



Individual differences in self-handicapping modelled as a two-factor construct

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ABSTRACT

Individuals self-handicap when they create obstacles for themselves prior to evaluative events. Self-handicapping has typically been examined as a general trait that people possess to a greater or lesser degree. This assumed unidimensionality has influenced the development and use of self-handicapping measurement tools. However, there is a growing body of evidence and theory suggesting that self-handicapping is a multidimensional construct. This thesis investigates self-handicapping as a multidimensional construct. Specifically, two factors of self-handicapping, representing affect and behaviour, are examined. This thesis consists of six studies – two meta-analyses, and four studies based on an original data set of university students ($N = 484$). The first empirical chapter (Chapter 2) uses factor analysis of an existing self-handicapping scale to demonstrate a distinction between behaviour and affect. The second empirical chapter (Chapter 3) proposes a new measure of self-handicapping behaviour, distinct from self-handicapping affect. The third empirical chapter (Chapter 4) presents a meta-analysis of the relationships between self-handicapping and achievement goal orientations, and uses meta-analytic path analysis to demonstrate that self-handicapping mediates the effect of achievement goals on academic performance. Chapter 4 also includes original empirical data that expands this model to support a two-factor model of self-handicapping. The fourth empirical chapter (Chapter 5) examines the roles of self-esteem and self-concept clarity in predicting the two-factor model of self-handicapping. Specifically, self-concept clarity is tested as a mediator of the effect of self-esteem on self-handicapping. Chapter 5 also includes a meta-analysis of the relationship between self-esteem and self-handicapping. In the closing chapter (Chapter 6), self-handicapping is discussed as a process triggered by an upcoming evaluative task or event, and argues that this process is comprised of distinct situational, cognitive, affective, and behavioural factors.

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STATEMENT OF ORIGINALITY

The content of this thesis is the product of my own work except where specifically acknowledged in text. No part of this thesis has been submitted for the award of any other qualification at this or any other institution.

ETHICAL APPROVAL

All studies presented in this thesis were carried out in accordance with the National Statement on Ethical Conduct in Human Research (2007) and received ethical approval from The University of Sydney Human Research Ethics Committee(s) prior to their commencement under protocols 2012/2763, 2013/459, and 2013/725.

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENTS	ii
STATEMENT OF ORIGINALITY	iii
ETHICAL APPROVAL	iv
TABLE OF CONTENTS	v
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF PUBLICATIONS	xiii
 CHAPTER 1: Thesis Introduction	 1
1.1 A definition of self-handicapping	1
1.1.1 Classifying self-handicapping	1
1.1.2 Self-handicapping and secondary gains	3
1.2 Self-handicapping and self-esteem	3
1.2.1 Protecting self-esteem	4
1.2.2 Enhancing self-esteem	4
1.2.3 An alternative account of self-handicapping motives	6
1.2.3.1 Influencing self-evaluations	6
1.2.3.2 Influencing the evaluations of others	7
1.2.4 Integrating self-esteem motives for self-handicapping	8
1.2.5 Individual differences in self-handicapping and self-esteem	9
1.2.5.1 Self-handicapping and high self-esteem	9
1.2.5.2 Self-handicapping and low self-esteem	10
1.2.5.3 Self-handicapping independent of self-esteem	10
1.2.6 Other considerations regarding self-handicapping and self-esteem	11
1.2.7 Proposed research on self-handicapping and self-esteem	12
1.2.8 Concluding remarks about self-handicapping and self-esteem	12
1.3 Self-handicapping in academic contexts	13
1.3.1 Achievement goal orientations	13
1.3.2 Self-handicapping and achievement goal orientations	14
1.3.2.1 Self-handicapping and performance goals	15

1.3.2.2 Self-handicapping and mastery goals	16
1.3.2.3 Self-handicapping and multiple achievement goals	16
1.3.3 Proposed research on self-handicapping and achievement goal orientations	17
1.3.4 Concluding remarks about self-handicapping and achievement goal orientations	18
1.4 Measuring self-handicapping	18
1.4.1 Self-handicapping Scale	19
1.4.2 Academic Self-handicapping Scale	22
1.4.3 Other self-report measures of self-handicapping	23
1.4.4 Measurement issues	24
1.4.4.1 Self-handicapping and intentionality	24
1.4.4.2 Self-handicapping dimensionality	25
1.4.5 Proposed research on measuring self-handicapping	25
1.4.6 Concluding remarks about measuring self-handicapping	26
1.5 Thesis overview	26
CHAPTER 2: Internal and external aspects of self-handicapping reflect the distinction between motivations and behaviours: Evidence from the Self-handicapping Scale	28
2.1 Abstract	28
2.2 Introduction	29
2.2.1 Introduction to self-handicapping	29
2.2.2 Measuring self-handicapping	29
2.2.2.1 The Self-handicapping Scale (SHS)	30
2.2.3 Academic achievement	32
2.2.4 Personality	32
2.2.5 Self-esteem	33
2.2.6 Procrastination	33
2.2.7 Aims and hypotheses	34
2.3 Method	34
2.3.1 Participants	34
2.3.2 Measures	34
2.3.3 Procedure	36
2.3.4 Analysis	36
2.4 Results	36
2.4.1 Structural analysis of the SHS	36

2.4.1.1 Exploratory factor analysis of the SHS	36
2.4.1.2 Confirmatory factor analyses	39
2.4.2 Descriptive statistics and reliabilities of two self-handicapping factors	41
2.4.3 Correlations and regression analyses	41
2.5 Discussion	43
2.5.1 Findings	43
2.5.2 Toward a new picture of self-handicapping	45
2.5.3 Limitations	46
2.5.4 Directions for future research	46
2.5.5 Conclusions	47
 CHAPTER 3: Development of a self-handicapping behaviour scale for university students:	
Assessing a change in behaviours prior to an evaluative event	48
3.1 Abstract	48
3.2 Introduction	49
3.2.1 Introduction to self-handicapping	49
3.2.2 Measuring self-handicapping	50
3.2.3 The nomological network for self-handicapping behaviours	51
3.2.3.1 Personality (conscientiousness and neuroticism)	51
3.2.3.2 Self-esteem	52
3.2.3.3 Gender	52
3.2.3.4 Evidence for the validity of the Change in Behaviours Scale (CBS)	53
3.2.4 Self-handicapping and academic outcomes	54
3.2.5 The present study	54
3.2.6 Aims and hypotheses	55
3.3 Method	55
3.3.1 Participants	55
3.3.2 Measures	55
3.3.3 Procedure	57
3.3.4 Analysis	57
3.4 Results	57
3.4.1 Structural analysis of the CBS	57
3.4.1.1 Exploratory factor analysis	57
3.4.1.2 Confirmatory factor analysis	58

3.4.2 Descriptive statistics and reliabilities of the CBS	60
3.4.3 Validity evidence for the CBS	60
3.5 Discussion	61
3.5.1 Findings	61
3.5.2 Gender	62
3.5.3 Self-esteem	63
3.5.4 Measuring self-handicapping and limitations	63
3.5.5 Conclusions	65
CHAPTER 4: Self-handicapping mediates the relationship between achievement goals and academic achievement: A meta-analytic path model and extension with two elements of self-handicapping	66
4.1 Abstract	66
4.2 Introduction	67
4.2.1 Introduction to self-handicapping	68
4.2.1.1 Self-handicapping behaviour	70
4.2.1.2 Self-handicapping affect	70
4.2.2 Self-handicapping and achievement goals	72
4.2.2.1 Self-handicapping, achievement goals, and academic achievement	74
4.2.3 The present research	75
4.3 Study 1	75
4.3.1 Method	76
4.3.1.1 Meta-analysis of self-handicapping and achievement goals	76
4.3.1.2 Meta-analytic path model of self-handicapping, achievement goals, and academic achievement	77
4.3.2 Results and discussion	77
4.3.2.1 Meta-analysis of self-handicapping and achievement goals	81
4.3.2.2 Meta-analytic path model of self-handicapping, achievement goals, and academic achievement	82
4.4 Study 2	85
4.4.1 Achievement goals, academic achievement, and multidimensional self-handicapping	85
4.4.2 Achievement goals, self-handicapping affect, and self-handicapping behaviour ..	87
4.4.3 Aims and hypotheses	89

4.4.4 Method	90
4.4.4.1 Participants	90
4.4.4.2 Measures	90
4.4.4.3 Procedure	91
4.4.4.4 Analysis	91
4.4.5 Results	91
4.4.5.1 Descriptive statistics and reliability	91
4.4.5.2 Correlations	91
4.4.5.3 Mediation analysis	94
4.4.6 Discussion	96
4.4.6.1 Self-handicapping affect: Performance orientation, not avoidance motivation, is key	96
4.4.6.2 Self-handicapping behaviour: Mastery approach goal orientation is key	97
4.4.6.3 Performance goal orientation and academic achievement	97
4.5 General discussion	98
4.5.1 Self-handicapping and mastery approach goals	98
4.5.2 Self-handicapping and mastery avoidance goals	99
4.5.3 Self-handicapping and performance approach goals	100
4.5.4 Self-handicapping and performance avoidance goals	101
4.5.5 Self-handicapping affect versus self-handicapping behaviour	101
4.5.6 Limitations	102
4.5.7 Conclusions and future directions	103
 CHAPTER 5: Self-concept clarity mediates the relationship between self-esteem and self-handicapping	 104
5.1 Abstract	104
5.2 Introduction	105
5.2.1 A brief introduction to self-handicapping	105
5.2.2 Measures of self-handicapping	106
5.2.3 Self-handicapping and self-esteem	107
5.2.4 Self-handicapping and self-concept clarity	108
5.2.5 The present studies	109
5.3 Study 1	110
5.3.1 Method	110

5.3.2 Results and discussion	111
5.4 Study 2	115
5.4.1 Method	116
5.4.1.1 Participants	116
5.4.1.2 Measures	117
5.4.1.3 Procedure	117
5.4.1.4 Analysis	118
5.4.2 Results and discussion	118
5.4.2.1 Descriptive statistics, reliability, and correlations	118
5.4.2.2 Mediation analysis	118
5.5 General discussion	121
5.5.1 Self-concept clarity, self-esteem, and self-handicapping	121
5.5.2 Self-handicapping behaviour and self-handicapping affect	122
5.5.3 Limitations and future directions	123
5.5.4 Conclusions	124
 CHAPTER 6: Thesis Discussion	 125
6.1 Summary of findings	125
6.1.1 Measuring self-handicapping	125
6.1.2 Self-handicapping and achievement goal orientations	127
6.1.3 Self-handicapping, self-esteem, and self-concept clarity	130
6.1.4 Synthesis of empirical findings	132
6.2 A revised definition of self-handicapping	134
6.2.1 Situational factors in self-handicapping	135
6.2.2 Cognitive components of self-handicapping	136
6.2.3 Affective components of self-handicapping	139
6.2.4 Behavioural components of self-handicapping	140
6.3 A persisting measurement issue	141
6.4 Limitations and future research directions	142
6.5 Conclusions	143
 REFERENCES	 145

LIST OF TABLES

Table 1.1	Item content of the Self-handicapping Scale	19
Table 1.2	Item content of the Academic Self-handicapping Scale	23
Table 2.1	Rotated factor loadings for exploratory factor analysis and confirmatory factor analysis of 13 items from the Self-handicapping Scale	38
Table 2.2	Comparison fit indices of previous structural models of the Self-handicapping Scale	40
Table 2.3	Descriptive statistics, reliability, and Pearson correlations for all scales used in analyses	42
Table 2.4	Standardised regression coefficients and semipartial correlations from an hierarchical regression testing the incremental prediction of grades from ‘Self-handicapping Internal’ and ‘Self-handicapping External’	43
Table 3.1	Factor loadings for exploratory factor analysis and confirmatory factor analysis of 7 items from a scale assessing university students’ change in behaviours when completing an assignment	58
Table 3.2	Descriptive statistics, Cronbach’s alpha, and Pearson correlations for all scales used in analyses	59
Table 4.1	Meta-analysis of the relationships between self-handicapping and achievement goal orientations	78
Table 4.2	Meta-analysis of the relationship between self-handicapping and performance approach goal orientation, grouped by achievement goal measure used	82
Table 4.3	Meta-analytic correlation matrix (Study 1)	83
Table 4.4	Descriptive statistics and correlations among all variables used in Study 2 analyses	93
Table 5.1	Included studies in meta-analysis of the relationship between self-handicapping and self-esteem	112
Table 5.2	Descriptive statistics and correlations among all variables used in analyses	118
Table 6.1	Summary of correlations from Chapters 2 to 5	133

LIST OF FIGURES

Figure 4.1	A meta-analytic path model of achievement goals, self-handicapping, and academic achievement (Study 1)	84
Figure 4.2	Standardised significant effects in a multiple serial mediation model of achievement goals, two elements of self-handicapping, and academic achievement	94
Figure 5.1	Hypothesised mediation model of self-esteem, self-concept clarity, and two elements of self-handicapping	116
Figure 5.2	Standardised direct effects in a path model of self-esteem, self-concept clarity, self-handicapping affect, and self-handicapping behaviour	119
Figure 6.1	Process model of self-handicapping	135

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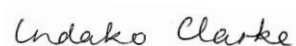
CHAPTER 4

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CHAPTER 5

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For each of the above manuscripts, I, I. E. Clarke, am the corresponding author, and am responsible for the conception and design of the research, data collection and analysis, interpretation of analyses, and the drafting of the manuscript. My co-author and supervisor, C. MacCann, contributed to the conception and design of the research, interpretation of analyses, and revisions of the manuscript.



Indako Eun-Joo Clarke, 16th July 2017

As supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.



