	7
1	Affiliation	**1.00**						
2	Task	-.00	**1.00**					
3	Ego	.10	-.13	**1.00**				
4	Competence	.09	.14	.06	**1.00**			
5	Autonomy	.07	.05	.18**	.30**	**1.00**		
6	Relatedness	.23**	.07	-.11	.29**	.07	**1.00**	
7	Social Physique Anxiety	-.04	-.08	-.02	-.32**	-.30**	-.30**	**1.00**

Table 8. Psychological needs: Item means, SDs. and factor loadings (all $p < .01$) with their standard errors, interfactor correlations, and Cronbach's alpha reliabilities (on the diagonal).

Items		Mean	SD	Factor Loading	Standard Error
Competence					
E1	In general, how would you rate your ability at physical activity and exercise	4.49	1.11	.90	.05
E2	If / when exercising, compared to others in your activity, how good would you likely think you were / are at physical activity and exercise	4.38	.98	.88	.05
E3	Compared with others your age, how good would you likely think you were / are at physical activity and exercise	4.63	1.16	.87	.05
Autonomy					
D1	I exercise because I like to rather than because I feel I have to	4.63	1.90	.71	.09
D2	Exercising is not something I would necessarily choose to do, rather it is something I feel I ought to do	4.39	1.99	.91	.06
D3	Having to exercise is a bit of a bind but it has to be done	4.37	1.94	.76	.08
Relatedness					
B1	Isolated when I exercise	5.01	1.58	.45	.10
B9	Different from everyone else	5.01	1.51	.61	.09
B12	That the others I exercise with don't like me very much	5.47	1.23	.58	.06
B15	Very different from most of the other exercisers	5.28	1.46	.72	.08

		1	2	3
1	Competence	**.92**		
2	Autonomy	.55	**.83**	
3	Relatedness	.53	.48	**.64**

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3.14.5 Structural Model

As previously stated, the remaining measurement models (affiliation, task, ego, relatedness, competence, autonomy, social physique anxiety) were collapsed into parcels in order to test the structural model. Items were parcelled such that each of the seven latent variables in the structural model had two indicators. However, as the model failed to converge on a proper solution an alternative parcelled structural model was run such that social physique anxiety had four indicators, competence, autonomy, relatedness, and affiliation had two indicators, and task and ego each contained three indicators.

The effective sample size following parcelling and listwise deletion with missing cases was 189. Mardia's normalized coefficient was 4.94 ($p = .00$) indicating that the data departed significantly from multivariate normality. Confirmatory factor analysis of the hypothesised parcelled model revealed a significant chi square while the remaining fit indices were good to very good (S-Bχ^2 = 189.51, df = 121, p = .00. RMSEA = .05, 90% CI RMSEA = .04 - .07. p value RMSEA = .29. CFI = .96, SRMR = .07). However, there were non-significant structural paths between task and each of the three basic psychological needs, ego to autonomy, and between autonomy and social physique anxiety. Additionally, there were large modification indices found between competence and autonomy suggesting some common unmeasured factor. Subsequently, the non-significant paths were removed and the residual error terms between competence and autonomy were allowed to be correlated. Following these modifications, the hypothesised mediation model was re-run. The fit of the revised mediation model was excellent (S-Bχ^2 = 201.62. df = 126. p = .00. RMSEA = .06. 90% CI RMSEA = .04 - .07. p value RMSEA = .13. CFI = .96, SRMR = .08) although χ^2 was significant.

The addition of the direct effects of affiliation and ego goals on social physique anxiety further revealed non-significant parameter estimates. The fit of this less constrained model was not significantly better than the mediation model (scaled χ^2 difference = .88, df = 2, p > .10). Overall findings revealed that affiliation and ego goals had indirect effects on social physique anxiety through relatedness. The direct effects were not significant. Table 9 below shows the significant standardised structural parameter estimates with their standard errors for the model. Affiliation had an effect on autonomy and both affiliation and ego had an effect on relatedness which in turn influenced social physique anxiety. Competence had a direct effect on social physique anxiety but was not influenced by goals. Figure 2 below shows the standardised parameter estimates for the structural relationships for the model.

Table 9. Standard errors and standardised parameter estimates for structural model.

	Standard Error	Standardised Estimate
Goals to Needs		
Affiliation to autonomy	.10	.11
Affiliation to relatedness	.15	.19
Ego to relatedness	.17	-.16
Needs to SPA		
Competence	.04	-.27
Relatedness	.03	-.25

3.15 DISCUSSION

The main purpose of the present study was to assess whether exercisers' endorsement of social and competence goals influenced social physique anxiety and exercise intention through the mediational role of competence, autonomy, and

relatedness and to assess the variables' ability to predict need satisfaction, social

physique anxiety, and exercise intention longitudinally. The reconceptualisation of

social goals would serve to address the motivational antecedents of social physique

anxiety and the lack of dismcriminant validity found for their assessment in Chapter

Two. Individual hypotheses were formed in relation to the associations of goals with

psychological need satisfaction, social physique anxiety, and exercise intention.

Before discussing these findings the modifications of the initial hypothesised model

will be addressed.

3.15.1 Model Modifications

The main modifications of the initial five-factor goal (i.e., affiliation, status,

recognition, task, ego) model were the merging of the status and recognition factors

into a validation factor, its subsequent removal, and the removal of exercise intention.

The merger of the status and recognition factors was predominantly a result of

conceptual and statistical overlap. For example, status item 10 (*I am one of the more*

popular exercisers) could be equated to recognition item 13 (*I receive recognition*

from other exercisers for my exercise accomplishments) and / or recognition item 14

(*Others are impressed by my exercise ability*). Although these two factors have

previously emerged as being conceptually distinct (e.g., Allen, 2003, 2005), it

appeared that the present sample of respondents were interpreting these constructs as

similar. For example, if individuals feel they have others' recognition this may

contribute towards feelings of popularity. In this way, popularity and status were

similarly interpreted.

Figure 2. Standardised parameter estimates for the final significant structural relationships for the model.
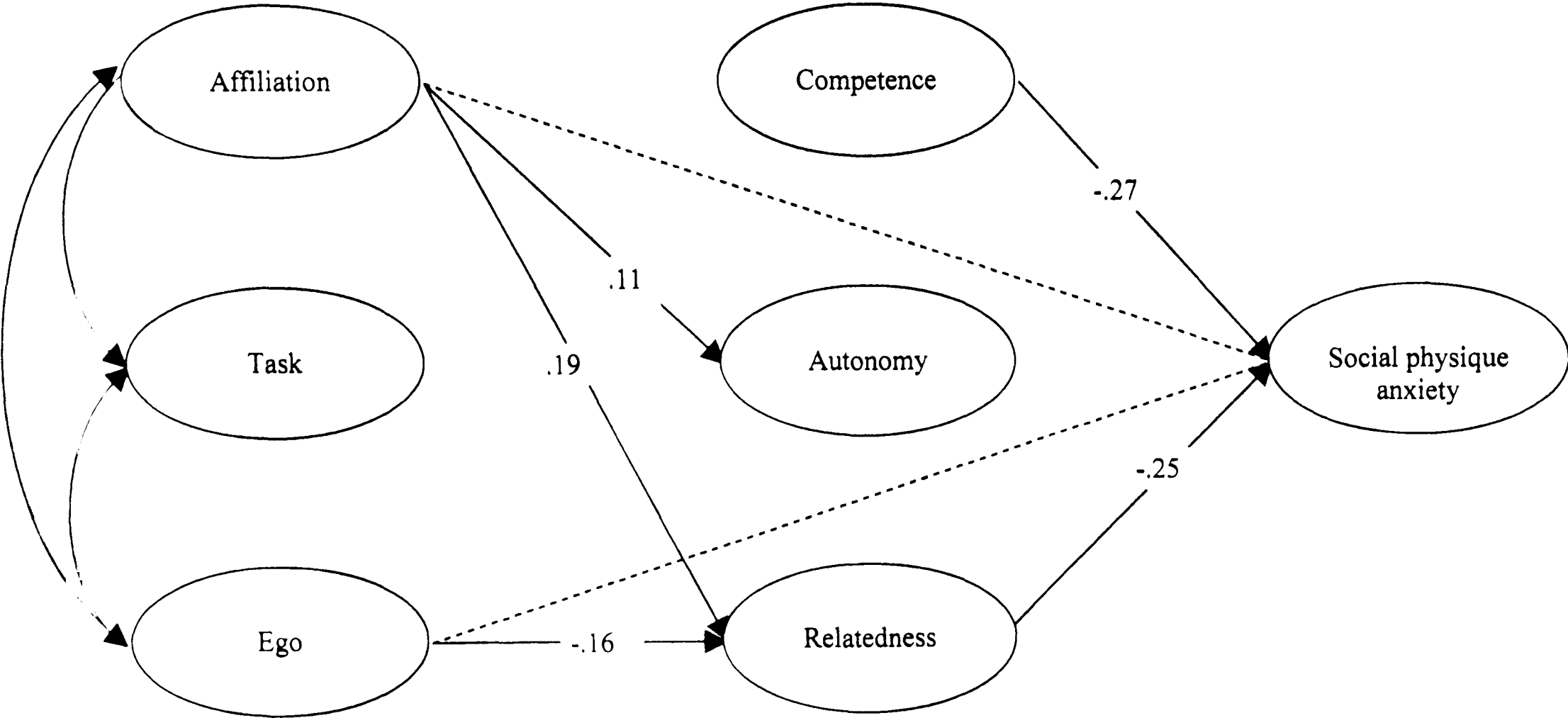
The merger of the status and recognition factors was based on model parsimony which further highlights the problematic nature of goal conceptualisation (as recognised in Chapter Two). For example, it has been stated that the goal of validation reflects several potentially independent constructs such as social approval (e.g., Whitehead, 1995), social status (e.g., Anderman, 1999), and social acceptance (e.g., Weiss & Stuntz, 2004). However, what appears to be evident from participant responses in the present study is that validation can be acquired from others recognition in any form (i.e., others approval and / or acceptance), suggesting redundancy of further conceptual distinctions. Although the author felt their distinct conceptualisations were warranted in the present study, it could be argued that their operationalisation hindered the limited findings gleaned. However, attempts to alter item wording can often contribute to inconsistency of findings (Grant & Dweck, 2003) concluding that the difference between populations the scales were developed from (i.e., adolescents) may have contributed to the redundancy of concepts in the present study. Consequently, it was decided to merge the status with the recognition factors to reflect a single validation factor.

Subsequently, a two-factor affiliation and validation goal model was run. However, the final decision to remove the validation factor was based on statistical and semantic ambiguity with the affiliation factor. Specifically, items within factors were deemed too similar as reflected in the correlated error terms. Large negative standardised residuals further indicated that model parameters overestimated the relationship between the constructs to some extent indicating item mis-specification. For example, status item 10 (*I am one of the more popular exercisers*) could have been interpreted in a similar way to affiliation item 5 (*Spending time with other exerciser is enjoyable*) further highlighting a possible lack of clear theoretical

distinction. The removal of the validation factor (rather than the affiliation factor) was a result of the problematic nature of validation conceptualisation throughout the process of model assessment in the present study. In addition to the removal of the validation factor was the decision to remove exercise intention. As previously stated, this was due to the predominance of incorrect responding suggesting that participants were not correctly reading stated instructions. Although instruction wording may have confused some respondents, incorrect responding may further have resulted from methodological issues such as on-line data collection. For example, although on-line data collection holds many advantages (to be discussed later) one of its potential limitations is the tangible presence of the researcher. Whilst it could be argued that this potentially increases response anonymity and therefore honesty of responding to perceived threatening questions alternatively this could have contributed to a lack of interest and commitment to responding.

Upon removal of the aforementioned constructs (i.e., validation, exercise intention), the unidimensional factor structure of the relatedness scale was assessed to overcome ambiguity of measured items. This resulted in the removal of 11 items predominantly as a result of shared method variance. For example, item 5 (*Accepted by other exercisers*) was similar in meaning to item 7 (*Like I belong there*) while item 2 (*Supported by other exercisers*) was similar in meaning to item 13 (*That the others at my activity club are pretty friendly towards me*). Item elimination does not compromise the integrity of *a-priori* models (Biddle, Markland, Gilbourne, Chatzisarantis, & Sparkes, 2001). The model remains the same but just has fewer indicators of its factors (Hofmann, 1995).

Analysis of the initial parcelled model revealed that affiliation goals were significantly and positively related to relatedness, partially supporting the first

hypothesis. However, the model results indicated the necessity of several modifications. These included the removal of non-significant paths between first, task and each of the three basic psychological needs, second, between ego and autonomy and third, between autonomy and social physique anxiety. The fourth modification allowed competence and autonomy to have an effect on each other by correlating their error terms. The model was re-specified and tested.

Analysis of the structural model revealed some clear findings. Model fit indices for mediation were excellent. Results indicated that effects of affiliation and ego goals on social physique anxiety were mediated by relatedness. However, adding individual direct paths from affiliation and ego goals to social physique anxiety did not lead to significant parameter estimates or significant improvements in model fit lending support for the mediational effects.

The lack of significant findings found for task goals and their effect on basic need satisfaction refuted the third hypothesis. This finding is in contrast to self-determination perspectives (Deci & Ryan, 1985), task goal assessment in achievement domains (e.g., Standage, Duda, & Ntounmanis, 2003), and the findings of Sheldon and Elliot (1999). Goals which are inherently satisfying and intrinsic in nature tend to be more likely to satisfy individuals' basic needs. These findings may have arisen as a result of diminished need satisfaction over time due to the implicit external focus of attention amongst physique anxious exercisers. For example, it has been suggested that goal focus can become more extrinsic and less intrinsic in nature when individuals experience psychological threat (Sheldon & Kasser, 2008; Vansteenkiste et al., 2007). Empirical findings relating to parental upbringing (e.g., Cohen & Cohen, 1996) and academic domains (e.g., Sheldon & Krieger, 2004) have found support for this shift in focus of attention. For physique anxious individuals, task goals may

weaken over time if the ambient supports are not there to facilitate their provision (Guay, Boggiano, & Vallerand, 2001). As such, appearance-related concerns and sensitivities to others' approval could engulf personal insecurities resulting in diminished need satisfaction over time. In sum, the lack of significant task related findings may have arisen as a result of perceptions of threat and other important influential variables (e.g., autonomy supportive contexts) that were not accounted for in the model.

Furthermore, a lack of statistical power may also have been an additional contributing factor toward the lack of significant findings. This might have been a result of sample size. For example, larger samples generally lead to parameter estimates with smaller variances leading to a greater ability to detect any significant differences (Stevens, 2002). Therefore an increase in sample size might have detected any significant effects. In addition, the lack of statistical power might have been overcome by reducing within-group variability. For example, the present sample consisted of individuals' whose exercise experience varied between those who had never exercised ($n = 19$) to those who exercised 4-6 times a week ($n = 12$). Although the majority of participants ($n = 156$) reported exercising between 2-3 times a week, the overall group differences lead to some heterogeneity within the sample.

The lack of statistical power may also have been one contributing factor for the non-significant findings for the effects of ego on autonomy and autonomy on social physique anxiety. The findings regarding ego goals partially refuted the fourth hypothesis while the findings referring to autonomy partially refuted the fifth hypothesis. Physique anxious individuals do not experience a sense of autonomy in their exercise pursuits while socially comparative ego goals have no influence on perceptions of autonomy. This is due to their inherent controlling nature as a result of

concerns over others standards. The lack of significant effect of autonomy on social physique anxiety was in contrast to the theorising of Deci and Ryan which suggests that autonomy should be negatively associated with maladaptive outcomes. However, the lack of significant findings might also have been obscured by the high modification indices revealed between autonomy and competence suggesting a common unmeasured cause between these two factors. This finding is similar to that reported by Standage, et al., (2003) who added a path between the two constructs based on what they deemed was "consonant with the theorising of Deci and Ryan" (1985, 1991; p.104).

One feasible explanation for this finding in the present study may reside with the measurement of competence (*In general, how would you rate your ability; If / when exercising, compared to others in your activity; how good would you likely think you were / are at physical activity and exercise; Compared with others your age, how good would you likely think you were / are at physical activity and exercise*). These items inferred the incentive for behaviour as emanating from within the individual (*...how would you rate your ability*) and also as an external motivator (i.e., *..compared to others in your activity / your age...*). This latter aspect of competence conceptualisation contradicts Deci and Ryan's theorising which relates to the *experience* of competence rather than any satisfaction deriving from the *outcomes* that competence can bring. As two of the construct items were normatively defined (Nicholls, 1989) this likely detracted from the true assessment of experienced competence thus accounting for the possibility of an additional unmeasured cause and the lack of significant effects found.

3.15.2 Mediational Analysis

Analysis of mediational effects indicated that affiliation goals had a significant

positive effect on relatedness while ego goals had a significant negative effect on relatedness. In turn, the effect of relatedness on social physique anxiety was negative. These findings partially refuted the study expectations in that only relatedness was found to be a significant mediator for endorsement of affiliation and ego goals. The directions of the findings were partly in alignment with self-determination theorising (Deci & Ryan, 2000; Sheldon & Kasser, 2008) and research findings regarding the relationships between goals, need satisfaction, and well-being (e.g., Sheldon & Elliot, 1999; Sheldon & Kasser, 1998). The intrinsic motivational focus of affiliation goals is focused on being empathetically concerned with other individuals (Vansteenkiste, et al., 2007) which resulted in enduring satisfaction of the need for relatedness over time. This effect in turn had a negative effect on high levels of social physique anxiety. What this finding suggests is that the endorsement of affiliation goals amongst prospective and current exercise participants is more likely to result in a sense of satisfaction that one fits in with other exercisers which in turn has a negative effect on high levels of social physique anxiety. This finding holds ramifications for exercise practitioners wishing to subdue anxiety levels and facilitate long-term exercise adherence.

Conversely, findings further indicated that endorsement of more extrinsic-focused ego goals lead to little satisfaction of the need for relatedness due to the focus of attention being on normative comparisons. What this suggests is that the external focus of normative goals does little to satisfy the need for relatedness over time. It is feasible to suggest that those ego-oriented individuals who doubted favourable comparisons with other exercisers would not feel satisfaction of the need for relatedness. However, this supposition could not be fully supported as individuals' perceived ability was not directly assessed. Furthermore, the significant direct effect

of relatedness on social physique anxiety suggested that ego goals afford little benefit to well-being (Sheldon & Elliot, 1999). Consequently, the provision of more autonomy-supportive exercise contexts could facilitate a more intrinsic motivational focus engendering more adaptive than maladaptive outcomes (e.g., Guay, et al., 2001). As a result, individuals' endorsement of ego goals may diminish as a result of the environment having the capacity to override dispositional goals over time (Ames, 1992) resulting in limited anxiety-related concerns.

Future research might attempt to measure individuals goals and manipulate the exercise environment to assess its ability to diminish the potentially harmful effects that comparison goals can have on physique anxiety over time. This is important as related research findings in other physical activity domains have found that although motivational climates (as conceptualised by Ames, 1992) are important predictors of variations in motivation and affective outcomes, they cannot override goals in the short-term (e.g., Petherick & Weigand, 2002; Seifriz, Duda, & Chi, 1992). In addition the lack of hypothesised significant findings found in the present study between goals and basic needs implies that other variables unrelated to basic needs satisfaction may also be important contributors of experienced physique anxiety. Future research could continue to identify other important mediators that may contribute to this relationship.

3.15.3 Study Limitations and Advantages

A number of limitations of this study should be recognised. First, the structural equation model was based on correlational data and while being a powerful technique cannot establish causal relationships. Second, analyses revealed that competence and autonomy were tapping a hidden additional construct. This might have influenced the limited significant effects found. Current research frequently

assesses competence using the items from the perceived competence subscale of the 18-item intrinsic motivation inventory (IMI; McAuley, Duncan, & Tammen, 1989). This version of the IMI most closely approximates the true meaning of competence as reflected in self-determination theory than the one used in the present study. Competence assessment in the present study was clearly a limitation.

Third, there have been concerns raised about online data collecting including quality of responses, low response rates, and anonymity (e.g., Donovan, Mader, & Shinsky, 2006; Looney, 2008). With regards to the quality of responding, this can never be guaranteed. However, as respondents had voluntary taken time to access, read, and return an online questionnaire to an unknown recipient it could be argued that responses are likely to be in accordance with true thoughts and feelings. Next, low response rate concerns become arbitrary when supported by an authority figure such as work management as in the present study. Lower response rates are more likely to emanate from the researcher passively waiting for eligible respondents to find the online website. A further advantage of online data collection is that it allows the researcher to generally collect larger volumes of data than more traditional paper methods with most questionnaires being returned within 48 to 72 hours (Harris, 1997). A further advantage of online data collection is that returned data can be directly imported into statistical data bases and continually analysed. The only possible limitation is the substantial time taken to initially prepare the online questionnaire. However, although many advantages to online data collecting exist, one possible issue of concern is that they present sampling problems (Mann & Stewart, 2000).

The main disadvantage of online data collecting is that there is no way of gaining a respresentative sample of the population. For example, it has been

suggested that internet users tend to be male and from a higher income bracket (Mann & Stewart, 2000) although there is divergent opinion which suggests that the internet's broad scope can increase representativeness, reducing the effects of sampling error (Umbach, 2004). The issue of sampling bias was reduced in this study by further collection of data responses via paper methods. As a result, the online data collection method used in the present study was seen as a major advantage.