Carolyn MacCann, 16th July 2017

CHAPTER 1: Thesis Introduction

1.1 A definition of self-handicapping

In life an individual encounters many tasks and events at which their performance is evaluated. If the performance feedback from these evaluative events is negative, it can pose a threat to the individual's sense of self-worth. One way of reducing the impact of negative performance feedback is to prevent it from being attributed to abilities or traits that are innate to the individual. If a handicap to successful performance is present, performance feedback cannot solely apply to the individual's ability as performance may be due to the handicap, not just a lack of ability. The presence of the handicap thus deflects the threat posed by negative performance feedback. When an individual creates this handicap to their performance prior to the evaluative event, it is known as self-handicapping. A common example of self-handicapping is the student who, unsure of their ability to perform well on an upcoming exam, does not study until the night before the exam. When exam results are returned, the student can blame poor performance on a lack of study rather than a lack of intelligence or ability. When self-handicapping, an individual is willing to accept the increased likelihood of poor performance because the performance outcome can be attributed to something other than the ability or quality being evaluated by the task (Berglas & Jones, 1978). In the event that performance feedback is positive, the individual can aggrandise the contribution of their ability (or other trait) to the success, because good performance at the evaluative event occurred *despite* the presence of a handicap.

1.1.1 Classifying self-handicapping

Some researchers have distinguished between *behavioural* self-handicapping and *claimed* self-handicapping (Arkin & Baumgardner, 1985; Ferradás, Freire, Valle, Núñez, Regueiro, & Vallejo, 2016; Leary & Shepperd, 1986; Lovejoy & Durik, 2010; McCrea, Hirt,

Hendrix, Milner, & Steele, 2008). This distinction relates to the *type* of handicap that an individual creates or acquires prior to the evaluative event. Behavioural self-handicapping is used to describe handicaps created by action or inaction, such as withdrawing effort (Ferrari & Tice, 2000), drug use (Berglas & Jones, 1978), failing to take advantage of factors that might improve performance (Deppe & Harackiewicz, 1996), and selecting environments that will inhibit performance (Schwinger & Stiensmeier-Pelster, 2011). Claimed self-handicapping, on the other hand, is used to describe handicaps that are asserted to exist, such as claiming illness (Smith, Snyder, & Perkins, 1983), shyness (Snyder, Smith, Augelli, & Ingram, 1985), and anxiety (Leary & Shepperd, 1986). Some researchers have also argued that ‘claimed handicaps’ do not actually make poor performance more likely (Leary & Shepperd, 1986). Leary and Shepperd (1986) stated that behavioural self-handicapping is more costly to performance than claimed self-handicapping, but is also more convincing in deflecting performance evaluations from implicating ability. In a longitudinal study of the effects of self-handicapping on wellbeing and academic achievement, Zuckerman, Kieffer, and Knee (1998) found that self-handicapping predicted lower grade point average after controlling for baseline academic achievement, as well as predicting lower self-esteem scores after controlling for baseline self-esteem. They argued that *claimed* self-handicapping would not result in actual decrements to achievement and self-esteem. Zuckerman et al. (1998) measured self-handicapping using a common self-report tool. Self-handicapping research that draws a distinction between behavioural and claimed self-handicapping often assesses the two differently. Behavioural self-handicapping is assessed via observation of behaviours, and claimed self-handicapping is assessed using self-report tools (e.g. Coudevylle, Martin Ginis, Famose, & Gernigon, 2008). In more recent times, however, often both types of self-handicapping are assessed using self-report measures (e.g. Ferradás, Freire, Valle, & Núñez, 2016).

1.1.2 Self-handicapping and secondary gains

An ancillary component of the self-handicapping phenomenon is its utility in producing secondary gains. Secondary gains are the beneficial short-term by-products of the self-handicapping process. Snyder and Smith (1982) have proposed that these secondary gains include relief from responsibility, access to nurturing relationships, securing environmental supports, and immediate alleviation of anxiety. Having an ‘excuse’ may reduce the anxiety associated with performance expectations for some individuals. Snyder (1990) proposed that in some cases this anxiety relief leads to better performance than would be expected if the anxiety were not alleviated. Coudeville et al. (2008) found that participants reported their anxiety as being facilitative of performance when they were given the opportunity to self-handicap. Although such affective effects may have short-term benefits for self-handicapping individuals, self-handicapping is ultimately maladaptive (Covington, 1984). Berglas (1985) asserted that even though there are positive reinforcing effects of secondary gains on self-handicapping tendencies, self-handicapping is not primarily motivated by these proposed benefits.

1.2 Self-handicapping and self-esteem

Since the first theoretical writings on the self-handicapping phenomenon (Jones & Berglas, 1978), self-esteem has been proposed as a primary driver of self-handicapping. The dominant view is that self-handicapping occurs in order to protect one’s self-esteem (Jones & Berglas, 1978; Rhodewalt, 1990). If performance at an evaluative event is poor (either objectively or subjectively), then performance feedback represents a potential threat to self-esteem. If self-handicapping has occurred prior to the evaluative event, the source of sub-optimal performance is obscured by the handicap. In the presence of a handicap – an ‘uncontrollable’ external factor – performance evaluations cannot be wholly ascribed to an

individual's ability alone. The presence of a handicap deflects the threat to self-esteem posed by evaluations, resulting in the protection of self-esteem.

A second view is that self-handicapping occurs in order to enhance one's self-esteem (Tice, 1991; Tice & Baumeister, 1990). If performance at an evaluative event is better than expected, and self-handicapping has occurred prior to the event, then the ability that can be inferred from the successful performance is greater than if there had been no handicap. In the presence of a handicap, positive performance evaluations must be ascribed to the internal characteristics of the person rather than any external characteristics (e.g., environment), because good performance occurred *in spite* of a handicap.

Each motive – self-esteem protection and self-esteem enhancement – is discussed in turn. Then an alternative account of self-handicapping motives is presented – self-handicapping to influence self-evaluations, and self-handicapping to influence the evaluations of others.

1.2.1 Protecting self-esteem

In the first theoretical paper on self-handicapping, Jones and Berglas stated that self-handicapping occurs “...to protect that concept [of self-competence] from unequivocal negative feedback...” (1978, p. 202). Feick and Rhodewalt (1997) found that students who claimed more handicaps immediately prior to an exam had significantly higher post-exam self-esteem than students who claimed fewer handicaps. This finding occurred for both students who exceeded their expectations on the exam, and students who failed to meet their expectations on the same exam. This finding was replicated by McCrea and Hirt (2001).

1.2.2 Enhancing self-esteem

Some researchers have proposed that self-handicapping occurs for the purpose of enhancing self-esteem (Rhodewalt, Morf, Hazlett, & Fairfield, 1991; Tice, 1991; Tice & Baumeister, 1990). They have suggested that handicaps are selected to *appear* obstructive,

but can actually be overcome by the self-handicapping individual (Tice & Baumeister, 1990). Thus, when the handicap is inevitably overcome, and success at the evaluative event follows, self-esteem is enhanced because success occurred in spite of the handicap. According to this line of reasoning, handicaps are acquired so that resulting (and necessarily anticipated) success on the evaluative task will augment the perceived contribution of the individual's innate qualities, e.g. ability. In support of this, Tice and Baumeister (1990) found that when participants were not given performance feedback after completing an evaluative task that they were to repeat in a future trial, individuals with high self-esteem chose to practice significantly less (i.e., self-handicap more) than those with lower self-esteem. They concluded that "highly self-confident" (p. 458) individuals utilise self-handicapping to capitalise on the potential for self-esteem enhancement.

Jones and Berglas (1978) stated that self-esteem enhancement is not an intentional motive for self-handicapping. Instead, it is an unintended but reinforcing by-product of self-handicapping for the purpose of self-esteem protection that occurs when, despite self-handicapping, performance feedback is unexpectedly positive. Such surprise benefits of self-handicapping may explain why individuals continue to engage in self-handicapping despite the real detriment to performance outcomes that self-handicapping represents (Zuckerman et al., 1998). Urdan and Midgley stated that, "we are not persuaded that people... would *intentionally* [emphasis added] undermine their own chances for success (through handicapping) for the chance of succeeding despite the handicap" (2001, p. 119). Finez, Berjot, Rosnet, Cleveland and Tice (2012) found that claimed self-handicapping was predicted by both: (a) self-reported self-handicapping for self-esteem protective reasons, and (b) self-reported self-handicapping for self-esteem enhancing reasons.

An alternative account of self-handicapping motives in which self-handicapping occurs either to influence self-evaluations, or to influence the evaluations of others is discussed next.

1.2.3 An alternative account of self-handicapping motives

It has been suggested that self-handicapping is motivated by a desire to shape the evaluations made by the self and/or others (Kolditz & Arkin, 1982). Some researchers hypothesise that by self-handicapping, individuals attempt to influence self-evaluations of their own performance at evaluative events (Rhodewalt & Tragakis, 2002). For example, receiving a high grade for an assignment that I only started the night before it was due would make me evaluate myself as a much more capable writer than if I had started the assignment weeks in advance of the due date. Conversely, receiving a poor grade for this assignment would mean that I don't have to re-evaluate my writing ability because the poor grade can be explained by the (minimal) amount of time spent working on the assignment rather than a lack of writing ability.

Other researchers hypothesise that by self-handicapping individuals can influence the evaluations that are formed by others about them following performance at evaluative events (Kolditz & Arkin, 1982). For example, if I stay out late with friends the night before an exam, and I subsequently fail that exam, I would hope that my friends attribute my poor performance to a lack of sleep rather than to my intelligence. In influencing either the self or others, self-handicapping individuals can protect or enhance their self-esteem by avoiding negative evaluations.

1.2.3.1 Influencing self-evaluations

Self-handicapping has been labelled a defensive strategy (e.g. Lupien, Seery, & Almonte, 2010) because it protects against the threat that potential negative evaluations pose to the self. By acquiring a handicap prior to an evaluative event, individuals avoid receiving unequivocal performance feedback. As a result, these self-handicapping individuals do not need to make critical self-evaluations, or adjust their perceptions of themselves and their ability to perform well in the future. Thus, self-esteem is protected. Berglas and Jones (1978)

found that self-handicapping (measured by selection of a performance-inhibiting drug) occurred even when feedback on a participant's performance at an evaluative task was not made public. However a recurring criticism of such studies is that a truly 'private' condition for self-handicapping or evaluation can never been achieved experimentally (Kolditz & Arkin, 1982; Snyder, 1990). The very nature of an experimental setting means that some evaluation of participants is taking place (Snyder, 1990). Furthermore, if self-handicapping occurs in order to influence self-evaluations, this would require an uncanny level of self-deception in order to truly achieve self-esteem protection or enhancement (Higgins & Snyder, 1990). Indeed, Covington (1992) presented evidence that individuals who self-handicap do not actually deceive themselves. Thus, it has been argued that self-handicapping instead occurs in order to influence the evaluations of others.

1.2.3.2 Influencing the evaluations of others

An alternative view is that self-handicapping occurs in order to secure positive (or non-negative) evaluations from those who are witnesses to an individual's performance at an evaluative event (Kolditz & Arkin, 1982). By securing positive evaluations (or avoiding negative evaluations) from others, self-esteem can be protected or enhanced. It has been argued that evaluative events necessarily take place with some kind of audience beyond the self-handicapping individual and thus self-handicapping occurs in order to control the evaluations that *audience members* might make about the individual (Rhodewalt & Vohs, 2005). This motive suggests that individuals engage in self-handicapping to preserve their public image by offering an explanation for failure that does not call their own ability into question. The self-handicapping individual trades an increased likelihood of failure for an increased likelihood of self-image and self-esteem protection. Kolditz and Arkin (1982) found that participants given the opportunity to self-handicap in a public environment chose a 'performance-inhibiting drug' significantly more than participants given the same opportunity

in a private environment. The participants in the private environment almost never chose the performance-inhibiting drug. Strube (1986) found that self-handicapping was associated with public self-consciousness (awareness of the self in relation to others) but not with private self-consciousness (awareness of the self in relation to one's own intra-psychic processes).

It is likely that self-handicapping occurs in order to influence *both* self-evaluations and evaluations from others (Arkin & Baumgardner, 1985; Rhodewalt & Tragakis, 2002). That is, neither outcome would occur in isolation given the likelihood that any evaluative event would take place with some kind of audience present, e.g. a teacher, a coach, a parent, or peers. In fact, Jones and Berglas (1978) stated that self-handicapping occurs for the purpose of controlling self-evaluations but that being able to influence the evaluations of others was reinforcing to the act of self-handicapping. Similarly, Rhodewalt (2008) agreed that self-handicapping is enacted for both purposes – to “deceive” the self, and others.

1.2.4 Integrating self-esteem motives for self-handicapping

These four motives for self-handicapping – protecting self-esteem, enhancing self-esteem, influencing self-evaluations, and influencing the evaluations of others – have at times been discussed as interchangeable concepts (e.g. Tice & Baumeister, 1990; Urdan & Midgley, 2001). Researchers have framed self-handicapping for the enhancement of self-esteem in terms of its ‘publicity value’ in influencing performance evaluations made by others. Similarly, self-handicapping for the protection of self-esteem is conceptually similar to self-handicapping for the purposes of influencing self-evaluations.

It is possible to integrate these four related motives, as none seem to preclude another (Arkin & Baumgardner, 1985; Rhodewalt & Tragakis, 2002; Rhodewalt & Vohs, 2005). Self-handicapping may occur in order to influence performance evaluations made by the self *and* made by others (because it is unlikely that an evaluative event could result in performance feedback from just one of these sources in isolation). As a result of this influence, negative

evaluations are avoided and self-esteem is protected. When unexpected success at the evaluative event occurs, self-esteem is enhanced. The overall self-handicapping process is driven primarily (but not solely) by the desire to protect self-esteem (from negative feedback, from evaluations made by others, and from having to make adjustments in self-perception). Self-esteem then plays a critical role in predicting self-handicapping behaviour, however it has been found that this relationship is subject to individual differences.

1.2.5 Individual differences in self-handicapping and self-esteem

Not all individuals are expected to self-handicap with the same frequency (Jones & Berglas, 1978; Rhodewalt, 1990). Differing levels of trait self-esteem have been associated with differing levels of self-handicapping (Harris, Snyder, Higgins, & Schrag, 1986; Rhodewalt, 1990; Zuckerman et al., 1998). One proposition has been that self-handicapping is differentially associated with self-esteem as a function of the motive for self-handicapping (Tice & Baumeister, 1990).

1.2.5.1 Self-handicapping and high self-esteem

Berglas and Jones (Berglas & Jones, 1978; Jones & Berglas, 1978) suggested that individuals self-handicap to protect positive but unstable self-esteem. Positive but unstable self-esteem is vulnerable to revision by feedback from evaluative events, and thus such events would pose more of a threat to individuals who hold such self-esteem. Self-handicapping could thus be described as a defensive strategy – there must be at least *some* esteem worth protecting (Rhodewalt, 1990). Both Jones and Berglas (1978) and Rhodewalt (1990) proposed that individuals with the lowest level of self-esteem would have no motive to self-handicap as negative evaluations would not pose a threat to such individuals. This would predict that those with higher self-esteem would self-handicap more often than those with lower self-esteem. Harris et al. (1986) found that after completing an evaluative task from which female participants received no performance feedback, women with higher levels of covert self-

esteem reported that they would apply less effort during an upcoming evaluative task (i.e. self-handicap more) than those with lower levels of covert self-esteem. Covert self-esteem was conceptualised as “true” self-evaluations, measured using phrases such as “secretly feel” and “inwardly feel” (Harris et al., 1986, p. 1193).

1.2.5.2 Self-handicapping and low self-esteem

On the other hand Snyder and Smith (1982), hypothesise that self-handicapping occurs in order to conceal underlying feelings of inferiority, and thus suggest a compensatory motive for self-handicapping. This would predict that those with lower self-esteem would self-handicap more often than those with higher self-esteem. Lower levels of self-esteem have also been theoretically associated with more frequent self-handicapping by Rhodewalt (1990) who hypothesised that individuals with low self-esteem would self-handicap without regard for situational factors (e.g. likelihood of success based on task difficulty), whereas individuals with higher self-esteem would only self-handicap when they perceive a threat to their self-esteem by evaluations. In a related hypothesis, Snyder and Higgins (1988) suggested that low self-esteem individuals encounter more situations in which they are uncertain about the likelihood of a preferred outcome relative to individuals with higher self-esteem. Lower levels of self-esteem have been associated with greater tendency to self-handicap across several correlational studies (Ferradás, Freire, Valle, Núñez, et al., 2016; Strube, 1986; Uysal & Knee, 2012).

1.2.5.3 Self-handicapping independent of self-esteem

Rhodewalt (1990) proposes that although self-handicapping is theoretically related to self-esteem, self-handicapping tendencies should be independent of level of self-esteem. Similarly, Urdan and Midgley (2001) stated that, regardless of level of self-esteem, all individuals wish to avoid appearing less able than they are (or believe they are). Urdan and Midgley argue that for low self-esteem individuals, ‘failure’ on an evaluative task might mean

objectively poor performance and performing worse than others, whereas for high self-esteem individuals, ‘failure’ might mean not performing as well as is possible (subjectively poor performance), or not being the best performer. This would predict no empirical relationship between level of self-esteem and self-handicapping. There have been some empirical studies that did not find a significant association between self-esteem and self-handicapping (e.g. Alesi, Rappo, & Pepi, 2012; Finez, Berjot, Rosnet, & Cleveland, 2011; Martin, Marsh, & Debus, 2001). Similarly, Tice (1991) has suggested that both low and high self-esteem individuals will self-handicap, but with different motives – individuals with lower self-esteem will self-handicap in order to protect their self-esteem, while individuals with higher self-esteem will self-handicap to enhance their self-esteem. However, Finez et al. (2012) did not find evidence for an interaction between the effects of level of self-esteem and motive for self-handicapping (self-esteem protection or self-esteem enhancement) on claimed self-handicapping. Unresolved theoretical issues may explain the mixed empirical evidence for the association between self-esteem and self-handicapping (Ferradás, Freire, Valle, Núñez, et al., 2016). For example, Ferradás, Freire, Valle, Núñez, et al. (2016) have suggested that the nature of the relationship between self-esteem and self-handicapping might differ by the *type* of self-handicapping being examined, although they found no differences between claimed self-handicapping and behavioural self-handicapping.

1.2.6 Other considerations regarding self-handicapping and self-esteem

The relationship between self-esteem and self-handicapping has been discussed in terms of self-esteem-driven motives for self-handicapping. There is also empirical evidence that engaging in self-handicapping affects levels of self-esteem, both in the short-term (Feick & Rhodewalt, 1997) and long-term (Zuckerman et al., 1998). It is likely that the relationship between self-handicapping and self-esteem, regardless of individual differences in either, is reciprocal (Zuckerman et al., 1998). Finally, there has been some initial exploration of the

assumption that the relationship between self-esteem and self-handicapping is linear (Ferradás, Freire, Valle, Núñez, et al., 2016). Ferradás, Freire, Valle, Núñez, et al. (2016) tested whether a quadratic self-esteem term would predict two types of self-handicapping but did not observe significant results.

1.2.7 Proposed research on self-handicapping and self-esteem

Given the importance of self-esteem in accounts of self-handicapping, and the many different mechanisms proposed for this relationship, it is surprising that there is currently no systematic exploration of the size of this effect. In this thesis, a meta-analysis of the existing research is conducted in order to determine the magnitude of the relationship between self-esteem and self-handicapping (Chapter 5, Study 1). In addition, original empirical research will test whether self-concept clarity mediates the relationship between self-esteem and self-handicapping (Chapter 5, Study 2). Thus, this research will test whether the unstable self-concept (which is thus vulnerable to revision by feedback) is the pathway by which self-esteem links to self-handicapping.

1.2.8 Concluding remarks about self-handicapping and self-esteem

Self-handicapping and self-esteem, although theoretically distinct (Rhodewalt, 1990), are often empirically linked (Schwinger & Stiensmeier-Pelster, 2011; Zuckerman et al., 1998) however not always in the same manner. Although self-esteem has been discussed here as a primary motive for self-handicapping, it is not the only motive for self-handicapping. Other proposed motives include need for control (Arkin & Baumgardner, 1985), perfectionism (Arazzini Stewart & De George-Walker, 2014; Kearns, Forbes, Gardiner, & Marshall, 2008), and achievement goals (Urdan & Midgley, 2001). The relationship between self-handicapping and achievement goals is discussed next.

1.3 Self-handicapping in academic contexts

Self-handicapping is commonly observed in student populations (Kearns, Forbes, Gardiner, & Marshall, 2008). Urdan and Midgley (2001) outlined three factors that may explain why self-handicapping would be commonplace in academic contexts. First, in academic settings there are typically many events and tasks on which individuals are evaluated. Second, the consequences of these evaluations are often very important, e.g. matriculation. Third, there are many ‘audience members’ at these evaluative events whose evaluations an individual might wish to control, e.g. teachers, peers. Self-handicapping has been found to have negative effects on academic outcomes (Martin, Marsh, & Debus, 2003; Schwinger, Wirthwein, Lemmer, & Steinmayr, 2014; Zuckerman et al., 1998), including long-term lowered academic achievement (Martin et al., 2003). In a meta-analysis of the relationship between self-handicapping and academic achievement, Schwinger et al. (2014) found that the estimated effect size over 49 samples was moderate and negative ($r = -.23$). Urdan and Midgley (2001) have argued that academic contexts foster self-handicapping in students due to the type of achievement goals that are promoted.

1.3.1 Achievement goal orientations

Achievement goal orientations profile differences in the purpose of achievement (Elliot & McGregor, 2001; Huang, 2012). There are four commonly identified orientations – performance approach, performance avoidance, mastery approach, and mastery avoidance (Elliot & McGregor, 2001). Performance-oriented goals (performance approach and performance avoidance) are characterised by achievement compared to others, whereas mastery-oriented goals (mastery approach and mastery avoidance) are characterised by skill development. For both performance and mastery orientations, a distinction is made between approach goals and avoidance goals. Approach goals relate to pursuing positive outcomes, e.g. out-performing others (performance approach), and mastering a new skill (mastery

approach). Avoidance goals relate to avoiding negative outcomes e.g. avoiding receiving the lowest grade in the class (performance avoidance), and failure to adequately learn a new skill (mastery avoidance). Some researchers examine only three of these goal orientations (performance approach, performance, avoidance, and mastery approach; e.g. Leondari & Gonida, 2007; Schwinger & Stiensmeier-Pelster, 2011), or two orientations (performance approach, and mastery approach; e.g. Midgley & Urdan, 1995; Rhodewalt, 1994).

Achievement goal orientations are differentially related to academic achievement. In a meta-analysis, Huang (2012) found the following effect sizes for the four achievement goal orientations with academic achievement: $r = .10$ for mastery approach, $r = -.11$ for mastery avoidance, $r = .13$ for performance approach, and $r = -.13$ for performance avoidance. Similarly, in a meta-analysis of 31 samples ($N = 10713$), Richardson, Abraham, and Bond (2012) found the relationship between GPA and performance avoidance goal orientation to be $r = -.14$. These results suggest that approach goals, be they mastery- or performance-oriented are beneficial for academic achievement, whereas avoidance goals are detrimental.

1.3.2 Self-handicapping and achievement goal orientations

The relationships between self-handicapping and achievement goal orientations have been examined in numerous studies, yielding a mix of empirical results. The mechanisms by which self-handicapping and achievement goals are related are also unresolved.

Urdan and Midgley (2001) have argued that self-handicapping is driven by achievement goal orientations, specifically performance-oriented achievement goals. They state that individuals who are concerned with appearing capable (performance approach), or avoiding looking incapable (performance avoidance) would have greater motivation to self-handicap. Urdan and Midgley reason that performance orientation necessarily requires individuals to be evaluated by others, and that individuals who hold performance-oriented goals would wish to influence those evaluations using strategies such as self-handicapping. Mastery-oriented

goals, conversely, emphasise effort over ability, and would minimise the need for self-handicapping.

In an alternative explanation, Chen, Wu, Kee, Lin, and Shui (2009) proposed that achievement goal orientations are the mechanism through which fear of failure drives self-handicapping. They reason that fear of failure would promote *avoidance* goals, be they performance- or mastery-oriented, which in turn would predict self-handicapping. Approach goals (performance approach or mastery approach) on the other hand would negatively predict self-handicapping due to their orientation toward positive outcomes.

1.3.2.1 Self-handicapping and performance goals

Of the four achievement goal orientations, the most consistent empirical observation has been a positive association between self-handicapping and performance avoidance goals (e.g. Chen, Wu, et al., 2009; Ommundsen, 2004), however this association has varied considerably in magnitude. In a large secondary school sample, De Castella and Byrne (2015) found a small but statistically significant positive correlation between self-handicapping and performance avoidance goals ($r = .07$). On the other hand, Akin (2014) found a very large positive correlation between self-handicapping and performance avoidance goals ($r = .77$) in a university sample. Schwinger and Stiensmeier-Pelster (2011) have claimed that performance avoidance goals are one of the two most cited determinants of self-handicapping (the other being self-esteem).

The relationship between performance approach goals and self-handicapping has been the most varied, with positive (e.g. Deemer, Carter, & Lobrano, 2010; Mesa, 2012), negative (e.g. Buckner et al., 2016; Ommundsen, 2004), and no association (e.g. Midgley & Urdan, 1995; Schwinger & Stiensmeier-Pelster, 2011) having been observed. Recently, a differentiation between appearance-focussed performance approach goals and normative-focussed performance approach goals has been proposed (Hulleman, Schrager, Bodmann, &

Harackiewicz, 2010; Senko & Tropiano, 2016). Appearance goals emphasise demonstrating competence to others, whereas normative goals emphasise success. Senko and Tropiano (2016) found that self-handicapping was positively correlated with appearance-focussed performance approach goals, but not significantly related to normative-focussed performance approach goals. Although this distinction may help to explain some of the mixed findings about the relationship between performance approach goals and self-handicapping, there has been limited empirical study of these goal orientations.

1.3.2.2 Self-handicapping and mastery goals

Empirical evidence for the relationship between mastery approach goals and self-handicapping has been somewhat inconsistent. Many researchers have observed a negative association between mastery approach goals and self-handicapping (e.g. Boon, 2007; Martin, 2008). However, other researchers have observed no evidence of a relationship between mastery approach goals and self-handicapping (e.g. Leondari & Gonida, 2007; Lovejoy & Durik, 2010; Matthews, 2014). When either a performance-oriented or a mastery-oriented ‘goal climate’ was primed in a sample of competitive basketball players, Coudeville, Martin Ginis, Famose, and Gernigon (2009) found that players spent less time practising (indicating more self-handicapping) in a performance-oriented climate compared to a mastery-oriented climate.

Finally, there has been little empirical research regarding the relationship between mastery avoidance goals and self-handicapping, but the few empirical studies conducted suggest a positive association between the two (e.g. Chen, Wu, et al., 2009; Lovejoy & Durik, 2010).

1.3.2.3 Self-handicapping and multiple achievement goals

Many researchers have proposed a ‘multiple goal’ perspective, in which: different goals may be more beneficial in some contexts compared to others (Harackiewicz, Barron, Pintrich,

Elliot, & Thrash, 2002); endorsing multiple goal orientations may be beneficial in some contexts (Barron & Harackiewicz, 2001); and goals may have interactive effects on outcomes (Pintrich, 2000). In a meta-analysis of the inter-correlations among the four achievement goal orientations, Huang (2012) found that, with the exception of the mastery approach-performance avoidance relationship (which was non-significant), all inter-correlations were significant and positive, ranging from $r = .19$ to $.36$.

Recently researchers have begun examining how endorsing multiple achievement goals affects self-handicapping. Shih (2005) found that, when controlling for performance avoidance goals, individuals who endorsed both mastery and performance approach goals, or who endorsed mastery approach goals and did not endorse performance approach goals reported engaging in less self-handicapping than individuals who endorsed neither mastery nor performance approach goals. This suggests a protective function of mastery approach goals against self-handicapping. Schwinger and Stiensmeier-Pelster (2011) found that when self-esteem, mastery approach, performance approach, and performance avoidance goals were entered into a simultaneous regression predicting self-handicapping, mastery approach goals significantly negatively predicted self-handicapping whereas performance avoidance goals significantly positively predicted self-handicapping. This finding also suggests that there is a protective function of mastery approach goals, and a facilitating function of performance avoidance goals.