Overall, the present study further highlighted the problematic nature of goal conceptualisation. While considerable evidence suggests that achievement motivation can be understood in terms of both competence and social goals (e.g., Allen, 2003) there remains some disagreement on how to best operationalise and define validation goals. In the present study, this led to limited goal assessment and understanding of the motivational antecedents underpinning social physique anxiety. In contrast, findings did reveal that social physique anxiety could be downplayed if individuals endorsed more intrinsic oriented goals. Given the threatening nature of exercise domains for many individuals this finding suggests that club managers and staff would benefit from structuring their exercise environments to facilitate intrinsic goal endorsement amongst exercisers. This is more likely to result in exercisers perceiving a sense of contectedness in their environment than when endorsing normative goals. Furthermore, reductions in anxiety-related outcomes were found to persist over time increasing the likelihood of continued activity engagement and associated health benefits. These findings support the viablility of self-determination theory as a guiding framework for understanding negative affect in exercise domains.

CHAPTER FOUR

THE MOTIVATIONAL ANTECEDENTS AND AFFECTIVE CONSEQUENCES

OF FITNESS-ASSESSMENT PROCRASTINATION AMONG EXERCISERS:

AN IN-DEPTH STUDY

4.1 Introduction

Many health clubs usually require gym users to participate in fitness-assessments to ascertain fitness levels and ensure familiarity with club equipment. Assessments frequently entail fitness testing via graded exercise tests (e.g., short bouts of physical exertion via a treadmill), evaluation of body fat composition and relative weight (American College of Sport Medicine; ASCM, 2007) and are designed to provide a motivational impetus for individual's personal improvement and enhanced participation. Thereafter regular assessments are usually offered by practitioners to facilitate members in achieving maximum benefits from personalised exercise programmes.

While fitness-assessments may be a positive motivational tool for many individuals they may also be replete with factors that give rise to self-presentational concerns. Assessments could be interpreted as threatening by exercisers concerned about negative social evaluation. As social physique anxiety has been found to interact with the evaluative nature of exercise contexts to influence affective states (Conroy et al., 2000; Focht & Hausenblas, 2001; Willow & Mihalko, 2000) it might be expected that physique anxious individuals would be likely to postpone fitness-assessments until a later date, if at all.

The ramifications of this maladaptive behaviour are potentially problematic. A lack of exercise-related guidance could lead to a loss of regimen direction, boredom,

and amotivation leading to dropout (such claims are based on the author's personal experiences over fifteen years of having worked as an exercise practitioner). Therefore, it is important for practitioners to facilitate regular assessment attendance in order to encourage continued adherence. However, given their potentially evaluative and threatening nature, postponement could be one behavioural strategy that temporarily alleviates expected emotional discomfort while conversely the impending delay could also *create* further anguish (Lay & Schouwenburg, 1993). One form of delaying behaviour that might explain the processes underpinning assessment-postponement is procrastination.

4.2 Procrastination

According to Chu and Choi (2005), procrastination can be interpreted as a lack of self-regulated behaviour and a tendency to postpone what is necessary to achieve a desired personal goal. However, this definition is in contrast to others which typically define procrastination as an irrational tendency to delay the commencement or completion of a task to the point of creating emotional anguish (Lay, 1995; Rothblum, et al., 1986; Solomon & Rothblum, 1984; Schouwenburg, 1992; Senécal, et al., 1995). Definitions of procrastination along with contradictory research findings have arisen due to inconsistencies in operational definitions and assessment tools used. For example, while some findings have reported the benefits to be gained from the postponement of tasks (e.g., Chu & Choi, 2005; Shraw et al., 2007; Sigall, Kruglanski, & Fyock, 2000) others have attested to its negative consequences. Empirical research relating to the negative affects of procrastination has demonstrated that it generally tends to lead to decreases in productivity and overall poorer health (Senécal, et al., 2003; Tice & Baumeister, 1997; Wolters, 2003). Given the tendency for physique anxiety to be associated with more negative than positive affective and

behavioural outcomes, the present study in the current programme of research will focus on procrastination as a maladaptive behavioural tendency.

4.3 Procrastination and Related Research Findings

To date, much of the research pertaining to procrastination has focused mainly on academic contexts (e.g., Beck, Koons, & Milgram, 2000; Flett et al., 1995; Lay, 1992, 1995; Lay & Silverman, 1996; Senécal, et al., 1995; Onwegbuzie, 2000; Senécal et al., 2003; Solomon & Rothblum, 1985; Wolters, 2003) with empirical research having shown that student procrastinators regularly report that personal laziness and problems with time-management and planning are the main causes of missing deadlines for submission of work (Senécal et al., 1995). Other findings have revealed more counterintuitive and complicated determinants and outcomes. For example, procrastinators tend to experience higher levels of anxiety and maladaptive cognitions and behaviours than non-procrastinators with academic procrastination typically being explained by determinants such as fear of failure (Solomon & Rothblum, 1984), low academic self-efficacy (Chu & Choi, 2005; Haycock, McCarthy, Skay, 1998), non-self-determined academic motivation (Senécal et al., 1995), and role conflicts such as academe with work and interpersonal relationships (Senécal et al., 1995, 2003). Findings have revealed pervasive characteristics between procrastination and poor psychological adjustment similar to those displayed amongst physique anxious individuals. For example, female procrastinators tend to report high levels of public self-consciousness and social anxiety (Ferrarri, 1991; Schouwenburg & Lay, 1995), unfavourable ratings of self-concept dimensions including negative views regarding physical appearance, engagement in negative social comparisons (Beck, Steer, & Epstein, 1992; Ferrari, 1992), and high levels of performance anxiety (Ferrari, 1991; Flett et al., 1995; Miligram & Touibiana, 1999). As such,

procrastinators tend to be highly sensitive to social-evaluative information and tend to avoid information concerning the self (Ferrari, 1991, 1992).

Given such findings, it seems feasible to suggest that the characteristics of fitness-assessments are likely to undermine the wellbeing of physique anxious individuals. However, there is no research to date that has assessed the applicability of assessment-procrastination in exercise contexts. Therefore, the main aim of this study is to determine the motivational processes that contribute to the development of fitness-assessment procrastination and its associated affective consequences. One important determinant of procrastination that has been linked with social physique anxiety which might shed light on its antecendent processes is the belief amongst researchers that postponement of activity engagement emanates from the endorsement of excessively high standards (i.e., perfectionism; Flett, Blankenstein, Hewitt, & Koledin, 1992; Flett, et al., 1995; Haase et al., 1999, 2002).

4.4 Perfectionism

Perfectionism (Flett & Hewitt, 2002) research has revealed similarities with characteristics of procrastination including the endorsement of irrational beliefs (Beswick, Rothblum, & Mann, 1988; Flett, Hewitt, Blankenstein, & Koledin, 1991; Frost, Marten, Lahart, & Rosenblate, 1990) in the form of exceptionally high standards (Hewitt & Flett, 1991, Flett & Hewitt, 2002), sensitivity to evaluative feedback (Flett, Greene, & Hewitt, 2004; Hamachek, 1978), and an excessive concern with fear of failure (Flett, Hewitt, et al., 1991; Metzger, et al., 1990; Solomon & Rothblum, 1984; Stöber & Joormann, 2001). While initial similarities appear evident between procrastination and perfectionism, marked differences become apparent when perfectionism is considered as a multidimensional construct that has distinct personal and social dimensions (Blatt, 1995; Flett & Hewitt, 2002; Hewitt & Flett,

1991).

4.5 Multidimensional Perfectionism: Self-Oriented and Socially Prescribed

The first dimension of perfectionism, self-oriented perfectionism, is

characterised by the setting of unrealistically high personal standards of performance

in an intense desire to be perfect (Hewitt & Flett, 1990, 1991). There is a focus on

flaws and past mistakes which are contributors to anxiety and depression (e.g.,

Hewitt, Flett, & Ediger, 1996) as they reflect an inability to meet personal standards

(e.g., Beck, et al., 1979; Hewitt & Genest, 1990). However, this dimension of

perfectionism also appears to incorporate an adaptive motivational component that

involves active striving to meet high personal standards (Hewitt & Flett, 1990, 1991,

Terry-Short, Owens, Slade, & Dewey, 1995) which can lead to a sense of self-

satisfaction and enhanced self-esteem (Hamacheck, 1978).

Self-oriented perfectionists have been found to hold ambitious tendencies

often demonstrating high levels of achievement (Flett, Blankenstein, Hewitt, Solnik,

& Brunschot, 1996) in contexts such as sport (Hall, 2006; Haase & Prapavessis, 1999,

2001; Haase et al., 2002) and academia (e.g., Cox, Enns, & Clara, 2002). Therefore,

equating this dimension of perfectionism with physique anxious individuals and

physical activity suggests that those physique anxious individuals who hold

exceptionally high personal standards of appearance might actively pursue their need

to attain or uphold their standards through validation from fitness-assessments.

Therefore an inverse relationship with self-oriented perfectionism and procrastination

would be expected.

However, to accept arguments to suggest that self-oriented perfectionism is an

adaptive disposition is to ignore the inherent problematic nature of this construct

(Flett & Hewitt, 2002; Hall, 2006). Although the self-oriented perfectionist appears to

cope efficiently with daily tasks, they still tend to exhibit dysfunctional affective responses (e.g., worry, anxiety) if they perceive certain important situations as threatening their self-worth (Flett, Hewitt, Blankenstein, et al., 1995; Hewitt & Flett, 1991). Therefore, to assume that this construct is an adaptive disposition might be somewhat premature (Flett & Hewitt, 2002; Hall, 2006) and requires careful consideration in the present study.

In contrast, socially prescribed perfectionism is considered to be the most destructive dimension involving perceptions of personal inability to meet perceived standards and expectations of others (Flett & Hewitt, 1991, 2002). The tendency to believe that others will only be content when their exceptionally high standards are attained can result in feelings of learned helplessness about the inability to establish personal control (Flett, Hewitt, et al., 1998) and therefore the inevitability of failure. Consequently, this type of perfectionist is more prone to maladjustment such as fear of negative social evaluation, anxiety (e.g., Flett, Greene, & Hewitt, 2004; Mor, Day, Flett, & Hewitt, 1995), and depression than the self-oriented perfectionist (Flett, Hewitt, Blankenstein, & et al., 1991; Hewitt & Flett, 1991). Furthermore, this perfectionistic dimension has been found to be linked to maladaptive coping strategies among students (e.g., Flett, Blankenstein, et al., 1992) in which perfectionistic thinking can have a paralysing effect when consumed with a desire to meet others high standards often resulting in inertia (Adderholt-Elliot, 1989). Given the conceptual similarities between socially prescribed perfectionism and social physique anxiety it would be expected that these two constructs are most closely related.

In sum, both dimensions of perfectionism appear to predispose individuals toward a tendency to hold exaggerated preoccupations with fear of failure (Flett, Hewitt, Blankenstein et al., 1991; Frost & Henderson, 1991) and meeting excessively

high standards (Hewitt & Flett, 1993). However, the main distinguishing feature between these perfectionism dimensions that could hold implications for their link with procrastination is the apparent difference in goal-directed behaviour (Campbell & Di Paula, 2002; Flett, Hewitt, & Martin, 1995; Flett, Sawatzky, & Hewitt, 1995). It could be said that self-oriented perfectionism is motivation to achieve a certain goal to acquire a personally desired outcome. In contrast, socially prescribed perfectionism could be said to be motivation to achieve a certain goal to avoid negative consequences (Slade & Owens, 1998; Terry-Short, et al., 1995) such as others criticism (one defining feature of socially-prescribed perfectionism; Blatt & Zuroff, 2002). While both dimensions of perfectionism appear to be related to the need to meet exceptionally high standards, the motivational foci differ (i.e., self- or other-directed). As such it would be expected that dimensions of perfectionism differentially relate to procrastination through different self-regulatory processes.

4.6 Self-Determined Motivation and Perfectionism

According to self-determination theory (Deci & Ryan, 1985, 2000), behaviours are regulated by various types of motivation that lie on a continuum from low to high levels of self-determinaton. The different types of motivation are external regulation, introjected regulation, identified regulation, intrinsic regulation, and amotivation. External regulation refers to behaviours regulated by external rewards or constraints such as exercising to receive others' recognition whereas introjected behaviours are partially internalised and performed from internal pressures such as guilt. When regulated in this way, exercise participation could serve to alleviate internal pressures and negative feelings. Identified regulation refers to behaviours that are valued or deemed important, and are undertaken out of choice (Deci & Ryan, 1995). The most self-determined form of extrinsic motivation is integrated regulation.

This regulation derives from an acceptance of values such as the benefits of exercise into one's sense of coherent self (Deci & Ryan, 1985, 1995). Individuals whose exercise behaviour is regulated in this way would exercise because it is perceived as an important and valued aspect of their lifestyle. However, the behaviours are still performed for instrumental reasons and are still extrinsically regulated. Intrinsic regulation refer to engaging in an activity for no seperable reason other than the satisfaction experienced from participation (Deci & Ryan, 1985) while amotivation refers to a lack of intentionality and therefore a lack of motivation arising from feelings of ineffectence in one's actions.

The extent to which goals are experienced as self-determined or autonomous leads to greater positive affect and continued behavioural pursuit than more controlled motivation. It would therefore be expected that those individuals with exceptionally high personal standards of performance who actively strive to meet their personal goals (i.e., self- oriented perfectionists) will be more likely to be more self-determined in their activity involvement. As self-oriented perfectionism has been found to be positively associated with more adaptive cognitive and meta-cognitive strategies (Mills & Blankenstein, 2000) and therefore a tendency to approach rather than avoid tasks, it would be expected that this perfectionistic dimension would be negatively related to assessment procrastination. However, the self-scrutiny and vigorous self-evaluation associated with *both* perfectionism dimensions promotes intense strivings to meet standards (either self-set or perceived to be imposed by others) and avoid failure. Preoccupations with establishing, maintaining, or protecting a viable sense of self, along with intense self-criticism, are essential contributing factors of introjection (Blatt & Zuroff, 2002). In this way, self-oriented perfectionists could also be more likely to be introjected in their behavioural participation.

In contrast, those individuals who strive for perfection to avoid others'

disapproval (i.e., socially-prescribed perfectionists) should feel little self-

determination and autonomy in their pursuits. Obligations to meet others' high

standards are suggestive of a form of external control (Periasamy & Ashby, 2002)

which could lead to more intense experiences of procrastinatory behaviour.

Procrastination could be seen as a response to punitive expectations from others

(Ferrari & Olivette, 1994) which suggests a link through more controlled forms of

motivation. An understanding of the differences in motivational orientations amongst

perfectionistic physique anxious individuals will assist in ascertaining its links with

procrastination in exercise domains.

4.7 Summary

Theoretically, it seems feasible to suggest that social physique anxiety is likely

to be exacerbated in potentially threatening situations (Marquez & McAuley, 2001)

such as fitness-assessments. Experienced anxiety will in part arise due to doubts

about meeting others' perceived unrealistically high standards and the impact falling

short of standards will have on self-worth. As the socially-prescribed perfectionistic

individual's motivation is to maintain a personal and public image of perfection, they

will always perceive that they are being assessed and as a result could engage in

assessment procrastination to forestall the possibility of others' perceived criticism.

In this way, social physique anxiety and its relation to socially prescribed

perfectionism would act as a motivational deterrent through more controlling forms of

motivation, leading to the likelihood of assessment procrastination.

In contrast, self-oriented perfectionism has been found to involve a degree of

flexibility when monitoring and evaluating personal achievements (Flett & Hewitt,

2002; Hewitt & Flett, 1991; Hall, 2006). However, the imposition of high personal

standards could also be equated with being high in fear of failure (Covington, 1992) which can result in avidly seeking success through intense strivings or self-defensive processes such as procrastination. Therefore its relation to social physique anxiety and procrastination remains unclear although it is more likely to be related to procrastination through more self-determined self-regulatory processes than socially prescribed perfectionism. No attempt has yet been made to assess the aforementioned self-presentational and self-regulatory processes as they relate to the generation of fitness-assessment procrastination. Accordingly, the present study will attempt to provide an in-depth (Patton, 2002) and orientational qualitative enquiry (Patton, 2002) of the motivational factors influencing fitness-assessment procrastination amongst physique anxious females and its associated affective consequences. The first purpose will be to identify whether the postponement of fitness-assessments is most likely to occur amongst socially physique anxious females with perfectionistic tendencies. The second purpose will be to assess the extent to which the relationship between individual differences in perfectionism and assessment procrastination is influenced by different self-regulatory processes. The third purpose is to clarify the target of individuals' perfectionistic concerns in exercise domains (e.g., fitness instructors, other exercisers) through in-depth interviews. This is important to address as the target of approval amongst socially-prescribed perfectionistic adults in exercise contexts is at present unknown and once ascertained would facilitate the design of appropriate interventions. The fourth purpose will be to ascertain the affective consequences fitness-assessment postponement.

4.8 METHOD

4.8.1 Interview Participants

The participants were 18 volunteer females aged from 18-73 years (*Mean* = 36.5, *SD* = 13.40). Approximately, 24 potential participants were approached by the researcher before or after exercise participation and were asked if they tended to have anxiety-related concerns about forthcoming fitness-assessments, had postponed them on at least three consecutive occasions, and had a general tendency to avoid them. These criteria for participation are partly in alignment with the definition proffered by Milgram (1991) who suggested that procrastination is primarily a behaviour sequence of postponement resulting from emotional upset. In this way, the focus of recruitment for this study was on exercisers who procrastinated. Activity participation at health and fitness clubs ranged from three months to 20 years. Participant responses on the nine-item social physique anxiety scale (Martin et al., 1997) indicated that only two participants scored below the midpoint of the scale (minimum possible score 9, maximum 45, midpoint = 18), with scores of 14 and 17. Three participants had moderately high scores (26, 27, and 28), four had high scores (30-34), four had very high scores (35-40), and five had extremely high scores (41-45) thus resulting in a sample of generally highly physique anxious exercisers.

4.8.2 Procedures

After an initial approach and agreement to participate, a letter explaining that the research assessed exercise motivation and also requiring informed consent was individually administered by the lead researcher to females from four private health and fitness clubs in Southeast England. All participants were given at least four days to consider participation and on agreement a mutually agreed interview time and location was established. Interview locations included participants' homes (*n* = 2)

and health club or local coffee shops ($n = 16$). Five interviews were conducted in pairs and eight participants were individually interviewed. The lead researcher conducted all 18 interviews. Interviews were digitally-recorded, lasted between 20 and 90 minutes, and were subsequently transcribed by the lead researcher providing 112 pages of type written text. Questionnaire responses to the social physique anxiety scale were given by participants on completion of interviews and were returned directly to the researcher.

4.8.3 Interview Guide

The epistemological framework guiding this study was partly based on both a general inductive analytic approach (Patton, 2002) and an orientational qualitative enquiry (Kvale, 1996; Patton, 2002). Inductive analysis is a systematic procedure for assessing qualitative data that allows key themes and patterns to emerge from the data rather than imposing them prior to data collection and analysis (Creswell, 2002; Patton, 2002; Tesch, 1990). However, without any pretence of open-mindedness in the search for emergent themes, an orientational inquiry begins with an explicit theoretical perspective that determines which concepts are most important to the researcher and informs the main focus of inquiry (Patton, 2002). This method is a legitimate and important approach to confirming and elucidating clear a-priori theoretical frameworks in qualitative research (Patton, 2002). Therefore, the generic framework guiding this study attempted to adopt complementary approaches to enquiring about possible causes of a phenomenon that have not yet been acknowledged in exercise domains.

As there is no clear conceptual model of the processes contributing to fitness-assessment procrastination, its associated affective consequences, or any general consensus as to its adaptive or maladaptive nature (Ferrari et al., 1995;

Schouwenburg, 1995; Shraw et al., 2007; Tice & Baumeister, 1997) the premise of the interview guide was developed from sound theoretical perspectives (Hewitt and Flett, 1990, 1991; Deci and Ryan, 1985). These theoretically driven frameworks determined the main concepts to be focused on during the interview. However, the emergence of new concepts was also encouraged through exploratory questions or participant-led topics of interest (Miles & Haberman, 1994). This ensured the interviewer was receptive to new information rather than being solely constrained by theoretical perspectives (Creswell, 2002; Patton, 2002). In this way, the emergence of themes could be recognised by the researcher that captured some essence associated with fitness-assessment procrastination that contributed toward individuals' behavioural decisions.

4.8.4 Interview Format

The interview schedule comprised three main phases. Phase one comprised an informal attempt to establish rapport with the participants (Williams & Irurita, 1998; Patton, 2002) through introductory comments regarding the participants' exercise experience; an explanation of the researcher's background; that the study constituted part of the researcher's overall PhD; the intention of the interview which was to assess exercise motivation, specifically the factors that influenced individuals decision to habitually postpone their fitness-assessments; and any other topics raised by the participants. On completion of the interviews and in the absence of participants, the researcher recorded participants' demographic details and other noteworthy aspects relevant to the study. Phase two was mainly based on pre-planned open-ended questions pertaining to the constructs of interest: 1) thoughts and feelings regarding fitness-assessments (e.g., *What are your thoughts and feelings about fitness-assessments?*); 2) indices of self-regulatory processes (e.g., *how did you feel about*

your forthcoming fitness-assessment; to what extent did you feel pressured, obliged,

excited, or any other feelings about the assessment?); 3) choice of fitness assessor

(e.g., *what influenced your choice of fitness instructor, assuming you had a choice in*

the matter?) and 4) perfectionistic tendencies (e.g., *did you have any concerns about*

meeting personal standards or perhaps regarding expectations from the instructor

and if so could you explain these, and *what sort of preparation did you engage in for*

the assessment if any and what were the reasons for this?). Probes were used

throughout when necessary for clarification (e.g., *I wasn't quite clear on what you*

meant by that, could you explain it to me again; Patton, 2002). Phase three

constituted the concluding section of the interview and participants were asked if

there were any additional comments that they felt were relevant or had not been

discussed during the course of the interview (e.g., *do you have any further comments*

you would like to add)?

4.9 Measure

     4.9.1 Social Physique Anxiety Scale (Hart et al., 1989). The social physique

anxiety scale was developed to assess individuals' concerns about others perceptions

of their physiques (e.g., *I am comfortable with the appearance of my physique*) and is

a trait measure of self-presentational anxiety related to the physique. The abbreviated

nine-item version (Martin et al., 1997) of the original 12-item measure was used in the

present study. The nine-item social physique anxiety scale has been found to be

internally consistent with reliability coefficients ranging from .86 to .89 (Focht &

Hausenblas, 2003; Martin et al., 1997).

4.10 Data Preparation and Analysis Procedures

     Two researchers were involved in the data analysis. The lead researcher was

the current author and the second researcher was a doctoral candidate in sport and

exercise psychology. The second researcher had undertaken a master's level module which covered the constructs of interest in the present study and was also currently researching in the area of self-determination and behavioural regulation. However, this researcher was not involved in the initial stages of the study interviews and transcription process and therefore was without any preconceptions of the specific theoretical issues being assessed. Both researchers had previous experience in the philosophy and techniques associated with qualitative research as detailed by Krefting (1991), Lincoln and Guba (1985) and Patton (2002). This focused on the establishment of criteria of trustworthiness including credibility, transferability, dependability, and confirmability. These reflect the evaluative rigour of the study and are viable alternatives to the traditional concepts of reliability and validity (Agar, 2006; Lincoln & Guba, 1985).

Credibility is an evaluation of whether or not the interpretations drawn from participants' raw data are an accurate or 'truthful' reflection (Lincoln & Guba, 1985) and can be equated to internal validity in quantitative methodologies. This was maintained through the use of recommended strategies (Krefting, 1991), the first of which was reflexivity of interviews. This entailed the reading of transcriptions several times over to become familiar with the description and detail provided by participants. In addition, reference was frequently made to the audio-tapes to overcome conjecture of interpretation. This strategy was vital as it ensured that the raw quotations identified as important by the researcher appeared equally as important by the participants as reflected in voice inflections or as highlighted in transcription notes. To strengthen the overall credibility of the study member checks were further incorporated which is reflective of internal validity. This involved minimising interpreter misunderstanding of data provided by two participants through

clarification from the lead researcher of two specific citations: "like a damn exam" and "I'll never go to one (*assessment*), it's just so embarrassing because a man you see; they don't do anything but everytime I've had to do one they say ok and write it down but if they'd say it to my face I'd think ok. No it's weird". The participants were contacted by telephone, initially thanked for their assistance on the study, and then asked to clarify the meaning of their citations. According to Lincoln and Guba (1985) this is an important technique for establishing credibility although it is also not without criticism as participants may perceive their statements as being challenged and may alter their initial meanings (Angen, 2000). Respondents were assured that clarification was only required for accuracy of interpretation. This strategy also served to add to the transferability of the study. In order that other researchers might wish to apply the findings from this study to their own research (i.e., transferability) an accurate description of exercisers experiences was provided along with a definitive account of the researcher (s) motives.

Dependability can be closely equated to reliability in quantitative research and is concerned with replicability of results or observations. To enhance the dependability of this study both researchers made copies of their working notes available to each other to monitor and assess the process and product of the research for consistency (Hoepfl, 1997). Any raised points of contention were further discussed and settled through mutual consensus.

Confirmability in qualitative research is reflective of objectivity in quantitative research and was enhanced through reflexivity. Both dependability and credibility of the analysis was further maintained through a process of triangulation. Although there are various types of triangulation (Denzin & Lincoln, 1998) the type used in the present study related to investigator triangulation in which the two researchers

independently content analysed the interview findings, and then compared and resolved any discrepancies (Patton, 2002). On completion of analysis, a third disinterested peer, an academic colleague, expert in qualitative research methods, reviewed identified themes and critically assessed the findings and any divergence was discussed (Lincoln & Guba, 1985). An *understanding* of a potentially enigmatic situation by a disinterested peer reflects the trustworthiness of the study (Stenbacka, 2001). Overall, these criteria and associated strategies ensured study rigour without sacrificing the integrity of qualitative research.

Inductive content analysis of transcribed interviews (summarised in Table 10 below) followed the procedures outlined by Patton (2001), Tesch (1990) and Creswell and Miller (2000). The lead researcher transcribed and read the interviews several times to ensure familiarity with the content and to gain an understanding of the text details (Parahoo, 1997). Raw data segments or quotes / paraphrased quotes that captured distinct concepts were then identified (see Appendix G) along with any further noteworthy raw quotes emerging from the data that were not directly in alignment with the theory under assessment (Miles & Hubermann, 1994; Patton, 2002). Next, both researchers independently identified raw data themes. Data segments were judged as reflecting the same theme if systematically revolving around a core topic underpinning assessment procrastination. At this stage of analysis having a second, unbiased researcher ensured that certain raw data quotes were not artificially placed into pre-conceived themes if there were justifiable alternatives, thus enhancing the dependability of the study.

Table 10. The coding process in inductive analysis

Initial read through text data	Identify specific segments of information	Label segments of information to create categories	Reduce overlap and redundancy among the categories	Create a model incorporating most important categories
112 pages of text	690 segments of text	70 categories	24 categories	10 categories
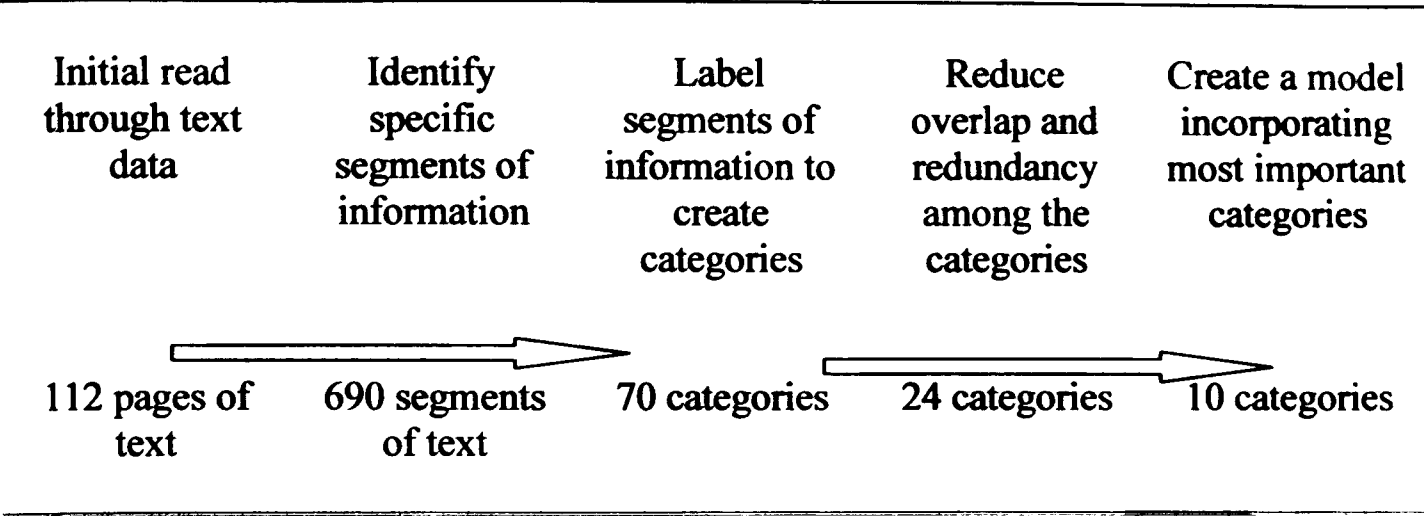
Note: Adapted from Creswell (2002), Figure 9.4, p.266.

4.11 RESULTS AND DISCUSSION

Using inductive content analysis, the raw themes were organised and clustered into meaningful categories of increasing generality which mostly derived from the research aims. As can be seen from Figure 3 below, examples of quotations were provided and labelled "raw data quotations" which were then organised and labelled under "raw themes". The categories were then labelled "1st themes" "2nd themes," and the highest level abstraction was "general themes". This represented a level beyond which no more independent levels of meaning could be identified. After independent identification of raw themes and 1st themes by both researchers the second researcher was introduced and briefed on the theoretical constructs of interest to the study. This was to ensure that subtle wording pertaining to issues such as self- and others' standards were acknowledged as plausible independent categories rather than perhaps one single category (e.g., standards).

The results from the interviews are reported in combination with their discussion to minimise repetitiveness and are presented in five sections to reflect the five general themes that emerged: social physique anxiety, thwarting of need

satisfaction, seeking need satisfaction, assessment procrastination, and affective consequences (of procrastination). The five identified themes will further be related and integrated into an overall proposed model of fitness-assessment procrastination amongst physique anxious exercisers.

4.11.1 Section One: Social Physique Anxiety. This construct assesses individuals' concerns about others negative perceptions of their physiques (Hart et al., 1989). Analysis of interviews revealed that the prospect of forthcoming assessments aroused emotional responses indicative of the construct of social physique anxiety (see Figure 3 below). A total of 16 raw themes were identified as reflecting a 1st theme of assesment - negative feelings (e.g., assessment anxiety, "It would make me really, really nervous, anxious") while three further raw themes were identified as reflecting assesment - negative expectations (e.g., assessment evaluation, "I just feel overwhelmed and that everyone is saying look at that fat person"). In addition, five raw themes were identified as reflecting a 1st theme of objective self-awareness, a 2nd theme of self-presentation, and classified into the general theme of social physique anxiety. Themes reflected, others' presence (e.g., "I always worry about who's gonna be there"), others' watching (e.g., "I don't want them to be watching me"), clothing attire concerns (e.g., "You don't necessarily have to be in your leotard"), instructor appearance - off-putting (e.g., "the fitness assessor is slim and very pretty and very young, and I feel like an absolute blob"), and assessment preparation (e.g., "you have to start preparing for it so they won't think so badly of you").

The emotions expressed in the 1st themes of assesment - negative feelings and assesment - negative expectations could be interpreted as reflective of the anticipatory nature of individuals' perceived doubts about making the desired impression on fitness instructors during assessments. Negative self-presentational anticipatory

Figure 3. Thoughts and feelings regarding fitness assessments: Social Physique Anxiety.

Raw Data Quotations	Raw Themes	1st Themes	2nd Themes	General Themes
It would make me really really nervous, anxious	assessessment anxiety (n = 1)			
You just get really really nervous, shaky, and sweaty	assessessment apprehension (n = 6)			
I sat there and felt awful. I felt do I continue?	assessment demoralising (n = 1)			
Fitness assessments are really about fear	assessment fear (n = 1)			
I hate them	assessment hatred (n = 1)			
I think intimidation comes first	assessment intimidation (n = 3)			
If you haven't exercised for a while your self-esteem is a bit low and you can feel a bit concerned	assessment low self-worth (n = 1)			
On the day, all my thoughts would be on the assessment	assessment worry (n = 3)	Assessment negative feelings		
It's so nervy	assessment unnerving (n = 1)			
I was just panicking really	assessment panic (n = 2)			
I found the actual experience quite uncomfortable	assessment uncomfortable (n = 2)			
I thought it would feel like an interrogation	assessment threatening (n = 1)			
It's traumatising	assessment traumatising (n = 1)			Social Physique Anxiety
It makes stress levels go through the roof	assessment stress (n = 2)			
It makes you a little more self conscious	assessment self-conscious (n = 7)			
It's upsetting to see yourself in front of a mirror and embarrassing	assessment embarrassing (n = 9)			
I feel I'm gonna be compared	social comparison (n = 2)	Assessment negative expectations		
Its fear of being judged	assessment evaluative (n = 5)			
It's so personal isn't it	personal information (n = 2)			
I always worry who's gonna be there	others presence (n = 3)			
Others were watching and that was very off-putting	others watching (n = 4)			
You don't necessarily have to be in your leotard	clothing attire concerns (n = 2)	Objective self-awareness	Self-presentation	
The fitness assessor is slim and very pretty and very young and I feel like an absolute blob	instructor appearance – off-putting (n = 5)			
You have to start preparing for it so they won't think so badly of you	assessment preparation (n = 15)			

outcomes could be seen to be predicaments (Leary & Kowalski, 1995; Miller, 1995; Shlenker, 1980) which are often expressed in a similar way to those cited in the present findings such as, "it's just intimidating...it makes you feel really conscious,"

"fitness-assessments are really about fear," and "I thought it would feel like an interrogation." Embarrassment was the emotion cited by many participants ($n = 9$) at the prospect of forthcoming assessments and is the response most typically reported in self-presentational predicaments (Leary & Kowalski, 1995; Miller, 1995). Furthermore, predicaments are said to lead to disruptions in social encounters (Leary & Kowalski, 1995; Miller, 1995) which was indicated by the present sample as having reported a tendency to engage in assessment procrastination.

Additional concerns expressed during interviews were directed toward self-presentational aspects relating to the public nature of fitness-assessments as reflected in the 1st theme of objective self-awareness. For example, the identified raw theme, others watching, served to highlight individuals' awareness of public aspects of themselves (e.g., overt exercise behaviour, physique; Duval & Silvia, 2000, 2001; Plant & Ryan, 1985). When objective self-awareness flags negative discrepancies between an individual's actual and idealised self they may feel self-conscious and experience evaluative threat. This could be said to be reflected in citations such as, "others were watching" and "that was very off-putting" and "the fitness assessor is slim and very pretty and very young and I feel like an absolute blob." These findings are in alignment with research that has clearly demonstrated that physique anxious individuals perceive high levels of evaluative threat (Brewer et al., 2004; Conroy, Motl, & Hall, 2000; Focht & Hausenblas, 2001; Leary, 1992) particularly when objective self-awareness is brought about by contextual factors such as the presence of others (Focht & Hausenblas, 2003; Raedeke et al., 2006).

The most frequently cited quotations identified as reflecting objective self-awareness were encompassed by the 1st raw theme of assessment preparation. Fifteen females reported paying particular attention toward diet and investment of additional

effort into their exercise regimens prior to any proposed assessment attendance. These behavioural strategies were undertaken to ensure that, "...they *(fitness assessors)* won't think so badly of you" suggesting that objective self-awareness prompts exercise initiation through feelings of compulsion as reflected in further citations such as "I'd have to be sure I was fit to go." Although invested effort is arguably a positive behavioural outcome from the prospect of forthcoming assessment attendance, for the present sample of individuals it was at the cost of adaptive emotional functioning.

Overall, the identified themes pertaining to social physique anxiety are in alignment with physique anxiety-related research findings (e.g., Crocker et al., 2003; Focht & Hausenblas, 2001; McAuley et al., 1995; Thompson & Chad, 2002) and suggest that the perceived evaluative nature of fitness-assessments negatively influences affective states and subsequent protective behaviours. Particular care and attention to diet, increased exercise effort, and frequently reported assessment procrastination could be seen to be attempts to decrease the likelihood of poor performance and the self-presentational consequences that would accompany this. To facilitate assessment participation, health club practitioners should consider individuals' negative affective concerns by allowing participants the privacy that is preferred during assessments. Furthermore, attempts to focus individuals' attention on personal improvement and mastery of tasks could assist in downplaying objective self-awareness and enhancing well-being by focusing on acquired mastery of the task at hand.

4.11.2 Section Two: Thwarting of Need Satisfaction. This general theme refers to the factors undermining exercisers' basic need satisfaction (i.e., competence, autonomy, relatedness). Analysis of interviews revealed the emergence of fifteen raw

themes (see Figure 4 below) identified as reflective of three 2nd themes of low need

satisfaction: low competence (e.g., "I would worry that my standards are not as good

on the day as I usually am"), low autonomy (e.g., Never any choice"), and low

relatedness (e.g., If they [*fitness assessors*] were just more normal you could relate to

them").

Figure 4. Thoughts and feelings regarding fitness assessments: Thwarting of need
satisfaction.

Raw Data Quotations	Raw Themes	1st Themes	2nd Themes	General Dimensions
I would worry that my standards are not as good on the day as I normally am	meeting personal standards ($n = 10$)			
I wanted to show myself what I was capable of	meeting perfectionistic standards ($n=3$)			
If I wasn't going to do as well as I should	meeting instructor standards ($n = 14$)	Meeting Standards		
When you see a girl of your age then you wonder	meeting peer standards ($n = 4$)		Low competence	
I always avoided them at least until I though I was fit enough	assessment preparation ($n = 15$)			
You feel like your being grilled	assessment feedback - critical ($n = 6$)			Thwarting of need satisfaction
It's about everything that's wrong	assessment feedback – disappointing ($n = 4$)	Negative Feedback		
It makes you feel lower, lesser	assessment feedback – demoralising ($n = 5$)			
I had to do assessments but only because I'd been coerced	attendance obligation ($n = 10$)			
They're gonna say you need to do this and you need to do that	controlling feedback ($n = 5$)	Lack of choice	Low autonomy	
Never any choice	no choice of instructor ($n = 4$)			
Flippin pressure to exercise	pressure ($n=4$)			
If they were just more normal you could relate to them	instructor - lacks understanding ($n = 2$)			
He'll talk to her whereas me who needs the assistance, I just felt like a number	instructor – not caring ($n = 1$)	Instructor - negative	Low relatedness	
Some aren't particularly helpful	instructor – not helpful ($n = 1$)			
Where are they getting their ideas from	instructor – not listening ($n = 1$)			

According to self-determination theory, these constructs represent three innate

psychological needs whose satisfaction is essential for personal growth, integrity, and

well-being (Deci & Ryan, 2000; Ryan, 1995). If exercisers' needs are met from

social-contextual factors in their immediate environment (e.g., fitness-assessments) more self-determined forms of motivational regulation will guide more adaptive behaviours (e.g., fitness-assessment attendance) resulting in an overall sense of satisfaction (Deci & Ryan, 1985, 2000). In contrast, diminished need satisfaction elicits less self-determined motivation in which controlled or amotivated behaviour could be displayed resulting in a lack of fitness-assessment attendance as reported in the present study.

4.11.3 Low Competence. Competence refers to feeling effective in mastering challenging tasks and exercising personal capabilities within specific domains (White, 1959). Identified raw themes reflective of meeting personal standards, perfectionistic standards, and meeting others' (instructors', peers') perceived standards were undermining the satisfaction of exercisers' need for competence. Ten participants expressed concerns directed towards the adequacy of their own standards as typified by quotes such as "I would worry that my standards are not as good on the day as I normally am" and "Coz you're thinking oh I'm not like them, you want to feel better in yourself; you know your own goals and standards." What these citations suggest is that the social consequences of falling short of self-set standards heightenened perceived personal inadequacies. One plausible suggestion for this is that perceived instructor expectations could become the bench-mark from which to gauge personal adequacies highlighting social comparative processes and possible self-discrepancies in attainment standards.

What these findings further suggest is participants' expected lack of situational provision for competence. For example, when situations provide participants with positive feedback and advice focused on personal progress, their need for competence will be facilitated (Deci & Ryan, 1991; Ryan et al., 1995). However, if lacking,

individuals' internalisation of more autonomous behavioural regulations will be undermined leading to self-protective behaviours (Deci & Ryan; Ryan et al., 1995). In the present study the citations reflective of low competence need satisfaction clearly adhered to this sequence of events in that a lack of expected competence support induced perceptions of inadequacy over personal standards resulting in reported assessment procrastination.

Similarly, two further participants emerged as holding perfectionistic standards which appeared to be an additional factor thwarting satisfaction of the need for competence. Perfectionistic tendencies were identified by the researcher when additional interview citations indicated participants concerns over feelings of failure when not meeting expected standards along with apparent agitation and predilection towards intense activity strivings as demonstrated in the following statement:

I always try to challenge my fitness...I'm not competitive with others...I always clocked up more miles and ran for longer than I really needed...I suppose I just wanted to show (to herself) what I was capable of...to stop pushing myself would have been a bit of a failure!