1.3.3 Proposed research on self-handicapping and achievement goal orientations

Given the many and varied associations between achievement goal orientations and self-handicapping, there is a need for a systematic exploration of these relationships. In this thesis, a meta-analysis of existing research is conducted in order to determine the size of the relationship between self-handicapping and four achievement goal orientations (Chapter 4, Study 1). The estimates from this meta-analysis are used in conjunction with effect sizes from

other published meta-analyses to test a model in which self-handicapping mediates the relationship between achievement goals and academic achievement. This model is then extended using original empirical data to test a model in which two elements of self-handicapping mediate the relationship between achievement goals and academic achievement (Chapter 4, Study 2).

1.3.4 Concluding remarks about self-handicapping and achievement goal orientations

The relationships between achievement goal orientations and self-handicapping have been well-studied, although the empirical findings are mixed. Competing theoretical explanations for the ways in which achievement goals drive self-handicapping are yet to be resolved. However it seems that both performance avoidance goals and mastery approach goals play an important role in the self-handicapping process. Endorsing performance avoidance goals is associated with more self-handicapping, whereas mastery approach goals appear to protect against self-handicapping. It is clear that both achievement goal orientations and self-handicapping have important effects on academic outcomes, are endemic to academic contexts, and thus warrant further investigation.

1.4 Measuring self-handicapping

Self-handicapping is now most commonly assessed using self-report measures. In the formative years of self-handicapping research, such tools complemented experimental measures of self-handicapping. Although there are some researchers and specific contexts in which experimental measures of self-handicapping are still utilised (e.g. Ntoumanis, Thøgersen-Ntoumani, & Smith, 2009), this thesis focuses on the self-report assessment of self-handicapping. Although there are many published and unpublished self-report assessments of self-handicapping, there are two predominant measures that are in current use. Each is reviewed below, with particular attention given to their psychometric properties.

1.4.1 Self-handicapping Scale

The Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982) is one of the most commonly used self-report measures of self-handicapping in psychological research. It was constructed to assess individual differences in the use of self-handicapping (Rhodewalt, 1990). The item content of the current 25-item version of the SHS is shown in Table 1.1. Despite usage of the scale for many decades, the factor structure of the scale is still subject to mixed findings.

Table 1.1

Item content of the Self-handicapping Scale (Jones & Rhodewalt, 1982)

Item
1. When I do something wrong, my first impulse is to blame the circumstances.
2. I tend to put things off to the last moment.
3. I tend to overprepare when I have any kind of exam or “performance”. ^a
4. I suppose I feel “under the weather” more often than most people.
5. I always try to do my best, no matter what. ^a
6. Before I sign up for a course or engage in any important activity, I make sure I have the proper preparation or background. ^a
7. I tend to get very anxious before an exam or “performance”.
8. I am easily distracted by noises or my own creative thoughts when I try to read.
9. I try not to get too intensely involved in competitive activities so it won’t hurt too much if I lose or do poorly.
10. I would rather be respected for doing my best than admired for my potential. ^a
11. I would do a lot better if I tried harder.
12. I prefer the small pleasures in the present to the larger pleasures in the dim future.
13. I generally hate to be in any condition but “at my best”. ^a
14. Someday I might “get it all together”.
15. I sometimes enjoy being mildly ill for a day or two because it takes off the pressure.
16. I would do much better if I did not let my emotions get in the way.
17. When I do poorly at one kind of thing, I often console myself by remembering I am good at other things.

Item
18. I admit that I am tempted to rationalise when I don't live up to others' expectation.
19. I often think I have more than my share of bad luck in sports, card games, and other measures of talent.
20. I would rather not take any drug that interfered with my ability to think clearly and do the right thing. ^a
21. I overindulge in food and drink more often than I should.
22. When something important is coming up, like an exam or job interview, I try to get as much sleep as possible the night before. ^a
23. I never let emotional problems in one part of my life interfere with things in my life. ^a
24. Usually, when I get anxious about doing well, I end up doing better.
25. Sometimes I get so depressed that even easy tasks become difficult.
<i>Note.</i> ^a Item is reverse-scored.

Strube (1986) proposed use of a shortened one-factor 10-item version of the SHS. Using an early unpublished 20-item version of the SHS, Strube conducted a principal components analysis of the scale with varimax rotation. Strube retained items that had a factor loading of $>.30$ on the first unrotated principal component, yielding a single-factor 10-item shortened SHS. The internal consistency of the 10-item SHS was higher ($\alpha = .70$) than that of the full (20-item) SHS ($\alpha = .62$). The two versions of the scale were highly correlated ($r = .87$). Despite this outcome, Strube did acknowledge that the SHS showed “moderate heterogeneity” (1986, p. 218).

Rhodewalt (1990) recommended the use of a two-factor 14-item version of the SHS. Rhodewalt conducted a principal components analysis of the current 25-item version of the SHS. This analysis yielded two factors, which Rhodewalt identified as “proclivity for excuse making” and “concern about effort or motivation” (1990, p. 79). Rhodewalt reported internal consistency for the 14-item shortened SHS ($\alpha = .70$), but did not report internal consistency for the two factors separately. Although Strube’s analysis was based on an earlier version of the SHS, Rhodewalt’s 14-item short version of the SHS contains all of the 10 equivalent

items from Strube's 10-item short version of the SHS. Both shortened versions of the SHS are currently widely used instead of the full 25-item SHS (e.g. Deemer et al., 2010; Prapavessis & Grove, 1998).

Martin and Brawley (1999) conducted confirmatory factor analyses of Rhodewalt's (1990) two-factor 14-item SHS in three separate samples. Internal consistency for the 'excuse making' factor was between $\alpha = .68$ and $.70$ across the three samples, and between $\alpha = .38$ and $.49$ for the 'concern about effort' factor. Fit indices across the three samples indicated poor fit of the two-factor 14-item structure of the SHS (CFI ranged from $.68$ to $.79$).

Zuckerman et al. (1998) conducted two exploratory factor analyses of the full 25-item SHS. Both analyses yielded the same unidimensional 14-item solution, with internal consistency of $\alpha = .76$ and $.74$. All but one of the items in Zuckerman et al.'s 14-item solution were identical to Rhodewalt's (1990) 14-item solution. McCrea, Hirt, and Hendrix (2006, as cited in McCrea, Hirt, Hendrix, et al., 2008) conducted a factor analysis of the SHS that yielded two-factors that together contained a total of 19 items. They labelled their factors 'claimed' and 'behavioural' self-handicapping, reflecting the theoretical distinction made by Arkin and Baumgardner (1985). In a subsequent study (McCrea, Hirt, Hendrix, et al., 2008), internal consistency for the two subscales was reported as $\alpha = .68$ and $.72$ for claimed self-handicapping, and $\alpha = .66$ and $.65$ for behavioural self-handicapping.

Translations of the SHS into languages other than English have also yielded mixed psychometric results. In a French translation, Kraïem and Bertsch (2011) found a two-factor 12-item structure of the French SHS, reflecting claimed and behavioural self-handicapping. A Turkish translation of the SHS yielded a single factor for the full 25-item SHS with internal consistency of $\alpha = .90$ (Akin, 2012).

Martin and Brawley (1999) proposed that the SHS was constructed from a data-driven rather than theory-driven foundation, and that this may explain the "psychometric

weaknesses” (p. 909) of the scale. Rhodewalt, on the other hand, stated that the SHS was constructed to be “face-valid” and that, “our training and interest are not in psychometric methodologies and concerns but rather in investigating theoretical issues...” (1990, p. 76). Rhodewalt has acknowledged, however, that the SHS might not be effective in identifying particular kinds of self-handicapping, specifically discrete or self-deceptive self-handicapping. Despite criticism and the varying results of psychometric analyses of the SHS, it continues to be one of the more widely used self-report measures of self-handicapping.

1.4.2 Academic Self-handicapping Scale

Midgley and Urdan and colleagues (Midgley, Arunkumar, & Urdan, 1996; Midgley & Urdan, 1995; Urdan, Midgley, & Anderman, 1998) developed a unidimensional self-report scale for specific use in academic settings – the Academic Self-handicapping Scale (ASHS). The item content of the ASHS is shown in Table 1.2. Urdan, Midgley and colleagues constructed the scale to be used in secondary school settings, but the scale has also been validated in elementary and tertiary education samples (e.g. Schwinger & Stiensmeier-Pelster, 2011; Urdan et al., 1998). Throughout the refinement of the ASHS, Urdan, Midgley, and colleagues have asserted that self-handicapping measures should contain three key elements in order adequately capture the self-handicapping construct. First, the item content should reflect that self-handicapping occurs *prior* to an evaluative event. This is necessary in order to distinguish self-handicapping from post hoc attributions. Second, the self-handicapping behaviour needs to be explicit. Midgley and Urdan (1995) argued that the behaviour must have the potential to actually undermine performance, and Midgley et al. (1996) stated that cognitions were not sufficient to constitute self-handicapping. Third, the self-presentational motive for the self-handicapping behaviour must also be explicit in the item content. That is, it should be clear that the behaviour occurs in order to influence the evaluations of others.

This kind of item construction, however, assumes that self-handicapping is an active cognitive process that individuals can self-identify.

Table 1.2

Item content of the Academic Self-handicapping Scale (Midgley, Arunkumar, & Urdan, 1996; Midgley & Urdan, 1995; Urdan, Midgley, & Anderman, 1998)

Item
1. Some students put off doing their school work until the last minute so that if they don't do well on their work they can say that is the reason. How true is this of you?
2. Some students let their friends keep them from paying attention in class or from doing their homework. Then if they don't do as well as they had hoped, they can say friends kept them from working. How true is this of you?
3. Some students purposely don't try hard in school so that if they don't do well, they can say it is because they didn't try. How true is this of you?
4. Some students purposely get involved in lots of activities. Then if they don't do as well on their school work as they hoped, they can say it is because they are involved with other things. How true is this of you?
5. Some students fool around the night before a test so that if they don't do well they can say that is the reason. How true is this of you?
6. Some students look for reasons to keep them from studying (not feeling well, having to help their parents, taking care of a brother or sister, etc.). Then if they don't do well on their schoolwork, they can say this is the reason. How true is this of you?

1.4.3 Other self-report measures of self-handicapping

There are other published and unpublished self-report measures of self-handicapping, however none have been as widely used or validated as the SHS or ASHS. There has been some prevalent use of various claimed self-handicapping self-report measures that involve administering a list of 'potential handicaps' prior to an evaluative task. Respondents select handicaps that they believe apply to them (Martin & Brawley, 2002; Standage, Treasure, Hooper & Kuczka, 2007; Strube, 1986), or they generate their own list of handicaps

(Prapavessis & Grove, 1998). In some studies the number of endorsed handicaps serves as the claimed self-handicapping score (Prapavessis & Grove, 1998; Strube, 1986). In other studies the list of handicaps is accompanied by some indicator of severity or degree of influence of the handicap (Martin & Brawley, 2002; Standage et al., 2007).

There are other self-handicapping scales that are based on the SHS or the ASHS, modified for specific populations or contexts, e.g. Motivation and Engagement Scale Self-handicapping Subscale (Martin, 2010), Self-handicapping Scale for Children (Waschbusch, Craig, Pelham, & King, 2007), and Revised Academic Self-handicapping Scale (Murray & Warden, 1992).

1.4.4 Measurement issues

There are many conceptual and methodological problems inherent to and resulting from the measurement of self-handicapping via self-report measures. Two such problems relevant to this thesis – intentionality and dimensionality – are discussed in turn below.

1.4.4.1 Self-handicapping and intentionality

Assessing self-handicapping via self-report measures assumes some level of self-awareness on the part of the respondent. Although this is not unique to the self-report measurement of self-handicapping specifically, the nature of self-handicapping presents additional challenges for valid measurement by self-report means. As discussed in Section 1.2.3.1, it may be that self-handicapping occurs in order to deceive the self so that self-image can remain unchanged by external threat from negative performance feedback. The very act of self-handicapping then requires some level of self-deception in order to achieve the desired outcome. It is thus unclear whether self-handicapping is consciously or unconsciously initiated. There has been limited empirical study of the intentionality involved in self-handicapping. Eyink, Hirt, Hendrix, and Galante (2017) found that individuals who were high in trait self-handicapping (as measured by the SHS) claimed handicaps only when they had

enough cognitive resources available. Similarly, McCrea and Flamm (2012) found that less self-handicapping occurred when participants were cognitively busy. These studies suggest that self-handicapping requires cognition. In a qualitative study of self-handicapping, Martin, Marsh, Williamson and Debus (2003) found mixed evidence for the claim that individuals make a conscious choice to engage in self-handicapping. Urdan and Midgley (2001) have suggested that self-handicapping is a conscious process, and the construction of the items in the ASHS reflects this assertion by containing the motive for the self-handicapping behaviour. The SHS, on the other hand does not rest on this assumption, but it has been argued that the SHS has low construct validity as a result (Schwinger et al., 2014).

1.4.4.2 Self-handicapping dimensionality

A further issue for the measurement of self-handicapping is the theoretical dimensionality of the construct. As discussed in Section 1.1.1, many researchers have distinguished between behavioural and claimed self-handicapping, suggesting that self-handicapping can be further classified into subtypes. Similarly, Urdan, Midgley and colleagues, in constructing the ASHS have identified three components (timing, behaviour, and motive) that only *together* would indicate self-handicapping. The SHS has been shown to have both one and two factors, whereas the ASHS is unidimensional (Urdan et al., 1998). Taken together, it appears that self-handicapping may not be a unidimensional construct.

1.4.5 Proposed research on measuring self-handicapping

Given the mixed findings regarding the psychometric properties of the SHS, and the conceptual considerations of the dimensionality of self-handicapping, the current thesis examines the factor structure of this common measure of self-handicapping (Chapter 2). In addition, the issue of intentionality is addressed in the development of a new measure of self-handicapping behaviours (Chapter 3). Although two common measures of self-handicapping have been discussed in this chapter, only the SHS has been selected for study in the current

thesis. This is due to the range of differing findings regarding the psychometric properties of the SHS. The ASHS, in contrast, has relatively stable psychometric properties.