This participant initially cited intrinsic motives for exercise participation as reflected in her need for personal challenge and lack of competitiveness (Deci, 1975; Deci & Ryan, 1985). Furthermore, increased personal efficacy was being acquired through reinforcement of activity investment (Hewitt & Flett, 1991). However, while adaptive psychological factors and enhanced competence were derived from personal strivings they became undermined at the prospect of forthcoming assessments. This was reflected in additional citations such as, "I'm worried the instructor will think I'm not good enough and that maybe I had not worked hard enough and maybe I should

have lost more weight." Similar findings were revealed from an additional participant who evidenced perfectionistic tendencies as reflected in the following citations:

I get anxious about not doing enough sometimes...I'm a bit afraid that I might find out *(at the assessment)* that I'm not as good as I thought I was...others may be better than you and I don't like this thought...silly I know...my standards are really high and I'm kind of aware that I will never reach them unless I'm professional...I will never reach what I hope to reach...I hate competition

What could be inferred from these two apparent self-oriented perfectionists is that over-challenging standards and an excessive concern with personal validation undermined their need for competence which became exacerbated under evaluative contexts such as fitness-assessments. Perceived failure to attain internalised standards fostered feelings of self-doubt, dissatisfaction, and vulnerability to others' criticism (Flett & Hewitt, 2002) resulting in reported assessment procrastination. These findings are in alignment with empirical research relating to academia (Ferrari, Parker, & Ware, 1992; Schourwenburg, 1992; Shraw et al., 2007; Solomon & Rothblum, 1984) and suggest that procrastination could be seen to be a defensive behaviour that contributes towards maintaining a positive self-presentational image, feelings of competence, and overall feelings of worth. The finding that self-oriented perfectionism was negatively related to assessment procrastination partially refuted the first hypothesis. This form of intense striving was found to be positively related to procrastination although feelings of guilt (i.e., introjection) initially precipitated intense activity strivings.

Analysis of responses relating to the raw theme of meeting instructor standards revealed additional concerns regarding expectations of discrepancy in performance

such as "I'm gonna be judged where I am and I'm nowhere where they expect me to be" and "could I live up to their expectations?" Perceived instructor standards clearly undermined individuals' need for competence and were one of the main sources of assessment procrastination found in the present study as cited by 14 females. Participants perceptions of their fitness assessors could be equated with the role of significant others who have been found to be a prominent source of anxiety amongst individuals in other domains such as sport (e.g., James & Collins, 1997). Instructor levels of fitness and appearance could set the idealised standard by which exercisers gauge their level of competence. If this is the case then the evaluative nature of assessments could be equated to an important performance which heightens self-presentational importance. This in turn would hold ramifications for the influential role that fitness assessors play amongst physique anxious exercisers.

In addition to interview findings relating to personal, perfectionistic, and instructor standards were those relating to concerns over meeting peer standards. While only three participants made casual reference to comparisons with other exercisers, one participant found the presence of peers particularly problematic as reflected in citations such as "but if I found out that some of my peers were gonna be there, around, you know; training at the gym; I'd feel, erm, that I'd need to achieve to a higher standard." The defining characteristic between this participant and the other two participants was that gym training was undertaken as preparation for her sport of badminton. In this way, her peer-directed concerns could be compared with research findings relating to athletes and achievement contexts in sport (e.g., Harwood et al., 2001, 2002). Specifically, this participant stated that she felt a "need to demonstrate her progress...maybe to a higher standard" which is indicative of a social-approval task goal as discussed in Chapter Two (Harwood et al., 2003). Although a focus on

task mastery facilitated her need for competence, the presence of peers at the gym in which the assessment took place appeared to undermine this need as her efforts became introjected and contingent upon the *demonstration* of progress. However, her need to better her performance when in the presence of peers appeared to have only a limited detrimental impact on her well-being (as indicated from her citations); perhaps as her goal pursuit was also accompanied by a more intrinsic focus (i.e., progress).

Similarly, an additional factor undermining individuals' satisfaction of the need for competence was reflected in the 1st theme of negative feedback. A considerable body of research supports the notion that significant others are important sources of competence information which can enhance individuals' motivation through the provision of task-related feedback aiding personal improvement (e.g., Ames, 1992; Amorose & Horn, 2000; Hein & Koka, 2003; Vallerand, 1997). However, when feedback is perceived to be replete with exacting and / or absolute performance standards it only serves to undermine feelings of competence (Deci & Ryan, 1985; 1991). Identification of further raw themes provided support for this proposition.

Exercisers' expectations of harshly critical assessments were encompassed in raw themes relating to assessment feedback – critical, assessment feedback – disappointing, and assessment feedback – demoralising. These themes were typified in citations such as "…when they get their charts out and you're in a category and if you're high that makes you feel so bad" and "it's about everything that's wrong." Practically, these findings highlight the importance of the provision of positive reinforcement from fitness assessors in the form of competence feedback based on personal exercise goals.

Club fitness assessors' act as an important source of information to advise and

guide exercise participants. However, it is the manner in which the advice is given that has been found to be a critical determinant of behaviour change interventions (Miller & Rollnick, 2002). For example, attempts to persuade individuals to understand alternative perspectives such as the merits of fitness assessments undermine autonomous engagement (Vansteenkiste et al., 2004). Individuals may perceive that activity engagement is in part coerced by external agents rather than being self-initiated (Markland & Vansteenkiste, 2007). However, continual reinforcement based on improvement and effort would help to overcome individuals' concerns over meeting standards while facilitating their need for competence.

4.11.4 Low Autonomy. The concept of autonomy concerns the extent to which individuals feel a sense of volition in their behavioural pursuits. Even though individuals may feel competent about performing a certain behaviour they may not feel inclined to do so unless their actions are performed with some degree of self-determination (Deci & Ryan, 1985; Markland, 1999). To provide support for autonomy in any given situation there needs to be the provision of choice, rationales for decisions, and noncontrolling verbal language (Deci, 1995; Deci, Eghrari, Patrick, & Leone, 1994; Deci & Ryan, 1985; Reeve, 2002). These can be provided by significant others (Reeve, 2002) such as parents, peers, and friends who have been reported as having pervasive effects on individuals' autonomous motivation and behavioural engagement in education contexts (Deci, Driver, Hotchkiss, Robbins, & Wilson, 1993) and physical activity contexts (e.g., Hagger et al., 2002; Reeve, 2002). In addition, perceptions of more autonomy-supportive counsellors have been found to facilitate long-term weight-loss among obese individuals (Williams, Grow, Freedman, Ryan, & Deci, 1996). Consequently, autonomy-supportive conditions are vital to facilitate particularly as perceptions of competence may be less of a concern amongst

those individuals who feel a sense of volition in their physical activity pursuits (Markland, 1999). Although individuals may feel competent in their exercise investment, they may not feel inclined to attend fitness-assessments on the advice or perceived coercion of a fitness assessor. However, in the present study, the provision of autonomy was clearly not forthcoming as identified in raw themes reflecting attendance obligation, controlling feedback, and no choice of instructor; encompassed by a first theme of lack of choice and 2nd theme of low autonomy.

The most frequently cited raw theme underpinning individuals' experience of low autonomy was reflected in attendance obligation ($n = 10$, cited 15 times). Participants stated that they only attended assessments when they had little choice in the matter as demonstrated in citations such as, "I do it for my membership...I wouldn't do it otherwise," and "I had to do assessments but only because I've been coerced into it". This suggests that assessment participation for some of the participants arose as a result of internal pressures to meet external demands or out of obligation. Although attendance was the adaptive behavioural strategy that club assessors were likely promoting, the pressure perceived by individuals resulted in low perceived autonomy which negatively influenced their emotional well-being. Enhanced motivation cannot be forced or coerced by other individuals such as fitness assessors but rather should emanate from individuals for their own reasons. Therefore, the important issue being addressed is not the *source* of the control but rather the • *experience* of being controlled (Deci & Ryan, 1985).

Five participants further stated that controlling feedback, as indicated by quotes such as "they're gonna say you need to do this and you need to do that," and "you gotta eat this kind of food and this kind of exercise," along with a lack of instructor choice undermined feelings of autonomy and contributed to feelings of

being controlled. Advice specified in a pressuring or dictating manner (identified in the raw theme of pressure) such as those referring to exercisers' diet and regimen, merely served to create resistance amongst individuals as they tended to become regulated in a manner that undermined their experience of autonomy. This sequence of events is supported by self-dermination theory (Deci & Ryan, 1991; Vansteenkiste et al., 2004) and further demonstrates the role of need satisfaction in autonomous exercise regulation. It also highlights the importance of fitness assessors' need to provide autonomy-supportive conditions to promote more autonomous exercise engagement (Williams, 2002; Williams, Gagné, Ryan, & Deci, 2002) and participation in fitness-assessments. This could be facilitated by minimising instructor control and prescriptive assessment feedback by assisting exercisers to attend assessments when they feel they are ready and for their own reasons (Grolnick & Ryan, 1989; Reeve et al, 2003) and to have their own choice of instructor. However, while the provision of autonomy support is vital for facilitating self-determined motivation, exercise practitioners further need to support the need for relatedness.

4.11.5 Low Relatedness. The concept of relatedness refers to the need to feel a sense of connectedness with other individuals and to experience supportive social relationships. Research has demonstrated that individuals' need for relatedness can be facilitated through the provision of an involvement dimension in which there is demonstration of genuine interest and understanding (Reeve, 2002) between individuals such that significant others can be relied upon to provide emotional support when needed (Deci & Ryan, 1991; Connell & Wellborn, 1991). Emergent themes from the present study revealed that for some individuals, relatedness was clearly being thwarted by fitness assessor behaviours as reflected in identified raw

themes of: instructor - lacks understanding, instructor - not caring, instructor – not helpful, and instructor - not listening.

A lack of relatedness was cited by four participants as reflected in quotations such as, "he hasn't necessarily listened to what I've asked," "some aren't particularly helpful," and "they should have remembered my name," suggesting that fitness assessors demonstrated limited interest and understanding or a genuine acceptance of others' opinions or personal circumstances. This finding is an additional shortcoming of fitness assessors as the provision of support for all three needs is vital in order to facilitate autonomous behavioural regulation and well-being amongst individuals (Grolnick & Ryan, 1989; Ryan et al., 1995). Individuals who feel that fitness assessors hold little regard for their exercise difficulties and do not seem to really care about them will be less likely to internalise behavioural regulations (Ryan & Deci, 2003).

A lack of relatedness provision was clearly identified as being important to one particular exerciser who's decision to join a health club was based primarily on recognition of ill-health and lack of personal fitness. Initiation into a health club environment was primarily based on her need for relatedness as reflected in citations such as, "a small gym because I wanted it to feel personal, I didn't want to feel at that point (*initiation into a health club environment*) as if I was a number." However, based on a lack of instructor attention to her need for relatedness, her initiation into a health club environment was negative as reflected in the following citations, "...he (*fitness assessor*) put me on a treadmill and I'd never been on any equipment before and I promptly then realised he'd set it and said I should be able to walk at this pace and I promptly fell off the back." What this experience highlights is that for this participant, self-initiation of an exercise regimen was the main contributing factor

toward behavioural persistence in the absence of a need for satisfaction of competence and relatedness .

One unexpected finding regarding the identified second theme of low relatedness was that only four participants expressed concerns about a lack of support for this need. It had been expected that more exercisers might have expressed a lack of this need fulfilment due to their overall high levels of physique anxiety, concerns over others' approval, and therefore perceptions of not fitting in. However, this finding may have been misleading when further considering how relatedness was conceptualised in the present study. For example, when referring to the identified raw theme of instructor appearance (encompassed by the general theme social physique anxiety), five participants indicated that fit and healthy instructors were off-putting as reflected in citations such as "I think it would be nice to have in the gym, instructors who weren't so skinny and were normal," "you feel like a mignon," and "the fitness assessor is slim and very pretty and very young and very fit and I feel like an absolute blob!" These citations suggest that instructor appearance flagged self-presentational discrepancies which in turn likely influenced a lack of perceived relatedness and a sense of not fitting-in. Similarly, participant concerns over wearing appropriate clothing attire were another possible contributing factor to a lack of perceived relatedness as reflected in citations such as "am I wearing the right clothing?" Furthermore, low relatedness was further encompassed by raw themes reflecting instructors' lack of understanding, caring, helpfulness, and not listening. These findings highlight the various meanings that relatedness can hold for individuals.

The various identified themes associated with relatedness in the present study supports the conceptualisation of relatedness in self-determination theory. This broadly defines relatedness as referring to supportive relations with significant others

and also as a more general sense of connectedness with others in their immediate social context. However, the conceptualisation of relatedness was recently addressed by Markland and Tobin (submitted) whose findings revealed the emergence of two conceptually distinct but correlated dimensions; exercisers' general assimilation into the exercise context (e.g., *in exercise situations I feel different from everyone else*) and a sense of personal relatedness (e.g., *in exercise situations I feel accepted*). In alignment with these findings the present study revealed that relatedness concerns were expressed through (1) general assimilation into the exercise context as reflected in two raw themes of clothing attire and instructor appearance and (2) a sense of a lack of personal relatedness was reflected in four further raw themes of instructor- not understanding, not-caring, not-helpful, and not listening. Although the role of supports for relatedness has received less attention in self-determination theory than those for competence and autonomy, the present findings clearly demonstrate the importance of providing an assessment environment in which fitness assessors show a genuine interest in individuals' well-being (Connell & Wellborn, 1991).

4.11.6 Section Three: Seeking Need Satisfaction. Although self-determination theory clearly demonstrates the importance of providing a motivationally-supportive environment to facilitate individuals' basic needs, the direct *expression* of a desire for support for such needs by participants in the present study was somewhat unexpected (see Figure 5 below). For example, the need for competence was explicitly and most frequently cited in the raw theme of own goals and reflected in citations such as "what I wanted from him (*the instructor*) was you know, maybe a bit more structure." Based on the direct expression for this need it appears that some individuals required support to help them efficaciously continue with their exercise investment while for others the

Figure 5. Thoughts and feelings regarding fitness assessments: Seeking need satisfaction.

Raw Data Quotations	Raw Themes	1st Themes	2nd Themes	General Dimensions
I was judging me by my own standards I wanted him to see I'd gone up in weights	own goals ($n = 9$) demonstrate progress ($n = 1$)	Personal progress	Competence need	
I just like to be left to get on with it	self-initiation ($n = 4$)		Autonomy need	Seeking need satisfaction
I wouldn't go to anyone else (instructor)	building relationships ($n = 1$)		Relatedness need	

need for competence was acquired through the raw theme of own goals and reflected in citations such as, "I know I'm unfit, I have my own goals and standards."

However, as previously mentioned, feeling competent alone is not usually enough to promote optimal motivation unless accompanied by an element of self-determination (Deci & Ryan, 2000; Markland, 1999). The support for autonomy is essential and was specifically expressed by four participants in the present study as reflected in the raw theme of self-initiation and in citations such as, "I like to do what I want to do," "no-one can make me so it's good," and "you can work it out yourself." These citations clearly reflect the importance of fitness assessors allowing individuals to exercise personal volition over activity investment while also minimising external controls in the form of critical feedback (Edmunds, Ntoumanis, & Duda, 2005: Reeve, 2002).

In addition to the need for competence and autonomy, one participant clearly stated her need for relatedness as reflected in the raw theme of building relationships. This participant stated that her involvement with one fitness assessor had been "...quite a personal thing," and that she "...wouldn't go with anyone else." This latter statement suggests that without a sense of relatedness she could potentially lose

direction of her activity investment which was vital to maintain since ill-health

precipitated regular involvement. As supported in self-determination theory, the

extent to which individuals' basic needs are met by specific contexts will

subsequently enhance or undermine more autonomous styles of behavioural

regulation (Guay et al., 2001). The present study findings further illustrated this

sequence of events in exercise domains.

4.11.7 Section Four: Assessment Procrastination. This general theme referred

to those exercisers who tended to have anxiety-related concerns about forthcoming

fitness-assessments, had postponed them on at least three consecutive occasions, and

had a general tendency to avoid them altogether. Analysis of results revealed that

seven participants perceived reported assessment procrastination as a means of coping

with negative personal information already known to them (e.g., being overweight;

see Figure 6 below).

Figure 6. Thoughts and feelings regarding fitness assessments: Assessment
procrastination.

Raw Data Quotations	Raw Themes	1st Themes	2nd Themes	General Dimensions
I don't wanna really hear it	feedback denial ($n = 7$)	Coping		Assessment procrastination
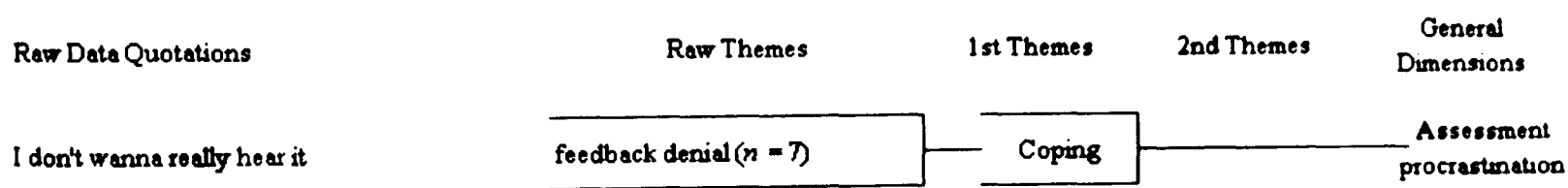
This was reflected in the raw theme of feedback-denial encompassed by the 1st

theme of coping and was reflected in citations such as "It's just that I'd rather not

know how I am; I'd rather place my head in the sand." This form of coping could be

interpreted as an effort to manage anticipated anxiety when appraisal of assessments

is perceived to exceed personal resources to cope (Lazarus, 1999; Lazarus &

Folkman, 1984). For example, in the present study, individuals' doubts about meeting

standards were likely one contributing factor undermining personal efficacy to cope
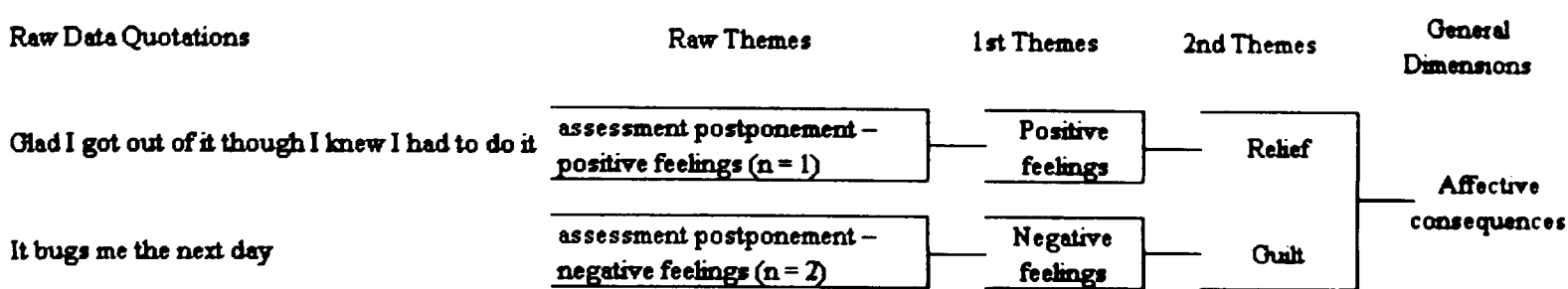
with a perceived threatening situation. Consequently, denial could be said to be an adaptive, albeit temporary strategy in that it allowed additional time for assessment preparation therefore reducing the possibility of perceived instructor criticism. Conversely, prolonged denial amongst ill-health exercise participants could potentially be threatening to physical health and therefore seen as a maladaptive coping mechanism (Lazarus, 1999).

Currently, debates abound regarding the pros and cons of denial which has frequently been conceptualised as false self-knowledge or self-illusions (Crocker, 2002; Kernis, 2003). Research findings suggest that when individuals are oriented toward growth and development (Deci & Ryan, 2000), self-illusions such as believing that personal levels of fitness and body fat composition are unproblematic when they are not by current standards (such as that of the fitness assessor), are less healthy or adaptive than more accurate judgments of personal circumstances (e.g., being unfit; having a high body fat composition). However, self-beliefs may be beneficial in the short-term by helping individuals cope with unpleasant emotions (Crocker, 2002; Kernis, 2003; Kernis & Goldman, 2006).

What the identified raw theme of feedback-denial suggests with respect to the present sample of highly physique anxious exercisers is that reported assessment procrastination could be seen to be a defensive behaviour stemming from personal insecurities regarding the self (Kernis, 2000; Kernis & Goldman, 2006). However, in light of the overall findings in the present study, reported procrastination appeared to arise from denial of exercisers' perceived sub-standard levels of personal health and fitness levels. This provided temporary relief from a non-supportive situation for some of the present sample. For others, assessment postponement resulted in more negative affective consequences.

4.11.8 Section Five: Affective Consequences. Analysis of interviews revealed

that three participants in the present sample cited feelings of relief or guilt upon

assessment postponement as indicated in the 2nd themes identified in Figure 7 below.

Figure 7. Thoughts and feelings regarding fitness assessments: Affective
consequences.

Raw Data Quotations	Raw Themes	1st Themes	2nd Themes	General Dimensions
Glad I got out of it though I knew I had to do it	assessment postponement – positive feelings (n = 1)	Positive feelings	Relief	Affective consequences
It bugs me the next day	assessment postponement – negative feelings (n = 2)	Negative feelings	Guilt	

Although reported assessment procrastination might arguably be adaptive in

that it allows additional time to physically prepare for forthcoming assessments, for

this was at the cost of emotional well-being for two participants. This finding is in

alignment with research attesting to the proposition that procrastination induces

negative affective responses the longer the impending delay (Lay, 1995; Rothblum et

al., 1986; Solomon & Rothblum, 1984; Schouwenburg, 1992; Senécal et al., 1995).

In contrast, results further indicated one additional participant who reported a

sense of relief from assessment procrastination. Relief occurs when an important

threat does not materialise (Lazarus, 1999) suggesting that this individual was

expecting a negative outcome from her forthcoming assessment. However, what

could not be ascertained from the reported citations was the timeframe over which this

positive feeling occurred. For example, it is plausible that while relief was the

immediate adaptive emotional response (Lazarus, 1999) experienced as a result of

assessment postponement, this was temporary. It may have been that the closer the

re-scheduled assessment approached the more emotional discomfort this individual re-

experienced (Lay & Schouwenburg, 1993). However, this would be dependent on the

individuals' cognitive interpretation of the situation over time (Folkman, 1984). When the meaning or importance of the assessment alters as a result of the demands of the task or the personal resources to cope with the task then they are subject to re-evaluation. In this way, as the re-assessment approaches, the meaning of its implications will also likely alter as will the likelihood of experienced anxiety. Overall, these findings suggest that different affective responses arose from reported assessment procrastination which supports the complex appraisal process (Folkman, 1984). However, based on the responses evoked from the interview citations of the present three respondents, limited inferences can be gleaned.

4.11.9 Conclusion

This study was designed to determine the motivational antecedents and affective consequences of reported fitness-assessment procrastination amongst physique anxious exercisers. Without any pretence of open-mindedness, interview questions were primarily based on sound theoretical perspectives. However, as the maladaptive nature of procrastination as it relates to fitness-assessments has not yet been established, this study was also exploratory in nature. Therefore, the decision to conduct a qualitative enquiry, guided by certain theoretical constructs of interest and individuals' personal experiences of the situation sought to establish its most important constructs as they related to the present sample of exercisers. Any study conclusions are claims to be further assessed by additional qualitative and quantitative research endeavours. This is of particular importance as the study findings are based on individuals' perceptions of their experiences which may not be generalizable to broader populations (Creswell, 2002) and was one of the main weaknesses of the study. Further to this, study participants were selected based on self-reported assessment procrastination and not high levels of physique anxiety. Therefore, it is

not clear whether other physique anxious exercisers would perceive the causes of their procrastination in a similar way or whether the current findings are relevant to non-physique anxious exercisers. In addition, the proposed model of assessment procrastination (see Figure 4 below) reveals possible relationships among identified variables rather than causal relationships.
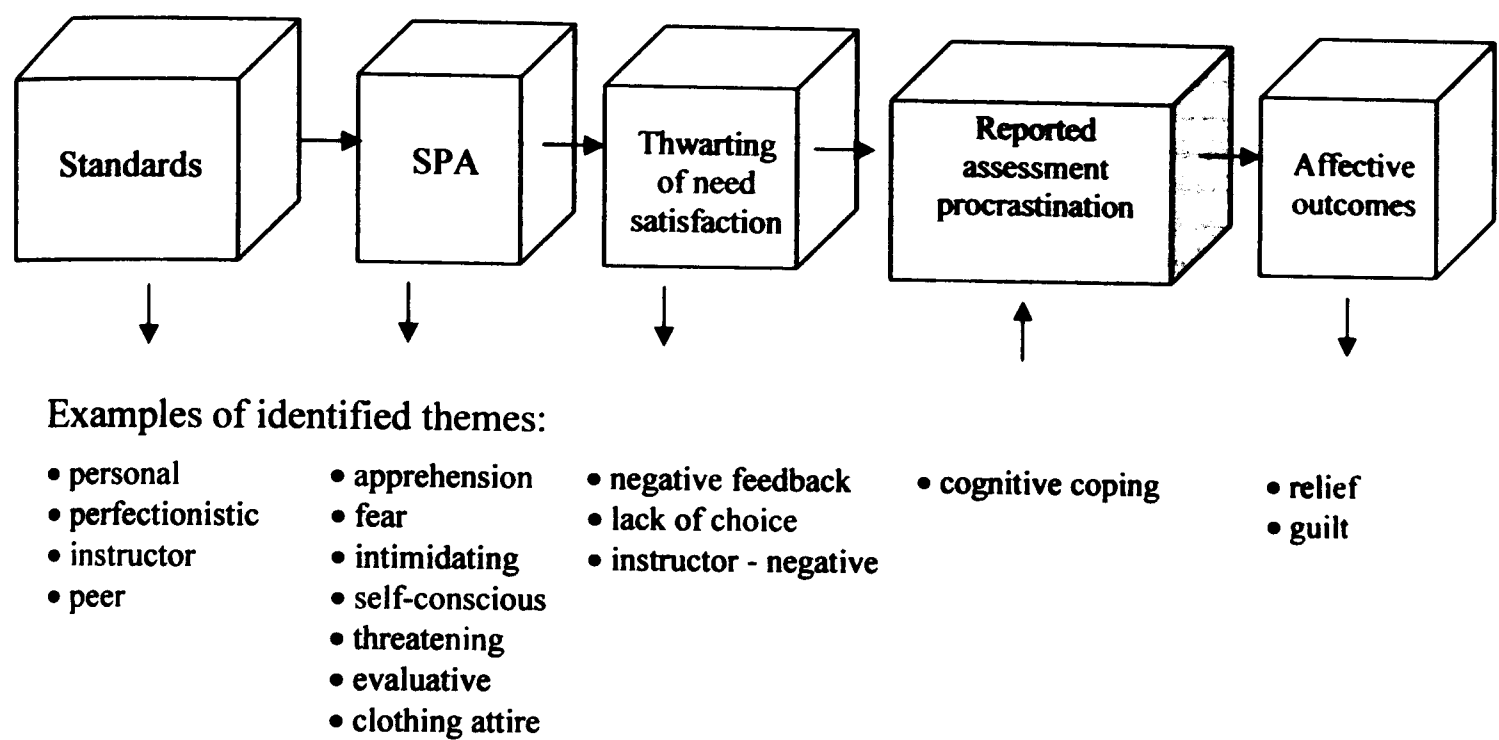
There were four purposes of this study. The first was to determine the applicability of procrastination to exercise-related fitness-assessments amongst socially physique anxious exercisers. This purpose was primarily initiated by the researchers' previous experiences as an exercise practitioner. The second purpose was to determine the extent to which the relationship between multidimensional perfectionism and assessment-procrastination is influenced by self-regulatory processes. The identified antecedent constructs in the study will allow researchers to systematically understand the nature of this maladaptive behaviour. The third purpose was to clarify the target of perfectionistic exercisers' concerns. This realisation would serve to address previous issues raised in Chapters Two and Three in the current body of research while also clarifying the direction of socially prescribed perfectionists' target of approval in exercise settings. The fourth purpose of this study was to ascertain the affective consequences arising from assessment-procrastination. This would serve to support or refute propositions attesting to its adaptive / maladaptive nature.

Collectively, the emergent main themes from this study indicated that reported fitness-assessment procrastination was influenced by both personal and situational factors including social physique anxiety and thwarting of need satisfaction. Results further revealed that for some participants, reported procrastination was seen as a form of cognitive coping and that negative and positive affective consequences arose

from the resultant delaying behaviour. It was concluded that the *maladaptive* nature of procrastination was most relevant to the sample of highly physique anxious interview participants, thus supporting previous empirical findings purporting to its negative implications (e.g., Tice & Bauemeister, 1997). However, in contrast to some previous research findings (e.g., Senécal et al., 1995), procrastination was not undertaken from laziness or indifference. Rather, most participants reported fear of not meeting standards and a lack of an autonomy-supportive assessment environment for their lack of behavioural engagement. These findings are important as they highlight the possibility for appropriate theory-based interventions from fitness-assessors.

Based on the main findings of the present study, a proposed model of fitness-assessment procrastination is proposed which includes the most applicable antecedent constructs and affective consequences associated with this self-reported behaviour. This model (see Figure 8 below) extends previous research in that it systematically identifies the most important causes and consequences of assessment procrastination as reported by highly physique anxious exercisers. Examples of identified themes associated with each of the model's general themes are presented. As cognitive coping was not subsumed by any other higher order themes, its connection in the model is demonstrated by relating it with an arrow directed toward reported assessment procrastination. The current model could assist exercise practitioners in their quest to facilitate optimum exercise engagement via regular assessment attendance among prospective and current club members.

Figure 8. A proposed model of fitness-assessment procrastination and its associated affective consequences amongst physique anxious exercisers.

Examples of identified themes:

• personal	• apprehension	• negative feedback	• cognitive coping	• relief
• perfectionistic	• fear	• lack of choice		• guilt
• instructor	• intimidating	• instructor - negative		
• peer	• self-conscious			
	• threatening			
	• evaluative			
	• clothing attire			

Note: N = 18, SPA = social physique anxiety.

Overall, it can be seen from the proposed model that motivational processes are clearly implicated in reported procrastinatory behaviour. In-depth interviews revealed that physique anxiety and a concern with the adequacy of meeting standards were key determinants of reported fitness-assessment procrastination. In alignment with the study expectations, perfectionism was also found to be one defining antecedent construct of procrastination. Reflection of participants' interviews and reported citations identified three perfectionistic exercisers. Each clearly indicated that their activity investment primarily arose from introjected regulation. A pre-occupation with self-validation (in which striving to meet standards is one defining feature of perfectionism; Blatt, 1995; Hewitt & Flett, 1991) led to continual compulsive strivings in order to negate the impact cessation would have on self-worth. What this suggests is that perfectionistic exercise participants were increasing

their efficacy and enhancing their self-worth through reinforcement of regular daily activity investment. Although enhanced competence was a positive outcome from these strivings it was also a contributing factor in the development of obligatory exercise behaviour (recognised from perfectionistic participant citations). This is in alignment with previous research findings (Coen & Ogles, 1993; Hall, Kerr, Kozub, & Finnie, 2006; Hausenblas & Symons Downs, 2002; Robbins & Joseph, 1985) and further indicates the controlling, harshly evaluative, and pressured nature of introjected regulatory behaviour (Koestner & Losier, 2002; Ryan & Deci, 2000).

Given the concerns over fear of failure and negative social evaluation amongst perfectionists (Coen & Ogles, 1993; Hewitt & Flett, 1991) and procrastinators (Ferrari 1992; Schouwenburg, 1992; Shraw et al., 2007; Solomon & Rothblum, 1984), the exerted effort among perfectionists might be one means of avoiding failure. The postponement of fitness-assessments would serve to maintain a positive self-presentational image (Hewitt, Flett, & Ediger, 1995).

The nature of the direction of perfectionists' concerns (self directed, other directed) in the present study remained unclear as identified perfectionists made reference to both self-related perfectionistic concerns (i.e., self-oriented perfectionism) and concerns about meeting others' high standards (i.e., socially prescribed perfectionism). In this way, the hypotheses that self-oriented perfectionism will be negatively related to procrastination and positively related to introjection and socially prescribed perfectionism would be positively related to procrastination cannot be fully supported. However, it is clear that both dimensions were positively related to introjected regulation thus partially supporting the first hypothesis. One suggestion for the lack of conclusive results is that identified perfectionists were unable to differentiate personal standards of attainment from those

perceived standards set by others (i.e., fitness assessor, peers). By maintaining

personally high standards participants could also appease the potential wrath of

others' criticism (a further defining characteristic of perfectionism; Dunn, Dunn.

Gotwals et al., 2006; Flett & Hewitt, 2002; Frost et al., 1990) thus questioning the

notion of multidimensional perfectionism. Consequently, the direction of

perfectionistic concerns (self, other) remains unclear and minimally contributed to the

overall study findings. In addition, perfectionism did not evolve as a strong

antecedent construct of procrastination. This may have been a result of the limited

number of participants interviewed. However, one finding which clarified one aim of

the present study was the target of exercisers' evaluative concerns. These were

identified as both peers and fitness assessors. This finding re-emphasises the

importance of fitness assessors' need to facilitate an autonomy-supportive assessment

environment by downplaying social comparative processes. In addition, what it also

reveals is that individuals' concerns over standards interacted with contextual factors

to heighten state anxiety. Highly physique anxious exercisers perceived fitness-

assessments as motivationally non-supportive, *predominantly* as a result of assessor

behaviour. Exercisers' basic needs were clearly being undermined by first, concerns

over the adequacy of personal progress in comparison to expected assessor standards;

second, through a lack of personal volition and choice over style of fitness

programme; and third, through a lack of overall perceived instructor support.

Assessors' personal levels of fitness along with text-book criteria of fitness

requirements appeared to signify absolute performance standards which alerted

comparative discrepancies amongst the present sample of participants. Consequently.

this brought about increased self-awareness and undermined the need for competence

which negatively influenced individuals' behavioural regulation. Participants

predominantly cited feeling pressured and obliged to attend assessments and were reticent to participate. These negative feelings were exacerbated by expectations of prescriptive instructor suggestions to engage in alternative forms of exercise behaviours (to enhance performance improvement) and overall feelings of a lack of assessor support for their exercise difficulties. In general, these findings demonstrate congruence with the views of Deci and Ryan (1991, 2000) who suggest that when situations frustrate individuals' satisfaction of needs it will delay the onset of internalisation and self-motivation and lead to negative affective consequences and protective behaviours.

Perceptions of a lack of situational provision for individuals' basic needs appeared to have been the main contributing factor toward exercisers' assessment-related concerns. However, the inherent nature of the present sample may have been an additional factor which brought about elevated anxiety. Interview participants consisted predominantly of highly physique anxious individuals who were likely to be concerned with the adequacy of their physique as judged by socially-defined standards. Concerns about personal adequacy predispose individuals to experience increased state anxiety (see Chapter Two) as perceived performance discrepancies become a cause for concern. Therefore, both individual difference factors and situational determinants combined to influence exercisers' cognitive appraisal process (Lazarus, 1999) such that fitness-assessments were experienced by physique anxious exercisers as controlling, over-challenging, and rejecting of basic needs, thus impeding internalisation and motivation to attend. However, the intensity of the anxiety experienced at the prospect of forthcoming assessments would have differed among exercisers as a result of the temporal nature of anxiety (e.g., Thomas, Maynard, & Hanton, 2007).

The appraisal process is complex and evokes anxiety when the cognitive interpretation of an event is perceived as important (Lazarus, 1999) or when secondary appraisal characteristics are lacking (e.g., self-efficacy; McAuley, 1992). It is also likely that exercisers' interpretations of the pending assessment altered over the time period leading up to its inevitability, as would threat appraisal. For example, the reported emotional anguish experienced by the present sample of exercisers at the prospect of the assessment is in alignment with research pertaining to the maladaptive nature of procrastination (e.g., Miligram, 1991; Schraw et al., 2007; Tice & Baumeister, 1997). However, what could not be ascertained from the present study findings nor is clear from procrastination research findings is the temporal nature of individuals' experienced anxiety. It is quite plausible that exercisers' only displayed heightened cognitive anxiety immediately prior to the assessment as the functional significance of the event took on greater meaning (Deci & Ryan, 1985; Folkman, 1984; Lazarus, 1999). If physique anxious exercisers doubted their ability to favourably self-present then disclosure of perceived short-comings would have become exacerbated immediately prior to the assessment.

To cope with the onset of heightening anxiety, assessment procrastination would become the desired strategy as would future avoidance of assessments. This would provide a form of relief which was evident for one of the participants in the present study and supports one of the study aims. In this way, assessment procrastination could be said to follow Lazarus and Folkman's (1984) model of cognitive-emotional-behavioural theory of coping. If individuals hold doubts that they possess the necessary skills to complete a task, they will become upset and attempt to avoid the completion of the task. This form of escape or behavioural disengagement (Kernis & Goldman, 2004) temporarily reduces anxiety and can

strengthen the tendency to delay the task further. Although anxiety research attests to this proposition (e.g., Folkman. 1984; Lazarus. 1999) it is in contradiction to research supporting the adaptive nature of procrastination (e.g., Brinthaupt & Shin. 2001; Schraw et al., 2007).

Adaptive characteristics associated with procrastination among student populations have included cognitive efficiency in the form of maximised learning within short periods of time via enhanced effort, and peak experiences and excitement of completing the task at hand prior to the deadline. Furthermore, some students have indicated that procrastination increased flow experiences in which total absorbtion in the activity was achieved (Csikszentmihalyi. 1990) as a result of increased pressure to perform at the last minute (Shraw et al., 2007). While the adaptive nature of procrastination might be motivational for some, it remains unclear whether the positive affect that can accompany academic procrastination is preceded by longer bouts of emotional discomfort prior to last minute cramming. As a result, the reported adaptive nature of procrastination could not be supported in the present findings although last minute exercise and diet preparation cited by the present sample of participants implied a similar form of cramming to that reported amongst students. However, in contrast to experienced flow from last minute study preparation, the present sample of participants indicated little positive affect from their exerted efforts although this might been revealed if further prompted by interview probes.

It could also be argued that enhanced exercise effort and attention to diet were positive behavioural outcomes from the prospect of individuals' pending fitness-assessments. However, according to reported citations this additional invested effort was clearly at the cost of adaptive emotional functioning indicating its occurrence was driven mostly out of introjected regulations. This form of regulation is suggestive of a

more controlling form of extrinsic motivation (Blatt & Zuroff, 2002; Ryan & Deci, 2000) in which behaviours are undertaken from anticipation of feelings of guilt. Therefore, although the present findings indicated that pressure was the predominant driving force for exerted effort it was unlikely to have been sustained over time due to the lack of autonomous engagement (Vansteenkiste et al., 2004; Wilson & Rogers, 2003) and the abatement of the assessment deadline. Although the time-frame associated with additional exerted effort could not be determined from the present findings, citations from identified perfectionists suggested that in contrast to this proposition, the alleviation of behavioural investment was not an option.

The findings from the present study hold implications for behavioural interventions of exercise practitioners aiming to facilitate assessment attendance and subsequent satisfaction and exercise adherence. Provision of exercise and diet-related advice alone does little to guarantee continued behavioural pursuit (Miller & Rollnick, 2002). Rather it is the manner in which the advice is provided that is of critical importance. One way for exercise practitioners to facilitate client aims is to create an autonomy-supportive assessment environment which will satisfy individuals' three basic needs. The three contextual factors central to autonomy-support which correspond to each of the three basic needs are an understanding of the purpose of personal regimens, the provision of choice, and an understanding of others' perspectives (Deci, et al., 1994).

However, individuals may place differential importance on each of the three basic psychological needs depending on which need is most required at a given time and in a given situation (Vallerand, 2001). For example, it is clear from the present study findings that at least two participants expressed their need for relatedness in the early stages of exercise initiation and at the cost for their need for competence (i.e., as

cited by the participant who fell off of the treadmill). Although one participant suggested that her need for relatedness was initially thwarted, her strong desire to satisfy this need allowed her to resolve any inconsistencies and establish a sense of coherence with her exercise surroundings. This motivation (i.e., identified) is a more self-determined form of behavioural regulation in which valued outcomes of an activity provide a strong incentive to overcome any perceived barriers to maintaining the behaviour. As exercise can often be construed as unenjoyable, identification is essential to the regulation of behaviour (Koestner & Losier, 2002). What this finding suggests is the importance of recognising which need is most important to certain individuals at given stages of their exercise pursuits. What it also suggests is that individuals often have the necessary inner resources to meet their needs when those from the environment are lacking (Deci & Ryan, 2002).

4.11.10 Methodological Considerations and Future Research Directions

The present study findings and overall proposed model provide initial insight into the psychological processes underpinning fitness-assessment procrastination amongst physique anxious exercisers. Although a number of weaknesses specific to this study have been reviewed there were also some strengths. A strength of this study was the epistemological framework guiding it which was based on two approaches; a general inductive analytic approach (Patton, 2002) and an orientational qualitative enquiry (Kvale, 1996; Patton, 2002). These allowed sound theoretical approaches to be tested while also allowing for the emergence of new themes in a domain that has not yet assessed fitness-assessment procratination. A second strength was that the design of this investigation considered potential bias inherent within interpretive data. This was addressed by introducing the theory constructs under assessment to a second researcher only after identification of the 1st themes. A third

strength was the nature of the sample. Participants were chosen who met the criteria

for factors underpinning procrastination as partly defined by Miligram (1991). In this

way, a definition of procrastination had been proffered which is in alignment with

research that indicates that procrastination may be an impediment to adaptive

behaviour and linked to anxiety (e.g., Ferrari & Tice. 2000: Flett et al., 1995).

The study findings suggest that the lack of provision for individuals' basic

needs was the main precursor for assessment procrastination. This raises several

questions the first of which regards the nature and role of procrastination amongst

physique anxious exercisers. For example, fitness assessors should take the

postponement of scheduled assessments rather more seriously (than personal

experiences and discussion have suggested) and be more understanding and aware of

the negative affective consequences induced by such behaviour (Ferrari, 1991; Shraw

et al., 2007). An acceptance of procrastination among fitness assessors could lead to

the implementation of appropriate interventions by health club staff to maximise

exercise progress and minimize the occurrence of its negative affective consequences.