1.4.6 Concluding remarks about measuring self-handicapping

Although self-report measures of self-handicapping have inherent psychometric problems, they are easily and widely used in present day research. As such, it seems important and necessary to continue to evaluate and refine such measures of self-handicapping. In addition, gaps in the theory of self-handicapping, particularly regarding intentionality, form the basis for methodological problems when investigating self-handicapping.

1.5 Thesis overview

The following chapters represent an empirical investigation of self-handicapping in a tertiary setting. These chapters build on important theoretical and methodological considerations raised in this introductory chapter. The broad aim of this thesis is to examine self-handicapping as a multifaceted construct that occurs in response to threat from particular situational cues.

In Chapter 2 (Clarke & MacCann, 2016) a psychometric analysis of the SHS is conducted, testing whether the scale consists of separate factors representing self-handicapping behaviour and the affective and cognitive motives for this behaviour.

Chapter 3 presents an attempt to construct a valid and reliable measure of self-handicapping behaviours (the Change in Behaviours Scale; CBS). Measurement issues specific to self-report self-handicapping tools are discussed, and the CBS is constructed with the aim of ameliorating these concerns.

Chapter 4 (Clarke & MacCann, 2017b) extends the two-factor model of self-handicapping presented in Chapter 2 by examining its relationship with achievement goal orientations. Two studies comprise Chapter 4. The first known meta-analysis of the

relationships between self-handicapping and achievement goals forms Study 1. In Study 2 a model in which the effect of achievement goals on academic achievement is mediated by self-handicapping behaviour and self-handicapping affect is tested.

Chapter 5 (Clarke & MacCann, 2017a) investigates the relationship between self-handicapping and self-esteem. The first known meta-analysis of the relationship between self-handicapping and self-esteem forms Study 1. In Study 2, self-concept clarity is proposed as an important mediator of the relationship between self-esteem and self-handicapping. A mediation model including the two-factor model of self-handicapping is tested.

Together these four empirical chapters give weight to the validity of a two-factor model of self-handicapping that represents self-handicapping behaviours and self-handicapping affect.

CHAPTER 2: Internal and external aspects of self-handicapping reflect the distinction between motivations and behaviours: Evidence from the Self-handicapping Scale

This chapter is a minor revision of Clarke and MacCann (2016), published in *Personality and Individual Differences*.

2.1 Abstract

Self-handicapping is an extensively studied phenomenon that has important educational consequences. Much of its empirical study uses the Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982) to assess self-handicapping as a single construct. The current study ($N = 484$ university students) tests whether a multifactorial solution to the SHS is more appropriate and meaningful. Parallel analysis and exploratory factor analysis of 242 responses to the SHS suggested two factors. Confirmatory factor analysis of this solution showed satisfactory fit in a second sample ($N = 242$; CFI = .909, RMSEA = .062). The factors were labelled ‘Self-handicapping Internal’ and ‘Self-handicapping External’. These two factors reflect a distinction between cognitive/affective and behavioural components of the self-handicapping phenomenon. The factors showed a significantly different pattern of correlations with procrastination, self-esteem, conscientiousness and emotional stability. Collectively the two factors showed greater incremental prediction of academic achievement than a single SHS total score alone. Moreover, this prediction of achievement held after accounting for personality, providing some degree of evidence that self-handicapping is distinct from major personality domains. Results are discussed in terms of the additional substantive information gleaned from separating self-handicapping measures into multiple components.

2.2 Introduction

Self-handicapping is an important phenomenon, most commonly assessed using the total score of the Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982). However, theory suggests that self-handicapping is composed of multiple elements (Berglas & Jones, 1978; Jones & Berglas, 1978; Rhodewalt, 1990; Schwinger, Wirthwein, Lemmer, & Steinmayr, 2014). As such, we propose that modelling SHS items as multiple constructs is more appropriate. Using a large sample of university students, we test whether: (a) a multifactorial model of the SHS provides improved fit over its single-factor use (assessed via differences in chi-square, CFI, and AIC); and (b) whether the factors of the SHS are substantively different (assessed by their correlations with related constructs such as Big Five personality, procrastination, self-esteem, and academic achievement).

2.2.1 Introduction to self-handicapping

Self-handicapping is the phenomenon in which individuals will create obstacles for themselves prior to an ability-evaluating event. Such obstacles serve a dual purpose. In the event of a negative evaluation, obstacles become an excuse or explanation for failure. In the event of a (usually surprising) positive evaluation, obstacles instead become conquered hurdles (Berglas & Jones, 1978). Importantly, obstacles are instigated before the evaluative event occurs. They are not post hoc attributions. When an a priori obstacle is available as an excuse, a reason for failure is more ambiguous. Because of this, negative feedback from the evaluative event is more easily rendered unjustified (Jones & Berglas, 1978).

2.2.2 Measuring self-handicapping

Self-handicapping has generally been measured in two ways (Urdan & Midgley, 2001). The first is through observing self-handicapping in evaluative settings (either naturally-occurring or experimentally-induced). The second approach uses self-report questionnaires to

assess individual differences in self-handicapping tendencies or traits (Schwinger et al., 2014). The current study focuses solely on this second approach.

In a meta-analysis of self-handicapping and academic achievement, Schwinger et al. (2014) found that the detrimental effect of self-handicapping on academic achievement was significantly moderated by the instrument that had been used to assess self-handicapping. Effects were smaller when general trait measures of self-handicapping were used than when academic-domain-specific measures were used, e.g. math self-handicapping for math achievement. Schwinger et al. argued that this was due to a “bandwidth-fidelity problem” (2014, p. 756). That is, more narrowly defined scales account for more variance in a situation-specific outcome than a broad scale like a general personality trait measure would. Although domain-specific measures are becoming more commonplace in empirical research, many researchers continue to use the SHS, a general ‘trait’ self-handicapping measure.

2.2.2.1 The Self-handicapping Scale (SHS)

The 25-item SHS is the most widely used self-report measure of self-handicapping in psychological research. It was constructed to identify self-handicapping tendencies as a general trait (Rhodewalt, 1990). Although research to date suggests that the SHS may be factorially complex, there has been a lack of agreement about which factor structure best represents self-handicapping (as measured by the SHS). Both unidimensional and multifactorial structures have been found.

Strube (1986) suggested a one-factor 10-item scale based on a principal components analysis of an early 20-item SHS, but acknowledged “moderate heterogeneity” among the items (p. 218). Zuckerman, Kieffer, and Knee (1998) similarly suggested a one-factor 14-item solution based on exploratory factor analyses of the current 25-item SHS in two samples. Rhodewalt’s (1990) principal components analysis of the current SHS yielded two factors identified as “proclivity for excuse making” and “concern about effort or motivation” (p. 79).

However, confirmatory factor analysis of this solution resulted in unsatisfactory fit indices in three separate samples (Martin & Brawley, 1999). McCrea, Hirt, Hendrix, Milner, and Steele (2008) also suggested a two-factor structure of the SHS. They labelled their factors ‘claimed’ and ‘behavioural’, differentiating between self-handicapping behaviours that actually took place (behavioural), and those that were only said to have taken place (claimed). Structural analyses of foreign-language translations of the SHS have also yielded both unidimensional (Akin, 2012) and two-factor structures (Kraïem & Bertsch, 2011).

Despite limited, and varying psychometric analyses of the SHS, and more recently, criticism of the SHS (Martin & Brawley, 1999; Schwinger et al., 2014), the SHS remains one of the more widely used self-report measures of self-handicapping. Both Strube’s (1986) 10-item shortened SHS and Rhodewalt’s (1990) 14-item shortened SHS are also commonly used instead of the full SHS (e.g. Martin, Marsh, & Debus, 2003; Zuckerman & Tsai, 2005).

Given the conflicting evidence about whether the SHS items represent multiple factors, the current study re-examines the factor structure of the SHS in a university sample. We advance on previous research in four primary ways. First, we use parallel analysis to test the likely number of factors in the SHS. Second, we use exploratory factor analysis (EFA) to identify a solution and then confirmatory factor analysis (CFA) to test the fit of our data to such a solution (using separate screening and calibration samples). Third, we examine whether the different factors identified by structural analysis have substantively different meaning by testing their relationships with key variables conceptually related to self-handicapping. Fourth, we control for important covariates such as Big Five personality, self-esteem, and cognitive ability when assessing the relationship between the self-handicapping factors and academic achievement, and we use grade point average (GPA) based on university records (rather than student self-reported GPA). We thus have a compelling predictive model

that eliminates major confounding variables. We outline the nomological network for self-handicapping in the paragraphs below, to justify our selection of key variables in the analyses.

2.2.3 Academic achievement

Self-handicapping is an important predictor of academic achievement and is common in student populations (Kearns, Forbes, Gardiner, & Marshall, 2008). Self-handicapping predicts lower levels of academic achievement (Martin, Marsh, & Debus, 2003; Schwinger et al., 2014; Zuckerman et al., 1998). Sustained engagement in self-handicapping also results in long-term lowered academic achievement (Martin, Marsh, & Debus, 2003). We therefore expect that higher self-handicapping will predict lower achievement, and can test whether different factors of self-handicapping show differential levels of deficit on students' university grades. Moreover, we test the incremental validity of self-handicapping factors over-and-above well-known predictors of both self-handicapping and academic achievement, i.e., cognitive ability, personality, and self-esteem (Poropat, 2009; Rhodewalt, 1990).

2.2.4 Personality

Only four empirical studies have examined the relationship between self-handicapping and the Big Five model of personality (Bobo, Whitaker, & Strunk, 2013; Martin, Nejad, Colmar, & Liem, 2013; Ross, Canada, & Rausch, 2002; Strube, 1986). These few studies have shown that self-handicapping is associated with low conscientiousness and high neuroticism. Bobo et al. (2013) have proposed that self-handicapping is a “function” of personality (p. 619). They found that 25% of the variance in time-two self-handicapping scores was predicted by a time-one regression equation in which self-handicapping was predicted by conscientiousness and neuroticism. They concluded that their findings showed that choosing self-handicapping as a protective strategy was due to personality factors (that are fixed and stable) rather than transient or situational factors. Rhodewalt (1990) has similarly proposed that self-handicapping tendencies are trait-like. Ross et al. (2002) outline

the positive relationships between self-handicapping and the facets of neuroticism, such as depression, self-consciousness and anxiety. They conclude that those who self-handicap are more sensitive to evaluation by others. Furthermore, Ross et al. (2002) claim that neuroticism shares a stronger relationship with self-handicapping than with procrastination. This may be due to the fact that procrastination is typically assessed as behaviour only, unlike neuroticism and self-handicapping which encompass affect and cognition. The current study examines the relationship between self-handicapping and Big Five personality to test whether self-handicapping is distinct from these broad personality traits. Moreover, we examine the effect of self-handicapping on achievement over and above personality. We are not aware of any other published works that examine this question of incremental validity of self-handicapping over personality.

2.2.5 Self-esteem

Self-esteem may: (a) cause self-handicapping, where people self-handicap to conceal underlying feelings of inferiority (Urdu & Midgley, 2001); and/or (b) occur as an outcome of sustained self-handicapping (Zuckerman et al., 1998). A moderate to strong relationship between self-handicapping and self-esteem has been consistently observed in empirical studies (Rhodewalt, 1990; Strube, 1986; Zuckerman et al., 1998). We thus consider the relationship between self-handicapping factors and self-esteem.

2.2.6 Procrastination

Procrastination is a commonly observed self-handicapping behaviour (Steel, 2007). Observed or reported procrastination has often been used as a proxy for self-handicapping (Ferrari & Tice, 2000). However procrastination alone does not necessarily indicate the presence a self-handicapping motive. Procrastination that has no implication for failure on an evaluative task might be a product of laziness or disengagement. However, when procrastination does have an implication for failure it may indicate self-handicapping. Given

this, measures of self-handicapping should positively correlate with measures of procrastination, but not to a degree that would suggest that they are the same construct.

2.2.7 Aims and hypotheses

There are two hypotheses in this study. First, the SHS will reflect multiple factors, potentially distinguishing between behavioural content, and content related to motivations, emotions, and/or cognitions (H1a). Such an interpretation is supported by previous multifactorial solutions (McCrea, Hirt, Hendrix, et al., 2008; Rhodewalt, 1990; Zuckerman et al., 1998). Further support for the distinctiveness of the multiple factors will be tested via their differential associations with key constructs such as procrastination, conscientiousness, emotional stability, and self-esteem as outlined in the previous sections (H1b). Second, the different self-handicapping components will incrementally predict university GPA over-and-above personality, cognitive ability, self-esteem and (importantly) each other (H2). This will provide further evidence for the distinctiveness between self-handicapping factors, and the importance of considering self-handicapping as a predictor of academic achievement.

2.3 Method

2.3.1 Participants

Participants were 484 undergraduate students (64.9% female) at a large university in Sydney, Australia. Ages ranged from 17 to 60 ($M = 19.70$, $SD = 3.79$). The majority of participants received course credit in exchange for their participation. The remaining participants were volunteers with no incentives ($n = 15$).

2.3.2 Measures

2.3.2.1 Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982)

This 25-item questionnaire has a six-point Likert response scale ranging from (1) ‘strongly disagree’ to (6) ‘strongly agree’. See Table 2.1 for example items.

2.3.2.2 Academic Self-handicapping Scale (ASHS; Urdan, Midgley, & Anderman, 1998)

This six-item questionnaire has a five-point response scale ranging from (1) ‘not true at all’ to (5) ‘very true’. Urdan et al. (1998) developed the ASHS as an alternative to the SHS. They suggest that a self-report self-handicapping item should contain: (a) a self-handicapping behaviour, (b) the motivation for such behaviour, and (c) the timing of the behaviour prior to the ability-evaluating event, e.g., “Some students purposely don’t try hard at university so that if they don’t do well, they can say it is because they didn’t try. How true is this of you?”.