However, inextricably linked to an understanding of procrastinatory behaviour would

be the realisation that assessor behaviour is the predominant factor undermining

autonomy-supportive assessments as indicated by the present study findings. Future

research could first manipulate fitness assessment environments by producing an

autonomy-supportive and a controlling environment in an attempt to assess whether

procrastination among physique anxious exercisers differs as a result of different

social contexts. The findings from the present study would provide some bench-

marks from which to gauge the main characteristics typifying a controlling assessment

environment. As research has demonstrated strong support for the utility of

autonomy-supportive environments in the satisfaction of basic needs, more self-

determined motivation, and exercise adherence / practice attendance (Gagné, Ryan, & Bargmann, 2003; Wilson et al, 2004), theoretically based interventions could be further manipulated to ensure that an adaptive environment was perceived by all prospective attendees.

In addition to the manipulation of assessment environments, future research might also assess the applicability of the present study findings to a wider sample of exercisers through quantitative research methods. This could further ascertain whether the present study findings are applicable to physique anxious exercisers alone or to exercisers in general. Given the propensity of physique anxious individuals to perceive more threat under evaluative conditions (e.g., Haase et al., 2002) the present findings might be exacerbated due to the nature of the sample of participants. However, studies have also revealed that procrastinators are particularly sensitive to others scrutiny to the point that procrastination becomes a defense mechanism shielding individuals from outcomes that may result in negative evaluations (Fee & Tangney, 2000; Ferrari, 1991). At present, it remains unclear whether the nature of procrastination amongst physique anxious exercisers is predominantly as a result of a predisposition to become anxious under evaluative contexts or due to a lack of environmental supportive conditions. Either way, an autonomy-supportive environment is more likely to placate anxiety-related concerns and facilitate the meeting of basic need satisfaction.

In addition to assessment of the applicability of current study findings to physique anxious individuals or exercisers in general, would be to also consider further individual difference factors influencing the appraisal process (Lazarus, 1999). For example, a significant factor related to the way in which individuals have been known to approach an academic assignment is their level of self-efficacy or the belief

that the desired skill or behaviour can be mastered (e.g., Chu & Choi, 2005). For example, research has demonstrated that self-efficacy is inversely related to anxiety and procrastination (Haycock et al., 1998) suggesting that academic procrastination follows an appraisal-anxiety-avoidance model following the cognitive-emotional-behavioural theory of coping (Lazarus & Folkman, 1998). Specifically, if an individual doubts that they lack the necessary skills to effectively cope with a given task they will become anxious or attempt to avoid the responsibility of task completion. Although this form of self-illusion or avoidance may reduce negative affect in the short-term (Crocker, 2002; Kernis, 2003) and therefore seem adaptive, in the long-term, it may contribute to poorer outcomes such as greater emotional distress as evidenced in Miligram's explanation of procrastination and adopted in the present study.

The conceptualisation of procrastination in the present study holds important ramifications for future research into fitness-assessment procrastination. To endorse differing interpretations of procrastination is to potentially lead to conceptual confusion regarding its nature and applicability. For example, it has already been stated that research into procrastination often produces inconsistencies in findings as a consequence of the differing operational definitions used. As a result, this is to ignore the possibility that procrastination could have positive effects for some individuals on some occasions (Sigall et al., 2000).

4.11.11 Inconsistencies in the Procrastination Literature

Substantial inconsistencies in procrastination literature suggest the need for more research using valid and reliable instruments. In the present study, it was made clear that the conceptualisation of procrastination was maladaptive which guided the choice of exercise participants chosen by the researcher. In order to advance the

findings of the present study it is necessary to define procrastination in a similar way as any alteration of its conceptualisation would undoubtedly alter the likelihood of different findings. However, as it remains unclear whether other exercisers hold similar beliefs or behaviours about procrastination, future research endeavours should explicitly state which conceptualisation is being endorsed and why future findings warrant such changes.

CHAPTER FIVE

OVERALL DISCUSSION

5.1 Overall Aims of the Current Programme of Research

The motivational antecedents of social physique anxiety have received limited empirical attention (Thogersen-Ntoumani & Ntoumanis, 2007). As a result, the main aim of the current programme of research was to assess motivational factors implicated in the appraisal process (Lazarus, 1999) that contribute to social physique anxiety (Hart et al., 1989) and its important associated behavioural consequences. The theoretical frameworks underpinning this assessment included achievement goal theory (Nicholls, 1984, 1989) and self-determination theory (Deci & Ryan, 1985, 2000). The type of achievement goals that individuals endorse (task, ego; Nicholls, 1989; Stipeck, 1992) have been found to be key factors implicated in the appraisal process influencing anxiety. However, due to previous concerns over their applicability amongst recreational and health-related exercisers (e.g., Duda, 1989; Roberts, 2001) along with a lack of consideration for social goal assessment, a new goal orientation measure was developed. These goals assessed task and ego goals in terms of self- and socially directed reasons as conceptualised by Harwood and colleagues. As goal orientation definitions have previously been criticised on the grounds that they are confounded with their correlates (e.g., effort, learning, enjoyment; Hardy, 1997, 1998), study one sought to resolve these issues in order to improve on existing goal orientation in exercise measures (GOES; Kilpatrick et al., 2003).

Little support was found for the discriminant validity of social goals in study one (Chapter Two) therefore study two (Chapter Three) re-conceptualised social goals by examining the more comprehensive framework of self-determination theory (Deci

& Ryan, 1985. 2000). In addition to the assessment of competence. this theoretical approach further considers satisfaction of the need for relatedness which was seen as a viable alternative to social goal assessment. As Deci and Ryan (2000) postulate the importance of all three basic needs for enhanced well-being. study two assessed whether the endorsement of achievement and social goals served to satisfy competence, autonomy, and relatedness amongst physique anxious exercisers. In alignment with social goal assessment in studies one and two. study three (Chapter Four) sought to assess the concept of self -versus other-directed goals in the form of individual differences in self- and socially prescribed perfectionistic tendencies (Hewitt & Flett, 2002). These motivational processes (along with others) were identified as contributing to physique anxiety and the potentially maladaptive behavioural strategy of fitness-assessment procrastination and its associated affective outcomes among gym users.

Thus the overall programme of research focused strongly on operationalisation of major classes of goals and the influence of these goals on self-determined motivation, social physique anxiety. and procrastinatory behaviour and its associated affective consequences. The development and progression of goal assessment resulted predominantly in light of current limitations in existing exercise-related measures (GOES; Kilpatrick et al., 2003) and a lack of support for the discriminant validity of more contemporary goal perspectives (i.e., self- and other directed goals) as conceptualised by Harwood and colleagues (Harwood & Swain. 2001. 2002: Harwood et al., 2003).

5.2 An Overview of the Study Findings

The overall results from the current programme of research revealed some clear findings. First. support was provided for the relevance of task and ego goals in

activities not directly expressed toward competition and the demonstration of physical skills. Second, in alignment with the tenets of self-determination theory (Deci & Ryan, 1985; Deci & Ryan, 2000) support was found for the adaptive nature of intrinsic goals (i.e., task, affiliation) relative to extrinsic goals (i.e., ego) in meeting satisfaction for the need for relatedness, and third, for the undermining of basic need satisfaction, autonomous regulation and adaptive outcomes associated with controlling environments. In addition, the target of exercisers' approval was clarified as being directed mainly toward fitness assessors thus highlighting the importance assessors play in facilitating or thwarting adaptive exercise patterns. Overall, these findings hold practical implications for exercise practitioners and for the assessment of the antecedents and consequences of social physique anxiety. However, before these can be discussed, the merits and limitations of the programme of research first need to be addressed.

The results of study one provided support for a theoretically and statistically sound goal orientation measure (GOEM) applicable for both males and females. These initial findings suggest that this measure may be useful for researchers and practitioners alike. Knowledge of the relevance of achievement goals among individuals engaging in activities not explicitly directed at competition will allow the application of interventions derived from other achievement domains. This will serve to broaden the current knowledge base of those interested in facilitating exercise adherence. However, the study findings did little to advance further understanding of the social processes underpinning activity investment.

Social goal assessment as conceptualised by Harwood and colleagues revealed the presence of high inter-factor correlations between self-directed ego and social-approval ego, social-approval task and self-directed ego, and social-approval task and

social-approval ego goals suggesting conceptual overlap between constructs. These findings partly supported previously aired concerns over the likelihood of these goals being highly correlated (e.g., Nicholls, 1985) while also demonstrating that little conceptual distinction was recognised by participants. The decision in the present study to merge factors resulted in what the author deemed was a more parsimonious two factor model. However, this decision was in contrast to that taken by Harwood et al (2003).

While Harwood and colleagues also found high factor-factor correlations similar to those found in the present study, their justification for retaining their four factor model was a result of it having better fit indices than tested alternative model combinations (e.g., self-directed task, self-directed ego, and social-approval consisting of combined social approval task and social-approval ego). As previously discussed, the problem with testing these alternative models was that there were no *clear* theoretical justifications provided for their combination. As a result, this study provided strong support for the relevance of task and ego goals in recreational physical activity settings for adults. However, it did little to ascertain the social antecedent constructs associated with exercisers' motivational processes. Consequently, the lack of support for social goals resulted in their re-conceptualisation in study two. The theoretical framework of self-determination theory (Deci & Ryan, 1985, 2000) was seen as a viable alternative of social goal assessment.

Self-determination theory proposes that the self is an active agent engaged in an ongoing process of integration with environmental inputs (Deci & Ryan, 1991, 2002). This is a natural process in which individuals' seek to satisfy three basic psychological needs from social environments, one of which includes satisfaction of

the need for relatedness. Relatedness involves a sense of connectedness with others and the experience of supportive relationships which is an essential nutriment for well-being. This conceptualisation contrasts with other social goals (e.g., social-approval) which are focused on acquisitions and which do not necessarily ensure psychological well-being (Ryan, et al., 1996). Therefore, in contrast to social goal assessment in study one, study two specifically sought to assess whether physique anxious individuals managed their impressions (Shlenker, 1980) by endorsing competence and social goals they believed were important to other exercisers and which were *perceived* to satisfy their need for relatedness. However, as Deci and Ryan (2000) postulate an important role for all three needs, competence and autonomy were also assessed.

The findings from study two advance existing physique anxiety related research in that a pre-occupation with appearance-related matters can be downplayed when satisfaction of the need for relatedness is met through endorsement of more intrinsic goals such as social affiliation. In contrast, the negative effect of ego goals on relatedness demonstrated that endorsement of normative goals is less likely to result in the satisfaction of relatedness over time which in turn had a negative effect on physique anxiety. Although previous research has demonstrated a link with physique anxiety and more extrinsic motives for exercising (Frederick, Morrison, & Manning, 1996) and introjected regulations (Thogersen-Ntoumani & Ntoumanis, 2006), no research to date has assessed basic need satisfaction as motivational predictors or the effects of social goals on physique anxiety over time. Consequently, the current findings indicate that practitioners might wish to consider promoting more intrinsic goals through the provision of more autonomy-supportive environments in which a sense of caring and genuine interest is emphasised. This might also serve to

dampen the potentially negative effects of physique anxiety.

While the research findings indicated that satisfaction for the need for relatedness was an important predictor of social physique anxiety, the research did not achieve in providing support for the role of competence and autonomy. Before any conclusions could be made, it might be prudent to suggest that future research should examine differences in individuals' fluctuations in basic needs (La Guardia et al., 2000) over time. It may be that individuals' needs are more important at different times and within certain contexts. As a result, this could capture the dynamic role of need satisfaction (Thogersen-Ntoumani & Ntoumanis, 2007).

In contrast to the support found in study two for the adaptive effects of affiliation goals and the maladaptive effects of ego goals on social physique anxiety, analyses failed to lend support for social validation goals as conceptualised by Allen (2003, 2005). As a result of conflicting empirical research assessment regarding social goals (e.g., Ewing, 1981; Maehr & Nicholls, 1980; Whitehead, 1995), the Social Motivational Orientations in Sport Scale (SMOSS; Allen, 2003, 2005) was developed in an attempt to provide a more theoretical and psychometrically sound measurement instrument. The preliminary studies of Allen found initial support for social affiliation and social validation goals (status, recognition) in physical activity domains. As a result of the importance physique anxious exercisers place on others' approval, these goals were assessed in the current programme of research. Similar to the assessment of goals in study one, confirmatory factor analysis of their assessment in study two revealed little discriminant validity for the status and recognition factors due to conceptual and statistical overlap between scale items. Consequently, these factors were removed from further analysis as they appeared to be factorially ambiguous. The affiliation factor was retained. These findings were in contrast to

those of Allen (2003, 2005) whose findings supported the discriminant validity of the validation scales.

The difference in study findings may have been a result of the different samples assessed. While Allen assessed adolescent females in physical activity settings, study two in the present research assessed older adults in various physical activity contexts. It is therefore feasible to suggest that adults may not necessarily be as motivated to develop social relations through endorsement of validation goals within activity settings as adolescents. It is likely that adults will already have established social connections in other domains such as the workplace. The lack of support found for validation goals in the present study further add to the disagreements over social goal operationalisation and conflicting findings (e.g., Ames, 1992; Dweck & Leggett, 1988; Nicholls, 1984; Pintrich, 2000).

The main issue over goal conceptualisation in the present study was whether normative performance goals (ego) were empirically distinct from performance goals that do not contain a normative standard (self-directed ego, self-directed task, status, recognition goals). Overall results provided little support for their discriminant validity, limiting the contribution that social goals played amongst physique anxious individuals in the present programme of research.

However, similar to the notion of self- and other-directed goals in study one, study three continued with the assessment of self- and socially- directed goals in the form of self- and socially prescribed perfectionistic tendencies (Hewitt & Flett, 1991). The main aim of the study was to first assess whether fitness assessment procrastination was most likely to occur amongst physique anxious exercisers with perfectionistic tendencies, second, to explore the extent to which differences in perfectionism and assessment procrastination were influenced by differing self-

regulatory processes, and three, its associated negative affective consequences. This study sought to provide an in-depth (Patton, 2002) and orientational qualitative enquiry (Patton, 2002) of the motivational factors influencing fitness-assessment procrastination.

Inductive analysis of interviews revealed some clear findings. First, the sample consisted predominantly of highly physique anxious females. Although participants had not been formally assessed on physique anxiety levels prior to interview participation, the set criteria regarding procrastinatory tendencies (Miligram, 1991) and its link with anxiety-related concerns (e.g., Flett et al., 1995) likely facilitated this finding. Second, three participants emerged as holding perfectionistic standards as conceptualised by Hewitt and Flett (1991). For example, in addition to expressing concerns about attainment of personal standards or perceived instructor standards were further expressions relating to feelings of failure and worries over expected assessment outcomes. All of these factors (i.e., high standards, feelings of failure, worry) are indicative of perfectionistic tendencies (Flett & Hewitt, 2002; Hewitt & Flett, 1991). Furthermore, one participant (interviewed in a pair) continually acknowledged throughout the interview that her interview partner (identified as a perfectionist) held unrealistic standards to the point where her exercise regimen was all-consuming and anxiety-provoking when participation was not possible. A further identified perfectionistic participant also frequently related her exercise-induced injury experiences. Although perfectionism emerged as one contributory factor toward assessment procrastination it was not the main factor precipitating this behavioural response.

The main study findings revealed that perceptions of a lack of situational provision for individuals' basic needs appeared to have been the main contributing

factor toward exercisers' assessment-related concerns and subsequent reported procrastination. Participants indicated that their basic needs were being undermined by first, concerns over the adequacy of personal standards (personal, perfectionistic) in comparison to expected assessor standards; second, through a lack of personal volition and choice over the style of fitness programme/assessor; and third, through a lack of overall perceived instructor support. When social contexts are perceived as thwarting individuals' satisfaction of basic needs this undermines motivation and results in defensive behaviours (Deci & Ryan, 2000; Ryan et al., 1995) evidenced in this case by assessment procrastination. What these findings suggest is that highly physique anxious exercisers perceive fitness-assessments as motivationally controlling, predominantly as a result of assessor behaviour.

These findings hold implications for club fitness-assessors who act as important sources of information to advise and guide exercise participants. Practically, assessors need to provide autonomy-supportive conditions to promote more autonomous exercise engagement (Williams, 2002; Williams, Gagné, Ryan, & Deci, 2002) and participation in fitness-assessments. This is important as a lack of exercise-related guidance could result in a loss of regimen direction, boredom, and amotivation leading to dropout. What this study further highlights is that procrastination amongst highly physique anxious exercisers is maladaptive. This supports research pertaining to its maladaptive nature (e.g., Senécal et al., 1995; Miligram, 1991) while refuting claims over its possible adaptive nature (Chu & Choi, 2005).

5.3 Overall Practical Implications

Results of study one confirmed that both task and ego goals are applicable to activities directed toward health and recreation. Furthermore, the pattern of

correlations between motivational indices of self-regulation revealed that task goals were significantly and positively related to more self-determined motivation and introjected regulation. In contrast, ego goals were significantly and positively related to inrojected regulation and external regulation. This leads the author to suggest that exercise practitioners might consider promoting task goals more than ego goals to support more autonomous exercise engagement. This supports previous research findings and recommendations (e.g., Ntoumanis, 2001; Petherick & Weigand, 2001) and is partly in accord with the findings from study two.

One of the main findings from study two was that endorsement of more intrinsic-focused goals such as affiliation had significant and positive effects on the satisfaction of the need for relatedness which in turn had a significant negative effect on social physique anxiety. These findings imply the need for exercise practitioners to promote affiliation goals. This would help to facilitate internalisation of more adaptive regulations and assist in overcoming anxiety-related concerns as a result of gym users' satisfaction of the need for relatedness. This might be of particular importance amongst beginner exercisers who might hold doubts over personal exercise competence or amongst those who hold negative appearance-related concerns. Although the results of study two were not directed toward assessment of facilitation of autonomy-supportive activity environments, study three supported its necessity.

Specifically, the main findings of participants' content analysis revealed the emergence of themes encompassed by the general dimension of thwarting of need satisfaction and seeking need satisfaction. These findings suggested that assessment procrastination arose primarily from a lack of support for an autonomy-supportive context as directly expressed by participants reinforcing the need to facilitate its

provision. If exercisers' basic needs are met from social-contextual factors in their immediate environment (e.g., fitness-assessments) more self-determined forms of motivational regulation will guide personal behaviour (Deci & Ryan, 2000).

The overall findings from the current body of research consistently indicated the beneficial aspects of intrinsic focused goals (task, affiliation). Furthermore, physique anxious exercisers direct expression for more autonomy-supportive fitness assessments hold implications for club fitness assessors who act as an important source of information to advise and guide exercise participation.

5.4 Limitations and Future Research Directions

This section highlights some limitations of the current programme of research along with future research recommendations, some of which were previously discussed within the study chapters. The first limitation of this programme of research was the limited variety in the methodology and analysis procedures used in studies one and two. These employed self-report measures and correlational analyses to assess relationships between variables. No behavioural measures or intervention-based research methods were used. Study three employed qualitative methods of inquiry which relied on participants' and researchers' accurate accounts of events. However, these analyses were deemed most appropriate to answer the research questions posed therefore might only limit the author's ability to conduct independent research using different methodologies and procedures.

The second limitation was the assessment of a limited number of constructs in the final structural model in study two. To more fully understand the processes underpinning physique anxiety, the inclusion of additional influencing variables might be useful to assess such as the social determinants of exercise environments (e.g., fitness assessors motivational style) and their impact on need satisfaction and self-

determination (Vallerand, 1997).

Third, study three conclusions are claims to be further assessed through additional qualitative and quantitative research endeavours. This is of particular importance as the study findings are based on individuals' perceptions of their experiences which may not be generalisable to broader populations (Creswell, 1998). Similarly, the fourth limitation refers to the self-reported nature of assessment procrastination in study three. As a result, it is not clear whether all physique anxious exercisers would perceive the causes of their procrastination in a similar way to that of the assessed sample. Future research might seek to assess the applicability of the antecedent causes of procrastination proposed in the study to other samples of physique anxious exercisers.

Fifth, although assessment procrastination was concluded by the author as being a maladaptive behavioural outcome, the emergence of a first theme of fitness preparation suggested a possible adaptive component. However, a lack of clarification suggests that future research should attempt to assess the temporal nature of forthcoming evaluative anxiety (Thomas et al., 2007). Future research could specifically assess whether or not the functional significance alters for some individuals as the assessment approaches, resulting in either perceptions of challenge or threat (Lazarus, 1999).

Sixth, study three implications suggested that the promotion of autonomy-supportive exercise contexts reduce anxiety-related concerns. Future research might consider manipulation of fitness-assessment environments and create an autonomy-supportive and an autonomy-thwarting context and assess the differences of their influence on physique anxious exercisers. Seventh, future research might also consider reconceptualising the construct of relatedness. Current study findings

indicated that relatedness appeared to hold different meanings for different individuals which were similar to the findings of Markland and Tobin (submitted). For example, study three findings indicated that relatedness concerns were expressed through (1) general assimilation into the exercise context as reflected (i.e., clothing attire and instructor appearance) and (2) a sense of a lack of personal relatedness (i.e., instructor- not understanding, not-caring, not-helpful, and not listening). Therefore to fully comprehend what satisfaction of the need for relatedness means for individuals would be an interesting avenue of further assessment; particularly as the role of support for relatedness has received less attention in self-determination theory than those for competence and autonomy.

5.5. Personal Concluding Remarks

My research involvement derived primarily from working as an exercise practitioner. Frequently, I found myself faced with tricky client-situations in which I felt ineffective in their resolution. Dissatisfaction with suggested appropriate courses of intervention from other practitioners and their referred text-books resulted in the formulation of this thesis. However, upon its completion, I realise that the final product is now only the beginning. By that I mean answered questions have raised so many more. Therefore if I was to continue this process I would likely embark on further assessment of exercise procrastination. This would be for two main reasons. First, the processes involved in this potentially maladaptive behaviour were the ones I most wanted to understand. Second, the main results indicated the emergence of themes encompassing exercisers' needs for the provision of more autonomy-supportive assessment environments. As such I now want to learn and practice how most effectively to implement them. This last realisation in turn raises four more issues regarding the process of this thesis.

If I were to repeat the process of the research programme. an understanding of the antecedent factors of assessment procrastination would have been the basis for my starting point. This is likely a result of the personal meaning I associate with this line of research. Assessment procrastination was the behavioural outcome most in evidence during my years as a practitioner. This contributed to my commitment to understanding its antecedent causes. However. it was the process of their inquiry that I most enjoyed and endorsed. Qualitative research methods allowed the author to study selected issues in depth and detail without necessarily being constrained by predetermined topics of anlysis. Furthermore. the open-endend interviews conducted in study three allowed interview-participants to express more detail and meaning of their experiences. Therefore, second, I now realise that I am most interested in understanding how reality appears to other individuals with limited (unintentional) imposition of pre-determined questionnaires. Third. personal circumstances lead me to give up any applied work I had previously engaged in. This was to my personal detriment as the opportunity to engage and maintain contact with previous colleagues and clients may have further facilitated personal links with theory and practice. But most importantly the derived satisfaction I gained from these interactions had been temporarily lost. This did little to meet my need for satisfaction of the need for relatedness! With hindsight and if circumstances had permitted I would have moved to Bangor to be more fully emerged in my studies. Although my supervisor and the staff and students at SSHES did their best to make me feel welcome. more frequent contact would have assured me of this. Isolated study clearly did not meet my needs and it is for this reason that the invaluable support of a supervisor ensured my completion.

The support, guidance, and challenges provided by a good supervisor have left

me with a certain degree of confidence in my own abilities (remembering that I do have some perfectionistic tendencies). But most importantly I have developed the utmost respect toward my supervisor and some other academic colleagues. The necessity of critical thinking, interpretation of readings, and attention to detail that is necessary to report research findings are the skills that I have attempted to acquire making this programme of research one of the most challenging tasks I have ever had to engage in.

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APPENDIX A

Study One: Participant Questionnaire

EXERCISE MOTIVATION STUDY

Dear Exerciser

I would like to request your participation in a research project that is being conducted by **Ms Caroline M Petherick** who is a researcher in the School of Sport, Health, and Exercise Sciences at University of Wales, Bangor.

The research is investigating the thoughts and feelings of exercisers regarding their exercise experiences. This particular project is part of an ongoing investigation into exercise motivation. It is hoped that the information gained from this research will help further our understanding of exercisers' motivation.

The project has been authorised by the School of Sport, Health, and Exercise Sciences. A report of the findings of this research will be made available to you on request, once the investigation has been completed.

Your responses to the questionnaire will be completely anonymous. If you are willing to take part, please read and sign the bottom of the consent form overleaf.

I greatly appreciate your assistance with the project, and wish to thank-you for taking the time to help.

Caroline

INFORMED CONSENT BY PARTICIPANT TO PARTICIPATE IN A RESEARCH PROJECT

The researcher conducting this project subscribes to the ethical conduct of research and to the protection at all times of the interests, comfort. and safety of participants. This form and the information it contains are given to you for your own protection and full understanding of the procedures. Your signature on this form will signify that you have received information which describes the procedures and benefits of this research project, that you have received an adequate opportunity to consider the information. and that you <u>voluntarily agree</u> to participate in the project.

Having been asked by **Caroline M Petherick** of the School of Sport. Health and Exercise Sciences at the University of Wales Bangor to participate in a research project I have received information regarding the project.

I understand that I may withdraw my participation at any time.

I also understand that I may register any complaint I might have about this project to Dr Roger Eston Head of the School of Sport Health and Exercise Sciences.

I may obtain copies of the results of this study, upon its completion. by contacting:
Ms Caroline Petherick, Post-Graduate Researcher, SSHES, University of Wales, Bangor, Gwynedd LL57 2PX, Tel: (01248) 382756 General Office.

I have been informed that the research material **will be** held confidential by the researcher.

I agree to participate in **completing the questionnaire provided.**

NAME (please type or print legibly): _____

SIGNATURE: _____ **DATE:** _____

Thoughts and Feelings of Exercise Participants

The following questionnaire is designed to investigate what participants are thinking and feeling about their exercise experiences. As I am interested in **your** responses, I ask that you answer the questions in a way that reflects what **you** think and feel. Remember, there are no right or wrong answers, and your responses will be kept confidential. Please **do not spend long** on any one question, but answer them all. This questionnaire will take you approximately fifteen minutes to complete.

Age: ....years

Gender: Male ☐   Female ☐

What is the **main** type of exercise / activity that you take part in (e.g., running, weight training, aerobics, walking, racket sports, swimming, dancing etc.):

....

Is this exercise / activity done as part of training for competition?   Yes ☐   No ☐

How long have you participated in your main activity for?   ....months / years

Height: ....feet   **OR** ....metres
           ....inches

Weight: ....stones.........lbs   **OR** ....kilos

		Strongly Disagree		Neutral	Strongly Agree	
A1	I am comfortable with the appearance of my physique.	1	2	3	4	5
A2	I would never worry about wearing clothes that might make me look too thin or overweight.	1	2	3	4	5
A3	I wish I wasn't so uptight about my physique.	1	2	3	4	5
A4	There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.	1	2	3	4	5
A5	When I look in the mirror I feel good about my physique.	1	2	3	4	5
A6	Unattractive features of my physique make me nervous in certain social settings.	1	2	3	4	5
A7	In the presence of others, I feel apprehensive about my physique.	1	2	3	4	5
A8	I am comfortable with how fit my body appears to others.	1	2	3	4	5
A9	It would make me uncomfortable to know others were evaluating my physique.	1	2	3	4	5
A10	When it comes to displaying my physique to others, I am a shy person.	1	2	3	4	5
A11	I usually feel relaxed when it is obvious that others are looking at my physique.	1	2	3	4	5
A12	When in swimming attire, I often feel nervous about the shape of my body.	1	2	3	4	5

Please indicate the degree to which each statement is characteristic or true for you.

	While exercising, I feel that things go well when...	Strongly Disagree		Neutral	Strongly Agree	
B1	I make progress.	1	2	3	4	5
B2	I show others how well I can master the task	1	2	3	4	5
B3	I show others that I can get the best out of myself.	1	2	3	4	5
B4	I prove to myself that I am the only one who can do a certain exercise task.	1	2	3	4	5
B5	I feel I am clearly more superior in my ability than other exercisers.	1	2	3	4	5
B6	I know that I am more capable than other exercisers.	1	2	3	4	5
B7	I can show other exercisers that I'm better than everyone else.	1	2	3	4	5
B8	I can show others how much I've improved.	1	2	3	4	5
B9	I can prove to other exercisers that I'm the most able one doing the tasks.	1	2	3	4	5
B10	I exercise at a level that reflects personal improvement.	1	2	3	4	5
B11	I feel like I've improved.	1	2	3	4	5
B12	I can prove to others that I'm the best.	1	2	3	4	5
B13	I show others that I've made progress.	1	2	3	4	5
B14	I feel that I do better than other exercisers.	1	2	3	4	5
B15	I exercise to the best of my ability.	1	2	3	4	5
B16	I can prove to others that I have superior ability.	1	2	3	4	5
B17	I master new or difficult aspects of a task.	1	2	3	4	5
B18	I show others how capable I am of achieving the exercise task/s.	1	2	3	4	5
B19	Other exercisers don't do as well as me.	1	2	3	4	5
B20	I know that other exercisers mess up and I don't.	1	2	3	4	5
B21	I can show others that I have greater ability than other exercisers.	1	2	3	4	5
B22	I better my standards.	1	2	3	4	5
B23	I know I perform better than other exercisers.	1	2	3	4	5
B24	I do my very best.	1	2	3	4	5
B25	I impress others by mastering something new or difficult.	1	2	3	4	5
B26	I master something I couldn't do before.	1	2	3	4	5

		Not true for me		Sometimes true for me		Very true for me

| B27 | I achieve the exercise goal I set myself. | 1 | 2 | 3 | 4 | 5 |

		Not true for me		Sometimes true for me		Very true for me
C1	I exercise because other people say I should	1	2	3	4	5
C2	I feel guilty when I don't exercise	1	2	3	4	5
C3	I value the benefits of exercise	1	2	3	4	5
C4	I exercise because it's fun	1	2	3	4	5
C5	I don't see why I should have to exercise	1	2	3	4	5
C6	I participate in exercise because my friends/family/partner say I should	1	2	3	4	5
C7	I feel ashamed when I miss an exercise session	1	2	3	4	5
C8	It's important to me to exercise regularly	1	2	3	4	5
C9	I can't see why I should bother exercising	1	2	3	4	5
C10	I enjoy my exercise sessions	1	2	3	4	5
C11	I exercise because others will not be pleased with me if I don't	1	2	3	4	5
C12	I don't see the point in exercising	1	2	3	4	5
C13	I feel like a failure when I haven't exercised in a while	1	2	3	4	5
C14	I think it's important to make the effort to exercise regularly	1	2	3	4	5
C15	I find exercise a pleasurable activity	1	2	3	4	5
C16	I feel under pressure from my friends/family/partner to exercise	1	2	3	4	5
C17	I get restless if I don't exercise regularly	1	2	3	4	5
C18	I get pleasure and satisfaction from participating in exercise	1	2	3	4	5
C19	I think exercise is a waste of time	1	2	3	4	5

D1 In general, how would you rate your ability at physical activity and exercise?

Very Poor	Poor	Not Very Good	Average	Good	Very Good	Excellent
1	2	3	4	5	6	7

D2 Compared with others in your activity, how good are you at physical activity and exercise?

Very Poor	Poor	Not Very Good	Average	Good	Very Good	Excellent
1	2	3	4	5	6	7

D3 Compared with others your age, how good are you at physical activity and exercise?

Very Poor	Poor	Not Very Good	Average	Good	Very Good	Excellent
1	2	3	4	5	6	7

E1 For me, being good at physical activity and exercise is:

Extremely Unimportant		Neither important nor unimportant				Extremely important
1	2	3	4	5	6	7

E2 Compared to other activities, how important is it for you to be good at physical activity and exercise?

Extremely Unimportant		Neither important nor unimportant				Extremely important
1	2	3	4	5	6	7

F1	When participating in your activity, to what degree do you perceive yourself as being in a situation where you are being evaluated or judged by other people?	1	2	3	4	5
F2	When participating in your activity, to what degree do you feel threatened by the experience?	1	2	3	4	5

Thank you for taking the time to complete this questionnaire.

APPENDIX B

Descriptive statistics for exercise type, age, activity experience, competition, and body mass index (BMI)

Exercise Type			Age		Experience		Competition		Body Mass Index	
			Mean	SD	Mean	SD	Yes	No	Mean	SD
Total Sample		N= 372			9.70	10.80	51	321	25.00	4.1
	Male	124	41.10	11.10	11.4	10.20	36	88	24.90	2.9
	Female	248	42.10	13.10	8.500	11.00	19	229	25.00	4.6
Walking		n = 29								
	Male	2	49.00	25.50	2.50	2.10		2	25.10	.78
	Female	27	40.80	16.00	13.40	13.10		27	24.30	4.2
Gym work		n = 43								
	Male	18	39.70	12.50	5.80	4.50	2	16	25.70	3.2
	Female	25	39.30	12.10	7.00	9.50		25	24.50	4.5
Running		n = 61								
	Male	30	43.30	9.50	14.30	12.20	15	15	25.00	2.9
	Female	31	39.10	8.30	7.40	7.60	8	23	23.30	3.7
Athletics		n = 1								
	Male	1	55.00	.00	1.00	.00		1	25.00	.0
Dance		n = 8								
	Male	1	54.00	.00	10.0	.00	1		23.60	.0
	Female	22	37.70	12.80	11.0	7.20	1	6	23.80	3.50
Tennis, Badminton		n = 40								
	Male	18	40.20	5.50	13.70	.38	3	15	25.50	3.20
	Female	22	43.70	13.20	14.60	18.2	4	18	25.40	5.60
Hockey		n = 1								
	Female	1	30.00	.00	12.00	.00	1		19.30	.00
Aerobic Classes		n = 65								
	Male	5	51.40	9.90	5.80	5.40		5	23.30	3.50
	Female	60	39.90	10.80	5.00	7.90		60	27.20	4.70
Swimming		n =23								
	Male	7	46.90	12.50	9.30	5.30		7	24.10	1.80
	Female	16	43.80	14.60	10.90	15.90	2	14	26.60	5.00
Rowing		n =9								
	Male	9	32.90	12.30	11.40	150	8	1	25.10	2.20
Cycling		n = 28								
	Male	22	37.80	9.80	14.50	9.50	5	17	24.00	2.50
	Female	6	35.80	13.10	12.00	10.90		6	21.40	3.20
Yoga, Pilates		n =51								
	Male	6	45.20	15.80	5.50	4.40		6	23.90	2.50
	Female	45	51.20	12.50	8.30	9.40		45	24.30	4.10
Aqua aerobics		n = 1								
	Female	1	50.00	.00	5.00	.00		1	.00	.00
Basketball		n = 1								
	Female	n = 1	42.00	.00	11.00	.00	1		21.20	.00
Rugby		n = 2								
	Male	2	34.50	5.00	14.00	5.60	1	1	30.30	1.10
Bowling		n = 1								
	Female	1	65.00	.00	15.00	.00		1	27.70	.00
Football		n = 2								
	Male	2	27.00	1.40	8.50	9.20		2	24.40	4.90
Martial Arts		n = 2								
	Female	2	22.00	2.80	7.00	7.10		2	24.10	5.50
Gymnastics		n = 4								
	Male	1	39.00	.00	8.00	.00		1	24.90	.00
	Female	3	23.30	4.50	14.70	1.50		3	24.40	.40

APPENDIX C

Initial 26-item pool for the Goal Orientations in Exercise Measure

Stem: 'While exercising, I usually feel that things go well when…'

Self Directed Task
1. I make progress
2. I perform to a level that reflects personal improvement
3. I learn something that I enjoy doing
4. I perform to the best of my ability
5. I better my standards
6. I do my very best
7. I master new or difficult aspects of the skill
8. I master something I couldn't do before

Social-approval Task
9. I show others how well I can master the skills
10. I show others how I can get the best out of myself
11. I impress others by mastering something new or difficult
12. I show others how much I've improved
13. I show others how capable I am of delivering the exercise skill's
14. I show others that I've made progress

Self Directed Ego
15. I am the only one who can do a particular exercise skill
16. I can do better than others
17. Others can't do as well as me
18. I perform the best
19. Others mess up and I don't
20. I am more skilled than others
21. I am clearly superior to other exercisers

Social-approval Ego
22. I show others that I'm better than anybody else
23. I prove to others that I have superior skills
24. I show others that I'm the best
25. I show others that I have greater ability than other exercisers
26. I prove to others that I am the most skilled

APPENDIX D

27-item Revised Goal Orientations in Exercise Measure

Stem: 'While exercising. I usually feel that things have gone well when...'

Self Directed Task
1. I make progress
2. I exercise at a level that reflects personal improvement
3. I feel like I've improved
4. I exercise to the best of my ability
5. I better my standards
6. I do my very best
7. I master new or difficult aspects of a task
8. I master something I couldn't do before
9. I achieve the exercise goal I set myself

Social-Approval Task
10. I show others how well I can master the task
11. I show others that I can get the best out of myself
12. I impress others by mastering something new or difficult
13. I show others how much I've improved
14. I show others how capable I am of delivering the exercise task's
15. I show others that I've made progress

Self Directed Ego
16. I prove to myself that I am the only one who can do a particular exercise task
17. I feel that I can do better than other exercisers
18. Other exercisers don't do as well as me
19. I know I perform better than other exercisers
20. I know that other exercisers mess up and I don't
21. I know that I am more capable than other exercisers
22. I feel I am clearly superior in my ability to other exercisers

Social-Approval Ego
23. I can show other exercisers that I'm better than anybody else
24. I can prove to other exercisers that I'm the most able one doing the tasks
25. I can prove to others that I'm the best
26. I can prove to others that I have superior ability
27. I can show others that I have greater ability than other exercisers

APPENDIX E

Final 21-Item Two-Factor GOEM

Stem: 'While exercising, I usually feel that things have gone well when...'

Task

1. I make progress

10. I exercise at a level that reflects personal improvement

11. I feel like I've improved

15. I exercise to the best of my ability

17. I master new or difficult aspects of a task

22. I better my standards

24. I do my very best

26. I master something I couldn't do before

27. I achieve the exercise goal I set myself

Ego

4. I prove to myself that I am the only one who can do a certain exercise task

5. I feel I am clearly more superior in my ability than other exercisers

6. I know that I am more capable than other exercisers

7. I can show other exercisers that I'm better than everyone else

9. I can prove to other exercisers that I'm the most able one doing the tasks

12. I can prove to others that I'm the best

14. I feel that I do better than other exercisers

16. I can prove to others that I have superior ability

19. Other exercisers don't do as well as me

20. I know that other exercisers mess up and I don't

21. I can show others that I have greater ability than other exercisers

23. I know I perform better than other exercisers

APPENDIX F

Study Two Questionnaire

School of Sport, Health and Exercise Sciences
University of Wales, Bangor

· PRIFYSGOL CYMRU ·
UNIVERSITY OF WALES
BANGOR

George Building
Bangor, Gwynedd LL57 2PX
Tel: General Office (01248) 382756 OR (01234) 347547
Email: pcnc07@bangor.ac.uk
Date: May, 2005

EXERCISE MOTIVATION STUDY

Dear Sir / Madam

I would like to request your participation in a research project that is being conducted by Ms **Caroline M Petherick** who is a researcher in the School of Sport, Health, and Exercise Sciences at the University of Wales, Bangor,

The research is investigating the thoughts and feelings of individuals **who either currently do not participate in any physical activity, who are thinking about participating, or who currently do participate in some form of physical activity.** This particular project is part of an ongoing investigation into exercise motivation. It is hoped that the information gained from this research will help further our understanding of the thoughts experienced by both sedentary and active individuals. If it can be determined what puts us off or assists us in engaging in physical activity, we can assess ways to increase physical activity in the general population.

Please be advised that I will further be sending you a second copy of this questionnaire (a shortened version) in 3 months time for completion. However, even though you may not wish to complete both questionnaires, your responses to **this questionnaire** are equally as important.

If you are willing to take part in this project, please read and put your name at the bottom of the consent form below along with your house number and street name. I wish to assure you that your responses are required solely for our research and no other purposes and that your details will be deleted upon completion of this study. This is to ensure your confidentiality at all times. The project has been authorised and ethically approved by the ethics committee of the School of Sport, Health, and Exercise Sciences. A report of the findings of this research will be made available to you on request, once the investigation has been completed. I greatly appreciate your assistance with this project, and wish to thank-you for taking the time to help.

Caroline

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INFORMED CONSENT BY PARTICIPANT TO PARTICIPATE IN A RESEARCH PROJECT

The researcher conducting this project subscribes to the ethical conduct of research and to the protection at all times of the interests. comfort, and safety of participants. This form and the information it contains are given to you for your own protection and full understanding of the procedures. Your name on this form will signify that you have received information which describes the procedures and benefits of this research project, that you have received an adequate opportunity to consider the information, and that you <u>voluntarily agree</u> to participate in the project.

Having been asked by **Caroline M Petherick** of the School of Sport. Health and Exercise Sciences at the University of Wales, Bangor to participate in a research project I have received information regarding the project.

I understand that I may withdraw my participation at any time or may feel free to choose not to answer any of the questions.

I also understand that I may register any complaint I might have about this project to the Head of the School of Sport, Health. and Exercise Sciences.

I may obtain copies of the results of this study, upon its completion. by contacting:
Ms Caroline Petherick, Post-Graduate Researcher, SSHES, University of Wales, Bangor, Gwynedd LL57 2PX, Tel: (01248) 382756 General Office.

I have been informed that the research material **will be** held confidential by the researcher.

I agree to participate in **completing the questionnaire provided.**

NAME:

DATE:

The following questionnaire is designed to investigate what you think and feel about physical activity. As I am interested in **your** responses, I ask that you answer the questions in a way that reflect what **you** think and feel. Remember. there are no right or wrong answers. and your responses will be kept confidential. Please **do not spend long** on any one question. but answer them all. However, it is **important** to emphasize that you are free to choose not to answer any questions should you prefer. This questionnaire will take you approximately ten minutes to complete.