2.3.2.3 Procrastination

A three-item scale assessing procrastination was adopted from Wohl, Pychyl, and Bennett (2010) who selected the items from existing procrastination scales based on their content and construct validity. The response scale ranges from (1) ‘strongly disagree’ to (5) ‘strongly agree’.

2.3.2.4 Mini Markers Big Five personality (Saucier, 1994)

This 40-item assessment uses eight single-word descriptors for each of the five personality traits, e.g., “energetic”. Participants rate each item from (1) ‘extremely inaccurate’ to (9) ‘extremely accurate’.

2.3.2.5 Rosenberg Self-esteem Scale (Rosenberg, 1965)

This 10-item scale uses a four-point response scale ranging from (1) ‘strongly disagree’ to (4) ‘strongly agree’.

2.3.2.6 Cognitive ability

The short-form of the Esoteric Analogies test (EAT; Stankov, 1997) consists of 20 items. The EAT assesses both fluid and crystallised intelligence, and requires participants to choose from four options to complete an analogy, e.g., “Hen is to chick as cow is to...”.

2.3.2.7 Academic achievement

With participants' consent, their end-of-semester grades for introductory psychology were collected from the administrative body. Grades ranged from 0 to 100 ($M = 61.78$, $SD = 16.05$).

2.3.3 Procedure

Participants completed all protocol online in an un-proctored setting. The data were drawn from a larger study of self-handicapping, which included additional measures of academic behaviours, beliefs, and motivations. The full protocol took approximately one hour to complete. This study received approval from the University of Sydney Human Research Ethics Committee.

2.3.4 Analysis

EFA were conducted using IBM SPSS version 24. CFA were conducted using IBM SPSS AMOS version 19. Parallel analyses were conducted using Marley Watkins Monte Carlo PCS for Parallel Analysis. Further details are provided below. All other analyses were conducted using IBM SPSS version 24. No data were missing, as participants were required to respond to all items in the protocol.

2.4 Results

2.4.1 Structural analysis of the SHS

Each case was randomly assigned to one of two equally-sized data sets. The first data set ($N = 242$) was used for EFA of the SHS items, and the second data set ($N = 242$) was used for CFA.

2.4.1.1 Exploratory factor analysis of the SHS

EFA was conducted on the 25 SHS items using maximum likelihood estimation with promax rotation. Examination of the scree plot showed a clear break after the second factor, and smaller breaks after both the third and fourth factors. A parallel analysis using 999

bootstrap samples showed four factors with observed eigenvalues greater than the 95th percentile of random eigenvalues. Two, three, and four factors were extracted. However, the three- and four-factor solutions showed doublet factors that could not be meaningfully interpreted. For these reasons, we report the two-factor solution. Items that had low communalities ($<.20$) were discarded (items 1, 10, 12, 13, 14, 17, 18, 20, 21, 22, 23, 24). EFA was repeated with the remaining 13 items, and the final two-factor solution is shown in Table 2.1.

Factor I was labelled ‘Self-handicapping Internal’ (SH Internal) as the content appears to reflect internal thoughts and feelings that accompany self-handicapping. Factor II was labelled ‘Self-handicapping External’ (SH External), as these items reflect behaviours and actions associated with self-handicapping. This finding supports the first hypothesis that the SHS is multifactorial, with factors reflecting behavioural and affective/cognitive components of self-handicapping.

Table 2.1

Rotated factor loadings for exploratory factor analysis and confirmatory factor analysis of 13 items from the Self-handicapping Scale

	EFA		CFA		h^2
	I	II	I	II	
25. Sometimes I get so depressed that even easy tasks become difficult.	.704	.140	.741		.577
16. I would do much better if I did not let my emotions get in the way.	.693	-.091	.735		.449
7. I tend to get very anxious before an exam or 'performance'.	.627	-.195	.513		.355
4. I suppose I feel 'under the weather' more often than most people.	.593	.169	.649		.443
19. I often think I have more than my share of bad luck in sports, card games, and other measures of talent.	.516	-.099	.327		.244
9. I try not to get too intensely involved in competitive activities so it won't hurt too much if I lose or do poorly.	.481	-.043	.502		.220
8. I am easily distracted by noises or my own creative thoughts when I try to read.	.438	.056	.377		.211
15. I sometimes enjoy being mildly ill for a day or two because it takes off the pressure.	.369	.179	.411		.209
5. I always try to do my best, no matter what. ^a	-.023	.807		.486	.640
6. Before I sign up for a course or engage in any important activity, I make sure I have the proper preparation or background. ^a	-.056	.675		.378	.435
3. I tend to overprepare when I have any kind of exam or 'performance'. ^a	-.218	.601		.397	.327
2. I tend to put things off to the last moment.	.122	.536		.790	.343
11. I would do a lot better if I tried harder.	.160	.457		.496	.280

Note. $n = 241$ for EFA; $n = 242$ for CFA. EFA factor loadings $>|.30|$ are shown in bold. EFA = exploratory factor analysis; CFA = confirmatory factor analysis.

^a Reverse-coded item.

2.4.1.2 Confirmatory factor analyses

CFA of the two-factor, 13-item SHS EFA solution was conducted using maximum likelihood estimation. Each item loaded on its respective factor and the two latent factors were set to covary. All reverse-scored items loaded on a latent method factor. The fit indices for this model were: $\chi^2 = 116.665$, $df = 61$, $p < .001$; CFI = .909, RMSEA = .062 (90% CI: .044, .078). These indices suggest acceptable model fit. The two-factor model showed improved fit over a unidimensional model of the same 13 items: $\chi^2 = 295.609$, $df = 65$, $p < .001$; CFI = .622, RMSEA = .122 (90% CI: .108, .136); $\Delta\chi^2 = 178.944$, $\Delta df = 4$, $p < .001$; $\Delta AIC = 170.994$; $\Delta CFI = .287$. This supports Hypothesis 1a (that a multifactor solution would be better-fitting).

For comparison, CFA were also conducted on previous structural models of the SHS items (McCrea, Hirt, Hendrix, et al., 2008; Rhodewalt, 1990; Strube, 1986; Zuckerman et al., 1998). All CFA allowed for latent factors to covary and reverse-scored items loaded on a latent method factor. This mirrored the CFA conducted on our own EFA solution, allowing for the fairest comparison. The fit indices of these CFA are provided in Table 2.2 alongside our own, and we compare fit using AIC and changes of more than .01 in CFI (Cheung & Rensvold, 2002). Note that the models are not nested, hence chi-square difference is inappropriate. The current study's two-factor SHS shows better fit than previous structural analyses of the SHS, including other two-factor solutions.

Table 2.2

Comparison fit indices of previous structural models of the Self-handicapping Scale

	χ^2	<i>df</i>	AIC	Δ AIC	CFI	Δ CFI	RMSEA	RMSEA 90% CI
Current study: 13-item 2-factor solution	116.665	61	202.665		.909		.062	.044, .078
Current study: 13-item 1-factor solution	295.609	65	373.609	170.994	.622	.287	.122	.108, .136
Strube (1986) 10-item 1-factor solution	116.120	35	176.120	-26.545	.732	.177	.098	.079, .118
Rhodewalt (1990) 14-item 2-factor solution	233.320	76	319.320	116.665	.748	.161	.093	.079, .107
Zuckerman et al. (1998) 14-item 1-factor solution	270.865	77	354.865	152.200	.687	.222	.102	.089, .116
McCrea, Hirt, Hendrix, et al., (2008) 19-item 2-factor solution	362.017	144	492.017	289.352	.755	.154	.079	.069, .090

Note. $N = 242$.

2.4.2 Descriptive statistics and reliabilities of two self-handicapping factors

The full 484-participant sample was used for all subsequent analyses. Descriptive statistics for SH Internal and SH External total scores are shown in Table 2.3. The two factors correlated at $r = .23$ ($p < .001$). Cronbach's alpha for both factors was acceptable.

2.4.3 Correlations and regression analyses

Table 2.3 shows the correlations of SH Internal and SH External scores with criterion variables. Hypothesis 1b (that the factors would show different associations with other variables) was supported. Steiger's z-test for dependent correlations showed that: (a) SH External showed significantly stronger correlations with procrastination and (lower levels of) conscientiousness compared to SH Internal ($p < .001$); but, (b) SH Internal showed significantly stronger correlations with self-esteem and emotional stability ($p < .001$).

Participants' university grade was regressed on SH Internal and SH External while controlling for gender, age, intelligence, personality, and self-esteem. When SH Internal and SH External were entered into the final block of an hierarchical regression analysis, they accounted for an additional 5.4% of the variance in participants' grades (see Table 2.4). Both SH Internal and SH External scores significantly predicted grades, supporting Hypothesis 2. SH External predicted a greater reduction in final grades than did SH Internal, however the magnitude of these effects were not significantly different from one another, $z = 1.16$, $p = .25$. When the total SHS score was entered into the final block of the same hierarchical regression model (instead of SH Internal and SH External), SHS scores only accounted for an additional 3% ($\Delta R^2 = .030$, $\Delta F_{1,443} = 16.78$, $p < .001$) of the variance in grades despite the SHS containing more items than SH Internal and SH External together.

Table 2.3

Descriptive statistics, reliability, and Pearson correlations for all scales used in analyses

	Mean	SD	α	N	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. SHS total score	3.54	0.47	.76	482												
2. Self-handicapping Internal	3.53	0.82	.77	482	.80											
3. Self-handicapping External	3.82	0.81	.73	482	.66	.23										
4. ASHS	2.05	0.86	.85	483	.42	.34	.33									
5. Procrastination	3.72	1.01	.89	484	.50	.21	.67	.36								
6. Extraversion	5.36	1.34	.84	480	-.27	-.33	-.11	-.09	-.09							
7. Agreeableness	6.74	1.13	.83	480	-.18	-.14	-.15	-.27	-.11	.12						
8. Conscientiousness	5.78	1.27	.84	480	-.51	-.29	-.58	-.28	-.42	.21	.29					
9. Emotional stability	5.17	1.27	.82	480	-.51	-.53	-.25	-.24	-.19	.18	.33	.23				
10. Openness to experience	6.45	1.07	.80	480	-.05	-.03	-.06	-.08	-.05	.17	.18	.18	-.02			
11. Self-esteem	2.80	0.53	.90	482	-.54	-.65	-.26	-.29	-.15	.42	.21	.34	.51	.14		
12. Esoteric Analogies Test	13.75	3.20	.68	481	-.04	-.11	.10	-.14	.06	-.03	.05	-.09	.05	.25	.05	
13. Grades	61.78	16.05		457	-.28	-.23	-.25	-.35	-.24	-.07	.15	.19	.12	.11	.19	.30

Note. SHS = Self-handicapping Scale; ASHS = Academic Self-handicapping Scale.

All $r > .11$ significant at $p < .01$ (two-tailed); all $r > .08$ significant at $p < .05$ (two-tailed).

Table 2.4

Standardised regression coefficients and semipartial correlations from an hierarchical regression testing the incremental prediction of grades from ‘Self-handicapping Internal’ and ‘Self-handicapping External’

Predictor	Model 1		Model 2	
	β	sr	β	sr
Step 1				
Gender	-.016	-.015	-.008	-.008
Age	-.042	-.041	-.049	-.048
Esoteric Analogies Test	.307**	.289	.309**	.285
Extraversion	-.186**	-.166	-.194**	-.171
Agreeableness	.077	.068	.103*	.090
Conscientiousness	.182**	.162	.031	.023
Emotional Stability	-.039	-.031	-.117*	-.089
Openness to Experience	.003	.003	.015	.014
Self-esteem	.198**	.151	.118	.080
Step 2				
SH Internal			-.163**	-.115
SH External			-.247**	-.199
R^2	.185**		.238**	
ΔR^2			.054**	

Note. $N = 454$. Gender coded 1 = male, 2 = female. SH = self-handicapping.

* $p < .05$. ** $p < .01$.

2.5 Discussion

2.5.1 Findings

Two factors were extracted from the SHS. These factors reflected ‘internal’ – affective and cognitive components, and ‘external’ – behavioural components of self-handicapping. Examining the differing pattern of correlations for these factors shows that SH Internal is related to other measures aligned with affect and cognitions, such as emotional stability and

self-esteem. SH External is more strongly correlated with procrastination and conscientiousness.

Together, SH Internal and SH External significantly contributed to the prediction of academic achievement over and above the effects of personality, gender, age, intelligence and self-esteem. The effect of these two SHS factors in predicting grades was greater than the same effect of the full SHS used as a single score. This is important to note, as not only does splitting the SHS into two subscales provide additional substantive information, but it also does this with fewer items than the original SHS. SH External was a stronger predictor of grades than SH Internal. Both factors, however, were significant negative predictors of grades, suggesting that self-handicapping affective, cognitive, and behavioural components together are detrimental to academic achievement.

Our results support the idea that the SHS represents multiple qualitatively different factors, adding to the work of Rhodewalt (1990), Martin and Brawley (1999), and McCrea, Hirt, Hendrix, et al. (2008). Moreover, our two factors suggest a theoretical distinction between self-sabotaging behaviours (SH External), and motivational components that accompany such behaviours (SH Internal). We argue that this structure supports a conception of self-handicapping as a *process* that occurs when: (1) a particular set of motivations (2) trigger a particular class of behaviours (3) in the presence of an evaluative situation (see more detail in Section 2.5.2). Our two-factor structure shows that the SHS is comprised of separable elements of this process (i.e. motivations and behaviours), and that continued use of SHS total scores misses substantive information, and may underestimate the effect that self-handicapping has on important outcomes such as academic achievement. The separation of behavioural from the cognitive and affective motivational elements of the self-handicapping process provides a gain in the explanatory power of ‘self-handicapping’. We view motivations as being comprised of both affective and cognitive components. Although the

current analysis found a single factor representing both cognitive and affective motivations, we believe that broader content in the item pool may allow for a separation of cognitive and affective sources of motivation.