Gender: Male   [ ]   Female   [ ]

Height: Feet   Inches   **OR**   metres

Weight   Stones   lbs   **OR**   kilos

Please tick _one_ of the following boxes

How many **times a week** do you usually exercise in your free time so much that you get out of breath or sweat?

Never	[ ]
Less than once a month	[ ]
Once a month	[ ]
Once a week	[ ]
2-3 times a week	[ ]
4-6 times a week	[ ]
Every day	[ ]

Please tick _one_ of the following boxes

How many **hours a week** do you usually exercise in your free time so much that you get out of breath or sweat?

None	[ ]
About half an hour	[ ]
About 1 hour	[ ]
About 2-3 hours	[ ]
About 4-6 hours	[ ]
7 hours or more	[ ]

Please indicate the degree to which each statement is characteristic or true for you.

		Strongly Disagree		Neutral		Strongly Agree
A1	I am comfortable with the appearance of my physique.	1☐	2☐	3☐	4☐	5☐
A2	I would never worry about wearing clothes that might make me look too thin or overweight.	1☐	2☐	3☐	4☐	5☐
A3	I wish I wasn't so uptight about my physique.	1☐	2☐	3☐	4☐	5☐
A4	There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.	1☐	2☐	3☐	4☐	5☐
A5	When I look in the mirror I feel good about my physique.	1☐	2☐	3☐	4☐	5☐
A6	Unattractive features of my physique make me nervous in certain social settings.	1☐	2☐	3☐	4☐	5☐
A7	In the presence of others, I feel apprehensive about my physique.	1☐	2☐	3☐	4☐	5☐
A8	I am comfortable with how fit my body appears to others.	1☐	2☐	3☐	4☐	5☐
A9	It would make me uncomfortable to know others were evaluating my physique.	1☐	2☐	3☐	4☐	5☐
A10	When it comes to displaying my physique to others, I am a shy person.	1☐	2☐	3☐	4☐	5☐
A11	I usually feel relaxed when it is obvious that others are looking at my physique.	1☐	2☐	3☐	4☐	5☐
A12	When in swimming attire, I often feel nervous about the shape of my body.	1☐	2☐	3☐	4☐	5☐

The following section consists of statements about your feelings toward physical activity and exercise. Please indicate the extent to which each statement applies to you at this moment in time

In exercise situations, I would likely feel / I currently feel...

		Strongly Disagree			Neutral		Strongly Agree	
B1	Isolated when I exercise	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B2	Supported by other exercisers	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B3	Out of place when I exercise	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B4	That I don't fit in when I exercise	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B5	Accepted by other exercisers	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B6	Lonely when I exercise	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B7	Like I belong there	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B8	That others are interested in me	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B9	Different from everyone else	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B10	That I really like the others I exercise with	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B11	That I get along with others at my activity club	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B12	That the others I exercise with do not seem to like me much	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B13	That the others at my activity club are pretty friendly towards me	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B14	Like I don't belong	1☐	2☐	3☐	4☐	5☐	6☐	7☐
B15	Very different from most of the other exercisers	1☐	2☐	3☐	4☐	5☐	6☐	7☐

Please indicate the degree to which each statement is characteristic or true for you.

In my activity, I would feel / feel that things go well when…

		Strongly Disagree		Neutral		Strongly Agree
C1	Other exercisers tell me I have performed well	1☐	2☐	3☐	4☐	5☐
C2	I know that I'm more capable than other exercisers	1☐	2☐	3☐	4☐	5☐
C3	I make friends from my activity involvement	1☐	2☐	3☐	4☐	5☐
C4	I belong to the popular crowd at the activity club	1☐	2☐	3☐	4☐	5☐
C5	I make progress	1☐	2☐	3☐	4☐	5☐
C6	My exercise colleagues and I have a laugh together	1☐	2☐	3☐	4☐	5☐
C7	I am the centre of attention	1☐	2☐	3☐	4☐	5☐
C8	I exercise at a level that reflects personal improvement	1☐	2☐	3☐	4☐	5☐
C9	I can prove to others that I'm the best	1☐	2☐	3☐	4☐	5☐
C10	I feel like I've improved	1☐	2☐	3☐	4☐	5☐
C11	I make new friends who I socialise with outside of the club	1☐	2☐	3☐	4☐	5☐
C12	I have fun with others in my club	1☐	2☐	3☐	4☐	5☐
C13	I am part of the "in crowd"	1☐	2☐	3☐	4☐	5☐
C14	Other exercisers think I'm really good at the activity	1☐	2☐	3☐	4☐	5☐
C15	I exercise to the best of my ability	1☐	2☐	3☐	4☐	5☐
C16	I receive recognition from other exercisers for my exercise accomplishments	1☐	2☐	3☐	4☐	5☐
C17	Spending time with the other exercisers is enjoyable	1☐	2☐	3☐	4☐	5☐
C18	I master new or difficult aspects of a task	1☐	2☐	3☐	4☐	5☐
C19	I can show other exercisers that I'm better than everyone else	1☐	2☐	3☐	4☐	5☐
C20	I achieve the exercise goal I set for myself	1☐	2☐	3☐	4☐	5☐
C21	I become friends with some of the others in my activity club	1☐	2☐	3☐	4☐	5☐
C22	Others are impressed by my exercise ability	1☐	2☐	3☐	4☐	5☐
C23	Other exerciser's don't do as well as me	1☐	2☐	3☐	4☐	5☐
C24	When I prove to myself that I am the only one who can do a certain exercise task	1☐	2☐	3☐	4☐	5☐
C25	I am one of the more popular exercisers	1☐	2☐	3☐	4☐	5☐

In exercise situations, I would likely feel / I currently feel that…

		Strongly Disagree			Neutral			Strongly Agree
D1	I exercise because I like to rather than because I feel I have to	1☐	2☐	3☐	4☐	5☐	6☐	7☐
D2	Exercising is not something I would necessarily choose to do, rather it is something I feel I ought to do	1☐	2☐	3☐	4☐	5☐	6☐	7☐
D3	Having to exercise is a bit of a bind but it has to be done	1☐	2☐	3☐	4☐	5☐	6☐	7☐

E1. In general, how would you likely rate your ability at physical activity and exercise?

Very Poor	Poor	Not Very Good	Average	Good	Very Good	Excellent
1☐	2☐	3☐	4☐	5☐	6☐	7☐

E2. If / when exercising, compared with others in your activity, how good would likely think your were / are you at physical activity and exercise?

Very Poor	Poor	Not Very Good	Average	Good	Very Good	Excellent
1☐	2☐	3☐	4☐	5☐	6☐	7☐

E3. Compared with others your age, how good would you likely think you were / are you at physical activity and exercise?

Very Poor	Poor	Not Very Good	Average	Good	Very Good	Excellent
1☐	2☐	3☐	4☐	5☐	6☐	7☐

Please give a score from 1-9 on <u>ONE</u> of the 3 statements below that most applies to you:

F1 I intend to participate in physical activity at least once a week for the next 3 months

Low Agreement								Strong Agree
1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐

1.1.1.1   OR

F2 I intend to participate in physical activity at least twice a week for the next 3 months

Low Agreement								Strong Agree
1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐

OR

F3 I intend to participate in physical activity at least three times a week for the next 3 months

Low Agreement								Strong Agree
1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐

Thank you for taking the time to complete this questionnaire.

APPENDIX G

Identified raw quotations and themes

Thoughts and Feelings Regarding Forthcoming Fitness-assessments

Schematic representation of findings:

GENERAL THEMES
2nd theme
1st theme
     Raw theme
- Raw Data Quotes

SOCIAL PHYSIQUE ANXIETY
A. Assessment - negative feelings
    1. Assessment - anxiety (n = 1, paraphrased = 1)
- It would make me really really nervous, anxious

    2. Assessment - apprehension (n = 6, paraphrased = 9)
- I just get really really nervous, shaky, and sweaty
- You're apprehensive anyway
- You're a bit nervous
- I feel a bit nervous
- On the day I feel like I get more nervous
- You get yourself so hyped for it, it's such a big thing
- I just don't wanna be judged
- I dread it
- Initially it was dread

    3. Assessment-demoralising (n = 1, paraphrased = 1)
- I sat there and felt awful I felt do I continue?

    4. Assessment-fear (n = 1, paraphrased = 1)
- Fitness-assessments are really about fear

    5. Assessment-hatred (n = 1, paraphrased = 1)
- I hate them

    6. Assessment-intimidating (n = 3, paraphrased = 3)
- I think intimidation comes first
- It's just intimidating...it makes you feel really conscious
- I'd rather do that in the privacy of nobody looking than them just standing there watching me and not very good, it's intimidating

    7. Assessment-low self-worth (n = 1, paraphrased = 1)
- If you haven't exercised for a while your self-esteem is a bit low and you can feel a bit concerned

    8. Assessment-worry (n = 3, paraphrased = 4)
- On the day, all my thoughts would be on the assessment
- I really worry about it
- All that worry
- I'd think about it at work

    9. Assessment – unnerving (n = 1, paraphrased = 1)
- It's just so nervy

    10. Assessment-panic (n = 2, paraphrased = 2)
- You suddenly go into panic mode
- I was just panicking really

    11. Assessment-uncomfortable (n = 2, paraphrased = 2)

- I find the actual experience quite uncomfortable
- Knowing you're overweight I didn't feel comfortable

12. Assessment-threatening (*n* = 1, paraphrased = 1)
- I thought it would feel like an interrogation...but I had to book it anyway

13. Assessment-traumatising (*n* = 1, paraphrased = 1)
- It's traumatising

14. Assessment-stress (*n* = 2, paraphrased = 2)
- It makes stress levels go through the roof
- Before the assessment I went into like stress mode

15. Assessment-self-conscious (*n* = 7, paraphrased = 11)
- You are so self-conscious
- So...just self-consious
- I was very conscious like of how I was executing the exercises
- It makes you a little more self-conscious
- There's you hiding away
- It's all a bit self-conscious
- It's a self-consious thing
- I'm self-conscious
- I'm very self-conscious thinking oh are my arms too big and am I fat
- I don't want to and feel self-conscious exercising
- I'm too conscious

16. Assessment embarrassment (*n* = 9, paraphrased = 10)
- It's very upsetting to see yourself in front of a mirror and embarrassing
- I just get embarrassed
- You do feel conspicuous and embarrassed
- I also feel very, um, embarrassed
- I'm just very embarrassed that I can't run for long and my legs give way on the bike
- I'm embarrassed to say certain details
- Just embarrassed to be with the instructor
- It's just so embarrassing
- It's embarrassing otherwise
- It's the embarrassment of looking very unfit

B. Negative Expectations
1. Assessment social comparison (*n* = 2, paraphrased = 3)
- Other people may be better than you and I don't like this
- I feel I'm gonna be compared
- He will have a comparative point of view compared towards my peers

2. Assessment evaluative (*n* = 5, paraphrased = 9)
- I just feel overwhelmed and that everyones saying look at that fat person
- It doesn't matter whether it's a man or a woman, I just don't like the whole process
- I don't feel I need to be weighed in front of other people
- They would have to check my diet and what I'm eating
- What r they gonna think?
- Yeah, for a damn exam
- I tried to avoid the assessment because I didn't want anyone else to know that I'd had a bad patch
- It's just all about what people are gonna think
- Fear of being judged

3. Assessment personal information (*n* = 2, paraphrased = 2)

- It's this total stranger that's gonna be lookin into your personal life
- It's so personal isn't it?

Self-Presentation
C. Objective self-awareness
1. Others' presence (n = 3, paraphrased = 3)
    - Some people judge you
    - I wonder who's gonna be there
    - Your measurements and things are done in full view of everybody else

2. Others' watching (n = 2, paraphrased = 2)
    - I don't want them to be watching me
    - I'd rather do that in the privacy of nobody looking than them just standing there watching me and not very good, it's intimidating

3. Clothing attire concerns (n = 2, paraphrased = 2)
    - You don't necessarily have to be in your leotard
    - I would not like to wear short or anything

4. Instructor appearance – off-putting (n = 5, paraphrased = 5)
    - I couldn't get on with a lad who's just out of university that's all muscled and toned
    - All the fitness instructors are super duper fit and skinny
    - You feel like a mignon
    - The fitness assessor is slim and very pretty and very young and very fit and I feel like an absolute blob
    - I think it would be nice to have in the gym, instructors who weren't so skinny and were normal

5. Assessment preparation (n = 15, paraphrased = 28)
    - Wouldnt have had the assessment if I wasnt ready
    - I'd like to get the programme out of the way and I'll lose some weight and then I'll come and see you
    - So I haven't gone back; six weeks was leading up to easter and I thought oh not with the easter eggs and all...I think I'll leave it another week
    - If I hadn't been at the level that I thought the instructors were expecting of me I'd maybe cancel them and put them back a bit and avoid them for a while until I felt I'd done enough
    - I'd have to be sure I was pretty fit to go
    - I always avoided them at least until I thought I was fit enough
    - I don't feel ready yet
    - You can definitely just put it off just saying I'm not ready
    - If I've not been training hard particularly I keep saying oh I'm busy
    - I knew I had to make a bit of an effort and I knew I had to be trying harder
    - I'd be thinking right I'd better eat healthy today and move around more actively
    - I do make an extra special effort
    - I would need to get the feeling of what its like...to reduce anxiety and train harder and maybe diet
    - It usually really bugs me so I try extra hard before you know a couple of weeks before it
    - You have to start preparing for it so they wont think so badly of you
    - I wanted to get fit first
    - ...coming to the gym a lot more
    - I do make an extra special effort
    - I knew I had to make a bit of an effort and I knew I had to be trying harder
    - You build yourself up for it
    - I feel I have to train a bit harder to get to a certain standard
    - You perhaps start eating a little healthier than you normally would
    - I'll watch what I eat
    - I'll watch what I eat, definitely
    - I'll train harder and watch what I eat
    - All of a sudden the week before I'm trying really harder

- I always did it specifically for the assessment

THWARTING OF NEED SATISFACTION
Low competence
D. Meeting standards
1. Meeting personal standards (*n* = 10, paraphrased = 11)
- Coz you're thinking oh I'm not like them, you want to feel better in yourself you know your own goals and standards
- I'd sort of want to push it up every time
- I know I'm unfit, I have my own goals and standards
- I feel that I'm more expert about my body than they are
- I agree, I feel that I'm more expert about my body than they are
- Your fitness it's for you
- They should ask you what you think your goals your potential is rather than setting you something
- I just went back to doing what I wanted to do really
- I was judging me by my own standards
- A competition with myself

2. Meeting instructor standards (*n* = 14, paraphrased = 23)
- I'm not as fit as they'd like
- I wasn't going to do as well as I should
- know what I've been doing but I don't know if it's enough
- I felt a bit worried about what he'd think of me
- A bit concerned you know about not being good enough for his...his standards
- I thought he'd have expectations as I'm always in the gym
- Letting him down
- I get so nervous coz I feel I should be at a standard
- You feel that you should be in tip top yeah tip top condition to go
- I'm gonna be judged where I am and I'm nowhere where they expect me to be
- I feel that the instructor will think I'm not good enough
- If you feel you haven't come as much as you should you think they'll judge you
- I feel more pressured when it's just me and...the gym instructor
- It's like a competition with the fact that you know they're fitter than you
- They'll (instructors) always be better than you
- I'd probably feel no good well I suppose like a bit of a failure
- I don't want him saying these things
- To meet their standards and expectations
- What expectations he has for me to be a certain way
- So I should be at a standard that they (instructors) are
- Could I live up to their expectations
- I'm afraid that I might find out that I'm not as good as I thought I might be
- I am a bit afraid that I might find out that I'm not as good as I'd hoped

3. Meeting peer standards (*n* = 4, paraphrased = 5)
- If I don't achieve that standard then I don't like it affecting my confidence
- I think I try too hard to get on a level with other people
- When you see a girl of your age then you wonder
- I feel quite pressured by peers
- It's from everyone really

E. Negative feedback
1. Assessment feedback - critical (*n* = 6, paraphrased = 7)
- They'll only moan at me
- You feel like you're being grilled
- Like you're sitting in front of the principle

- It's a bit like when you're at school
- It's about criticising you
- They're gonna say oh, she definitely has too many this and too many that

2. Assessment feedback - disappointing (n = 4, paraphrased = 7)
- It can be disappointing
- They tell you you're unfit
- It's all about everything that's wrong
- They tell you everything that's wrong
- When I've worked really hard in the gym for say six to eight weeks, every single day...all I need to do is go to a fitness-assessment to tell me that I'm not fit or thin enough
- All the hard work that you've done means nothing
- My weight, my height everything was contradicting what my assessor was pulling out

3. Assessment feedback - demoralising (n = 5, paraphrased = 7)
- If I kept at a certain standard then I wouldn't be knocked down when I had my assessment
- It was a bit of a blow
- I felt deflated
- Assessments do feel horrible and it knocks your self-esteem
- Makes you feel a bit lower, lesser
- It knocks your confidence
- A bit offputting

Low autonomy
F. Lack of choice
1. Attendance obligation (n = 10, paraphrased = 15)
- I actually tried to cancel this but he came up to me at the gym and said that we had to do the test
- I only do it for my membership...I wouldn't do it otherwise
- You're supposed to be there
- The only reason I go...when I'm ready for it is because, my next fitness-assessment, is my medical insurance requires it
- You've got to get assessed
- I only do it out of necessity
- I wouldn't voluntarily agree to it
- I only do it coz they say I need one
- I feel I should go, but I'm wary, I'm not sure what about
- That you gotta do this
- They would insist that you had another assessment
- She (fitness instructor) said no you wont, I'll see you in six weeks
- They say oh, I thought you were coming you said you were coming, and its a nuisance
- Had to do assessments, but only because I've been coerced into it
- It's the thought they'll bother you and tell you oh, you need your assessment

2. Controlling feedback (n = 4, paraphrased = 4)
- I don't do as I'm told
- They're gonna say you need to do this and you need to do that
- So you feel they're controlling you
- You gotta eat this kind of food and this kind of exercise

3. No choice of instructor (n = 4, paraphrased = 5)
- I wanted to do it with another member of the em the staff
- I probably could have asked if I could change instructors but I didn't want to offend him
- Never any choice (n = 2)
- No, they just pick whoever is available

Low relatedness
G. Instructor negative

1. Instructor lacks understanding (*n* = 2, paraphrased = 4)
   - It's just not realistic; if they were just more normal you could relate to them
   - Just be a bit more understanding
   - It's a really big step
   - Very young guys, both into weights

2. Instructor not caring (*n* = 1, paraphrased = 3)
   - There's one female she's about 17 or 18; she's really fit and everything so I felt they don't really care
   - They should have remembered my name
   - Perhaps she's eye candy to them; he'll talk to her He hasn't necessarily listened to what I've asked
   - Where are they getting they're ideas from
   - whereas me who needs the assistance...I just felt I was a number

3. Instructor not helpful (*n* = 1, paraphrased = 2)
   - Some aren't particularly helpful
   - They weigh you and make suggestions to change your programme (not helpful)

4. Instructor not listening (*n* = 1, paraphrased = 2)
   - He hasn't necessarily listened to what I've asked
   - Where are they getting they're ideas from

SEEKING NEED SATISFACTION
Competence need
H. Personal progress
1. Own goals (*n* = 9, paraphrased = 10)
   - Any pressure has got to come from me
   - You do want to see some improvement
   - You know your own goals and standards
   - I know I'm unfit, I have my own goals and standards
   - Coz you're thinking oh I'm not like them, you want to feel better in yourself
   - I'd sort of want to push it up every time
   - I just went back to doing what I wanted to do really
   - I was judging me by my own standards
   - A competition with myself
   - What I wanted from him was, you know, a bit more structure...we never really established any goals

2. Demonstrate progress (*n* = 1, paraphrased = 1)
   - I wanted him to see I'd gone up in weights

Autonomy need
1. Self-initiation (*n* = 4, paraphrased = 6)
   - I do things I want to do
   - No-one can make me so it's good
   - I just like to get on with it
   - I like to be left alone
   - You can work it out youself
   - I like to do what I want to do

Relatedness need
1. Building relations (*n* = 1, paraphrased = 2)
   - It's been quite a personal thing really
   - I wouldn't go to anyone else

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ASSESSMENT PROCRASTINATION
I. Coping
      1. Feedback-denial (n = 7. paraphrased = 12)
- I don't want to know how heavy I am
- You don't have to see it in black and white
- It's just that I'd rather not know how I am, I'd rather place my head in the sand
- I don't want to feel bad
- I don't wanna really hear it
- Not everyone wants it
- They take your measurements and when your four stone overweight you don't particularly want your measurements taken
- You don't want to know how fat your boobs are or your waistline or how heavy you are
- Because I knew my measurements and my weight were not good I didn't want somebody to actually tell me
- I don't really wanna know
- I don't wanna know how bad I am
- I don't really want to know his sort of thing

AFFECTIVE CONSEQUENCES
J. Relief
Positive feelings
      1. Assessment postponement - positive (n = 3, paraphrased = 3)
- The fact that I avoid the assessments is fine by me, it resolves my worries
- Glad I got out of it though I knew I had to do it
- I was relieved I'd never see him again

K. Guilt
Negative feelings
      1. Assessment postponement - negative (n = 1, paraphrased = 2)
- You do feel guilty
- It bugs me the next day