2.5.2 Toward a new picture of self-handicapping

While there are behaviours that are commonly observed as the self-handicapping ‘obstacle’, such as procrastination, alcohol use (Jones & Berglas, 1978), and effort withdrawal (Jones & Berglas, 1978), it is not these behaviours alone that define self-handicapping. For example, self-handicapping researchers distinguish between procrastination behaviours generally, and procrastination for the purposes of self-handicapping (Ferrari & Tice, 2000; Urdan & Midgley, 2001). Thus, the presence of any single ‘self-handicapping’ behaviour does not necessarily imply that self-handicapping is occurring.

‘Self-handicapping behaviours’ are underwritten by particular motivations as demonstrated in the original definition of self-handicapping by Jones and Berglas, “...by finding or creating impediments that make good performance less likely, the strategist nicely protects his sense of self-competence” (1978, p. 201). In fact, Urdan and Midgley define self-handicapping as, “...the behavioral manifestation of avoidance motives” (2001, p. 118). These motives, in turn, are comprised of both cognitive and affective elements. Additionally, self-handicapping is not a discrete event, it is a process over time (Schwinger et al., 2014). A behaviour alone does not comprise self-handicapping, and thus the process of self-handicapping must include the evaluative event, and the affect and cognitions that accompany this process (Urdan & Midgley, 2001).

An individual may develop a tendency to engage more frequently or more indiscriminately in the self-handicapping process (Rhodewalt, 1990). Examining these tendencies has led to the characterisation of self-handicapping as a trait in individual differences research, and possibly as an element of personality (Rhodewalt, 1990). Reframing

self-handicapping as a multi-dimensional construct, or even a process, rather than as a trait or a discrete behaviour, suggests that current empirical measurement of self-handicapping may be inadequate and require revision. The two-factor structure of the SHS suggests that self-handicapping is not a unidimensional construct.

2.5.3 Limitations

Self-handicapping is presumed to occur in order to serve a particular purpose, however it is unclear if this happens intentionally or unconsciously. Does an individual self-handicap with the explicit thought, “I don’t think I will study for this exam, because if I fail I want to be able to say that I didn’t study”, or do they only have unconscious knowledge that they will have a fall-back excuse? Certainly, Urdan and Midgley (2001) have suggested that this is a conscious process, and the ASHS reflects this assertion. The SHS on the other hand does not rest on this assumption, but as a result may have questionable construct validity (Schwinger et al., 2014). Separating behaviours from their motives in self-report measures may be a temporary solution until the intentionality of the self-handicapping process is more thoroughly investigated.

The problems with item overlap among measures of psychological constructs can not be discounted. There is the potential for criterion contamination in the measures used in this study, for example the overlap between the measure of procrastination and particular items in the SHS. Similarly, the SHS is a trait-oriented measure, which may further contribute to the criterion contamination among the measures used in this study. Finally, this study relies on cross-sectional self-report survey data from a homogeneous sample, which limits the generalisability and causal inferences that can be made.

2.5.4 Directions for future research

One key direction for self-handicapping is the development of new measurement tools that adequately cover all three theoretical domains: behaviour, affect, and cognitions.

Although the two-factor solution we report in this study suggests that distinction, there was inadequate content coverage in the item pool to test whether cognitions and affect form separate components. A second key direction for self-handicapping research is to model self-handicapping as a multidimensional process that unfolds over time in response to a threatening evaluative stimulus. Modelling self-handicapping in such a way would require: (a) measurement tools that distinguish the three key components (cognitions, affect, and behaviours), and (b) longitudinal analyses with methods such as experience sampling or diary studies that span an evaluative event (e.g., an examination or major assignment).

In the absence of new scales, or until such scales arise, it is recommended that researchers consider the factorial structure of the SHS proposed here – a two factor solution that reflects both behavioural content, and some mix of affective and cognitive content implicated in the self-handicapping process.

2.5.5 Conclusions

This paper has proposed a new way of conceptualising self-handicapping. It is proposed that self-handicapping is a multidimensional process comprised of both behaviours and motivations. These motivations, in turn, have both affective and cognitive components. This proposal is in contrast to past definitions of self-handicapping as behaviours or as a trait. This paper has reviewed and extended the pool of psychometric analyses of the SHS. We found that the SHS is multifactorial, and suggest that this supports the idea that self-handicapping is a multifaceted process. Future researchers should continue to subject the SHS and other self-handicapping measures to psychometric scrutiny. We would argue that this scrutiny should involve a multifactorial approach to the measure, reflecting the multiple components of the self-handicapping process itself.

CHAPTER 3: Development of a self-handicapping behaviour scale for university students: Assessing a change in behaviours prior to an evaluative event

3.1 Abstract

Self-handicapping is difficult to assess, due to the time- and situation-contingencies and multiple content areas inherent in the construct. We propose three considerations for assessment development of self-handicapping instruments: (1) measurement tools should reflect the multidimensional nature of the self-handicapping construct; (2) self-handicapping cannot be identified from the frequency of a behaviour alone; and (3) scale items that contain multiple clauses create ambiguity for respondents. We develop a new scale based on these principles – the Change in Behaviours Scale (CBS), which assesses self-handicapping behaviours in the lead up to an evaluative event. We test validity evidence for the scale in terms of structural validity, gender differences, and correlations with other constructs. Exploratory and confirmatory factor analyses of the CBS were conducted, and the measurement model of the CBS yielded acceptable fit. The CBS significantly correlated with: an existing measure of self-handicapping (the Self-handicapping Scale [SHS]; Jones & Rhodewalt, 1982) and its subscales; a general measure of maladaptive behaviours; conscientiousness; emotional stability; and an indicator of academic achievement – assignment grades. This pattern of correlations is discussed in terms of evidence for the validity of the CBS, and is also compared to the same pattern of correlations for the SHS. Although there is some promising evidence for the validity of the CBS, it requires further revision and stronger validity evidence in order to be useful as a measure of self-handicapping behaviours.

3.2 Introduction

Self-handicapping is a complex, multifaceted process but is most commonly assessed using a single score from a self-report measure. We have shown that self-handicapping behaviours and self-handicapping cognitive and affective motivations are distinct, but that commonly used scales conflate these two separable constructs (Clarke & MacCann, 2016). As such, we present a new scale that assesses self-handicapping behaviours only (the Change in Behaviours Scale [CBS]). The scale assesses the self-rated change in behaviour when there is an upcoming high-stakes evaluative event. Specifically, students report how their behaviour changes in a week when a graded assignment is due compared to a week with no assignment due. We present multiple forms of validity evidence for the scale: (a) structural evidence from exploratory and confirmatory factor analyses of the CBS items; (b) internal consistency of the new scale; (c) correlations of CBS scores with an existing measure of self-handicapping, and with key criterion variables (including a comparison of criterion-correlations for the CBS versus an existing self-handicapping scale); and (d) correlations between the CBS and academic outcomes (assignment grade and end of semester grade).

3.2.1 Introduction to self-handicapping

Self-handicapping is the phenomenon in which individuals will create obstacles for themselves prior to an evaluative event (Berglas & Jones, 1978). Importantly, for self-handicapping to take place, obstacles are instigated *before* the evaluative event occurs. Post hoc attributions are substantively different from self-handicapping (Midgley & Urdan, 1995). Recently, research about self-handicapping has moved toward conceptualising and modelling self-handicapping as a multidimensional construct. Among these discussions is the suggestion that self-handicapping be separated into self-handicapping behaviours and motivations that underlie such behaviours, both affective and cognitive (Clarke & MacCann, 2016).

3.2.2 Measuring self-handicapping

Given the multidimensional nature of self-handicapping, the current way in which items from the more commonly used self-report measures are constructed may be problematic. For example, Urdan and Midgley (2001) deliberately constructed their self-handicapping measure (the Academic Self-handicapping Scale) so that each item had the following elements: (1) the self-handicapping behaviour, (2) the reason for the behaviour, and (3) the timing of the behaviour (i.e., prior to the evaluative event). However, when such an item is put to a respondent, there is ambiguity about whether endorsement of the item should consider the item as a whole (i.e. only use the “agree” end of the scale if they agree with all three elements of this item), or whether agreement with just one or two parts of the item is enough for endorsement. We acknowledge that this problem is not unique to the self-report measurement of self-handicapping specifically. However it is prevalent in self-handicapping measures because self-handicapping is a complex, multifaceted process. Self-handicapping is comprised of a range of possible behaviours that follow specific motives, in response to particular environmental and situational cues.

A behaviour that prevents an individual from succeeding (e.g., procrastination) does not necessarily represent self-handicapping. It is the motivation accompanying that behaviour that defines the act as self-handicapping. The motivation for the behaviour is to create a potential future excuse for failure. Similarly, the frequency of a behaviour on its own cannot be deemed to be self-handicapping. In order to capture this motivational component, we propose to develop a scale that measures *changes in self-handicapping behaviours* in response to an evaluative event. We will refer to this scale as the Change in Behaviours Scale (CBS). Specifically, CBS items ask participants how much more or less they engage in specific behaviours when completing a graded assignment as compared to a week in which a regular amount of study would be done (i.e. when no assessment task is due). Thus in the design of

the CBS, we aim to account for respondents' baseline frequency of behaviours, and infer from their predicted *change* in behaviour frequency that this is due to the upcoming evaluative event (the submission of a graded assignment).

3.2.3 The nomological network for self-handicapping behaviours

We will evaluate the validity evidence for the CBS according to the nomological network for self-handicapping behaviours. Self-handicapping has known associations with conscientiousness, self-esteem, gender, and academic outcomes, which we describe in detail below. In evaluating validity evidence, we use the nomenclature from the most recent *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 2014), and consider the following types of validity evidence: (a) differences between groups (between males versus females); (b) evidence from the test's internal structure; and (c) evidence from correlations with other measures, including Jones and Rhodewalt's (1982) Self-handicapping Scale (SHS), as well scales of conscientiousness, self-esteem, end-of-semester grade, an assignment grade, and relevant subscales of the Motivation and Engagement Scale (MES; Martin, 2010). We outline the basis for this nomological network below.

3.2.3.1 Personality (conscientiousness and neuroticism)

There has been a consistent moderate to large negative correlation found between self-handicapping and conscientiousness (e.g., Ross, Canada, & Rausch, 2002). Although related, self-handicapping is not synonymous with a lack of conscientiousness. Self-handicapping differs from conscientiousness due to the particular motivations that drive self-handicapping, e.g. establishing an a priori excuse for failure on an evaluative task so that the source of failure is ambiguous. We include a measure of conscientiousness in our analyses and expect that the CBS will be negatively and significantly correlated with this measure. However, we

also intend to demonstrate that the correlation is not high enough to indicate that CBS scores are simply a proxy for (non-)conscientious behaviour (i.e., we expect the effect size to be small to moderate, demonstrating evidence of discriminant validity).

A small to moderate positive correlation between neuroticism and self-handicapping has been observed (e.g. Clarke & MacCann, 2016; Ross et al., 2002). Ross et al. (2002) have proposed that individuals who are high in neuroticism are sensitive to evaluation by others and thus more likely to self-handicap as a means of influencing those evaluations. They found that self-handicapping was positively correlated with all Revised NEO Personality Inventory (Costa & McCrae, 1992) facets of neuroticism. We include a measure of emotional stability (reverse-scored neuroticism), and expect that the CBS will be negatively and significantly correlated with this measure.

3.2.3.2 Self-esteem

Self-esteem is an evaluative component of the self-concept (Campbell, 1990). Rhodewalt stated that, “self-handicapping and self-esteem are psychometrically inter-twined, but, theoretically, they are independent constructs. Therefore, it should be possible to examine self-handicapping behaviour independently of its association with self-esteem” (1990, p. 87). Nevertheless, the SHS consistently shares a moderate to large relationship with self-esteem (Rhodewalt, 1990). Rhodewalt proposes that this may be due to “shared ‘method variance’ (i.e. items on both scales asked subjects to admit something unflattering about themselves)” (1990, p. 89). In creating a new scale, we attempt to reduce this “method variance” by separating self-handicapping behaviours from the motivations that may drive them. We thus expect to see a small negative correlation between self-esteem and the CBS.

3.2.3.3 Gender

There has been mixed evidence regarding gender differences in self-handicapping. More recently, these differences have been explained by separating self-handicapping into

two ‘types’ – claimed self-handicapping and behavioural self-handicapping (McCrea, Hirt, & Milner, 2008). In this distinction, behavioural self-handicapping represents active creation or adoption of an obstacle to success on an evaluative task (e.g. procrastination), whereas claimed self-handicapping involves stating that a handicap exists (e.g. claiming to feel unwell on the day of a competitive race). McCrea, Hirt, and Milner (2008) concluded that males score higher on measures of behavioural self-handicapping whereas females score higher on measures of claimed self-handicapping. There has been no agreed-upon explanation for observed gender differences in self-handicapping. In creating a new scale to assess predicted change in behaviours while completing a graded assignment, we separate behaviours from motivations. As a result, we hypothesise that males will show greater change in behaviour than females when faced with an upcoming evaluative task, i.e. males will have higher scores on the CBS than females.

3.2.3.4 Evidence for the validity of the Change in Behaviours Scale (CBS)

Based on the literature outlined above, the current study will assess evidence for the validity of the CBS. In addition, we compare the CBS to an existing measure of self-handicapping, the SHS. We examine both its relationship with the SHS total score, and with the separate factors of self-handicapping cognitive and affective motivation (SH Internal) and self-handicapping behaviour (SH External; Clarke & MacCann, 2016). While we expect small to moderate significant positive correlations with both subscales (demonstrating convergent validity), we expect that the magnitude will be higher for the SH External than the SH Internal subscale (demonstrating discriminant validity). This is because the CBS only assesses behaviours. We anticipate that these positive correlations will only be small to moderate in magnitude due to the deliberate minimisation of problematic measurement issues (as outlined above) during the creation of the CBS. In addition we assess the CBS’s association with a scale that assesses both maladaptive cognitions and maladaptive behaviours more generally,

the MES. We anticipate that because the CBS assesses behaviour only, it will be more strongly (positively) related to maladaptive behaviours (demonstrating convergent validity) than to maladaptive cognitions (demonstrating discriminant validity).

3.2.4 Self-handicapping and academic outcomes

Self-handicapping is commonly observed in student populations (Kearns, Forbes, Gardiner, & Marshall, 2008), and is an important predictor of lower levels of academic achievement (Schwinger, Wirthwein, Lemmer, & Steinmayr, 2014) and reduced persistence (Martin, Marsh, & Debus, 2001). We include two indicators of academic achievement in this study – one broad, and one specific. Undergraduate students' final grade for an introductory psychology course is included as a broad measure of academic achievement, and students' assignment grades are included as a specific measure of academic achievement. Both broad and specific indicators are included due to the potential for a “bandwidth-fidelity problem” (Schwinger et al., 2014, p. 756). We anticipate that both indicators of academic achievement will be negatively related to the new scale, with the association being stronger with assignment grades than with end of semester grades given that the CBS asks specifically about completing an assignment.

3.2.5 The present study

There is a need for measurement tools that do not conflate self-handicapping with other constructs, in particular self-esteem, and gender. Specifically, typical self-handicapping measures conflate behaviour and motivation within single items, creating ambiguity for responders as to what part of the item they are endorsing – the behaviour in question, the motivation for that behaviour, or both. In this study we present a new scale that assesses the change in behaviours that students predict for themselves when completing a graded assignment. We aim to construct the scale in a way that both accounts for students' baseline

behaviours, and removes ambiguity in the items. We anticipate that such a scale can be used to measure self-handicapping behaviours.

3.2.6 Aims and hypotheses

The primary aim of this study is to examine the validity and internal consistency of a new scale assessing students' change in behaviours when completing a graded assignment (the CBS). To evaluate the validity evidence for the new scale, we examine its correlations with: (a) an existing self-handicapping scale; (b) two factors of this existing self-handicapping scale – SH Internal and SH External; (c) a general measure of maladaptive cognitions and maladaptive behaviours; (d) conscientiousness; (e) emotional stability; (f) self-esteem; and (g) two indicators of academic achievement, anticipating the pattern of correlations outlined above. In addition, we hypothesise that the CBS will be less strongly related to self-esteem than an existing measure of self-handicapping (the SHS).

3.3 Method

3.3.1 Participants

Participants were 206 first-year undergraduate students (119 females) at a large university in Sydney, Australia. The majority of participants received course credit in exchange for their participation. Three participants were volunteers with no incentives. The participants ranged from 17 to 40 years old ($M = 19.37$, $SD = 2.39$).

3.3.2 Measures

3.3.2.1 Scale development

Content for the CBS was drawn from semi-structured interviews with 45 students, who were separate to the 206 used for quantitative data analysis. Students were asked about their study habits and asked to respond to scenarios about completing university assessments. Based on commonly occurring themes and words, a pool of 23 items was developed to assess the anticipated change in students' behaviours when completing a graded assignment, i.e.

self-handicapping behaviours. The instructions read, “*imagine a situation where you have a major university assessment due at the end of the week. Think about how your behaviour might change compared to a week where you do NOT have an assessment due. Rate each of the following behaviours on the following scale*”. Participants used a five-point response scale with the anchor points being 1) “much less likely to do this when an assessment is due”, and 5) “much more likely to do this when an assessment is due”. The mid-point was, “equally likely to do this whether or not an assessment is due”.

3.3.2.2 Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982)

This commonly used 25-item questionnaire has a six-point Likert response scale ranging from (1) ‘strongly disagree’ to (6) ‘strongly agree’. The SH Internal and SH External factors were also used (Clarke & MacCann, 2016).

3.3.2.3 Mini Markers Big Five Personality (Saucier, 1994)

This 40-item assessment uses eight single-word descriptors for each of the five personality traits, e.g., “energetic”. Participants rate each item from (1) ‘extremely inaccurate’ to (9) ‘extremely accurate’. The full measure was administered, but only the Conscientiousness and Emotional Stability subscales are reported here.

3.3.2.4 Rosenberg Self-esteem Scale (Rosenberg, 1965)

This 10-item scale uses a four-point response scale ranging from (1) ‘strongly disagree’ to (4) ‘strongly agree’.

3.3.2.5 Motivation and Engagement Scale (MES; Martin, 2010)

This 44-item scale contains 11 subscales assessing student motivation and engagement, which form four higher-order factors. The MES uses a seven-point response scale ranging from (1) ‘strongly disagree’ to (7) ‘strongly agree’. The full measure was administered, but only two higher-order factors (Maladaptive Behaviours, and Maladaptive Cognitions) are reported here.

3.3.2.6 Academic achievement

With participants' consent, introductory psychology assignment grades and end of semester grades for introductory psychology were collected from central university records at the end of the semester in which testing took place. Assignment grades ranged from 0 to 98 out of 100 ($M = 61.08$, $SD = 16.95$). End of semester grades ranged from 0 to 92 out of 100 ($M = 61.19$, $SD = 13.92$). Assignment grades formed part of the participants' end of semester grade.

3.3.3 Procedure

Participants completed all measures online in an un-proctored setting. The full protocol took approximately one hour to complete. All protocol received approval from the University of Sydney Human Research Ethics Committee.

3.3.4 Analysis

EFA were conducted using IBM SPSS version 24. CFA were conducted using IBM SPSS AMOS version 19. Parallel analyses were conducted using Marley Watkins Monte Carlo PCA for Parallel Analysis. Further details are provided below. All other analyses were conducted using IBM SPSS version 24. No data were missing, as participants were required to respond to all items in the protocol.

3.4 Results

3.4.1 Structural analysis of the CBS

The sample was randomly split into two sub-samples using a random number generator. The first sub-sample ($n = 99$) was used for exploratory factor analysis (EFA) of the item pool, and the second sub-sample ($n = 107$) was used for confirmatory factor analysis (CFA).

3.4.1.1 Exploratory factor analysis

EFA was conducted on the 23 items using maximum likelihood estimation with promax rotation. A parallel analysis using 999 bootstrap samples yielded three factors with observed

eigenvalues greater than the 95th percentile of random eigenvalues. Examination of the scree plot showed a clear break after the second factor, and a smaller break after the fourth factor. A single-factor solution, two-factor solution, and three-factor solution were examined. The three-factor solution reflected an effect of item means and could not be interpreted substantively. One factor in the two-factor solution was comprised of items all relating to the word ‘sleep’ (i.e. a method factor), so the single-factor solution was retained. Sixteen items that had communalities <.20 were discarded. EFA was repeated with the remaining 7 items, and the final solution is shown in Table 3.1. The single factor accounted for 36.98% of the variance in items.

Table 3.1

Factor loadings for exploratory factor analysis and confirmatory factor analysis of 7 items from a scale assessing university students’ change in behaviours when completing an assignment

	EFA	CFA	h^2
Go out to parties	.857	.786	.735
Go out with my friends/family	.759	.882	.577
Get drunk	.589	.552	.347
Watch TV/movies	.556	.552	.309
Get distracted by non-University activities	.465	.395	.216
Do paid/volunteer work	.462	.563	.214
Use Facebook/social media	.437	.461	.191

Note. $n = 99$ for exploratory factor analysis (EFA); $n = 107$ for confirmatory factor analysis (CFA). EFA factor loadings $> |.30|$ are shown in bold.

3.4.1.2 Confirmatory factor analysis

CFA of the one-factor, seven-item EFA solution was conducted using maximum likelihood estimation. The fit indices for this model were acceptable: $\chi^2 = 21.78$, $df = 14$, $p = .08$; CFI = .962, RMSEA = .072 (90% CI: .000, .129).

Table 3.2

Descriptive statistics, Cronbach's alpha, and Pearson correlations for all scales used in analyses

	Mean	SD	α	N	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Change in Behaviours Scale	2.42	0.67	.79	206										
2. Self-handicapping Scale	3.56	0.46	.75	206	.24**									
3. Self-handicapping External ^a	4.01	0.74	.67	206	.17*	.61**								
4. Self-handicapping Internal ^a	3.43	0.86	.79	206	.16*	.82**	.22**							
5. Maladaptive behaviours ^a	3.35	1.27	.90	205	.31**	.52**	.43**	.40**						
6. Maladaptive cognitions ^a	4.13	1.01	.87	205	.13	.49**	.16*	.54**	.54**					
7. Conscientiousness ^a	5.65	1.29	.85	205	-.15*	-.49**	-.53**	-.33**	-.27**	-.13				
8. Emotional stability ^a	5.30	1.24	.80	205	-.23**	-.50**	-.27**	-.46**	-.31**	-.33**	.28**			
9. Self-esteem ^a	2.86	0.56	.91	206	-.10	-.57**	-.25**	-.67**	-.34**	-.43**	.41**	.44**		
10. Assignment grade	61.08	16.95		203	-.14*	-.09	-.04	-.16*	-.30**	-.26**	.02	.00	.15*	
11. End of semester grade	61.19	13.92		203	-.11	-.23**	-.11	-.26**	-.37**	-.36**	.02	.09	.21**	.65**

Note. ^a Indicates a significant difference in correlation for Change in Behaviours Scale versus Self-handicapping Scale using Steiger's z-test for dependent correlations ($p < .05$; two-tailed).

* $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

3.4.2 Descriptive statistics and reliabilities of the CBS

The full sample ($N = 206$) was used for all subsequent analyses. Descriptive statistics for the CBS, and all other measures used in subsequent analyses are shown in Table 3.2. Cronbach's alpha for the new scale was acceptable ($\alpha = .79$). McDonald's omega was also acceptable ($\omega = .80$).

3.4.3 Validity evidence for the CBS

Table 3.2 shows correlations of the CBS with criterion variables. The CBS shared a small to moderate positive correlation with an existing measure of self-handicapping (SHS) demonstrating evidence of convergent validity. The CBS showed a slightly larger correlation with the SH External subscale than the SH Internal subscale. However Steiger's z -test for dependent correlations showed that the difference between these coefficients was not statistically significant, $z = 0.12$, $p = .454$ (one-tailed). Although the significant positive correlations with the SHS subscales demonstrate convergent validity, the non-significant difference in their magnitude does not provide evidence for discriminant validity.

In comparison to the widely-used SHS, the CBS showed: (a) significantly lower associations with both maladaptive behaviours and maladaptive cognitions; (b) significantly lower associations with conscientiousness and emotional stability; (c) a significantly lower association with self-esteem; and (d) no difference in the prediction of academic outcomes (either assignment grade or end of semester grade). Note however, that when the SHS was separated into two subscales, of the two subscales only SH Internal significantly predicted academic outcomes – SH External was not significantly related to either indicator of academic achievement. The CBS had a moderate positive correlation with maladaptive behaviours and was not significantly related to maladaptive cognitions (demonstrating evidence of both convergent and discriminant validity). Both conscientiousness and emotional stability had small negative correlations with the CBS, as expected. Self-esteem was not

significantly related to the CBS (although the direction of the association was negative, as expected). Finally, the CBS had a small negative correlation with assignment grades, and a non-significant relationship with end of semester grades.

Regression analyses predicting academic achievement that compared the CBS to the SHS were planned. However these were not carried out as the CBS was only significantly correlated with assignment grades, whereas the SHS was only significantly correlated with end of semester grades.

There was no significant difference between males ($M = 2.43$, $SD = 0.636$) and females ($M = 2.41$, $SD = 0.702$) in their CBS score, $t(204) = 0.26$, $p = .794$ (two-tailed), Hedges' $g = .04$. However, males ($M = 3.46$, $SD = 0.470$) and females ($M = 3.63$, $SD = 0.442$) significantly differed in their SHS scores, $t(204) = -2.61$, $p = .010$ (two-tailed), Hedges' $g = -.37$. Males and females did not differ on either the SH Internal, $t(204) = -1.65$, $p = .100$ (two-tailed), Hedges' $g = -.23$; or SH External subscales of the SHS, $t(204) = -0.97$, $p = .333$ (two-tailed), Hedges' $g = -.13$. These results did not support the hypothesis that males would have higher scores than females on the CBS.

3.5 Discussion

3.5.1 Findings

We presented the validity evidence for a newly developed scale, the CBS, which asks students to predict how their behaviours would change in a week when a graded assignment is due compared to a 'regular' week (i.e. when no evaluative task is scheduled). The CBS separates potentially self-handicapping behaviours from the motivations underlying them in order to: (1) remove the ambiguities that arise when scale items contain multiple clauses, (2) move towards measuring self-handicapping appropriately given that it is a multifaceted process, (3) acknowledge that frequency of behaviour is not enough to identify self-handicapping, and therefore (4) include a mechanism to account for respondents' baseline

frequency of behaviour, and (5) reduce the scale's shared variance with self-esteem. The CBS was less strongly related to self-esteem than was an existing measure of self-handicapping – the SHS. In fact, the relationship between self-esteem and the CBS was non-significant.

The CBS showed acceptable levels of fit in a confirmatory factor analysis, and acceptable internal and construct reliability. In general, the CBS showed lower correlations with almost all elements of the nomological network than an existing self-handicapping scale (the SHS). Evidence for the validity of the CBS was seen via its correlations with: (a) the SHS; and a general measure of maladaptive behaviours (convergent validity); (b) the self-handicapping cognitive and affective motivation factor of the SHS; and a general measure of maladaptive cognitions (discriminant validity); and (c) self-esteem; and conscientiousness (construct validity). Validity of the CBS was not supported, however, by correlations with: (a) the self-handicapping behaviour factor of the SHS (convergent validity); and (b) two indicators of academic achievement – assignment grade, and end of semester grade (criterion-related validity). This suggests that the CBS, although somewhat promising as a measure of self-handicapping behaviour, requires further development.

3.5.2 Gender

Although some researchers have found differences in behavioural self-handicapping between males and females, our new scale did not yield such differences. Notably, males and females also did not differ on either subscale of the SHS. However, females had significantly higher scores than males on the SHS total score. This is contrary to previous findings that males have higher behavioural self-handicapping scores than females (e.g. McCrea, Hirt, & Milner, 2008). McCrea, Hirt, Hendrix, Milner and Steele (2008) have proposed that such differences in self-handicapping arise due to women placing more importance on the value of effort than men do. Although level of effort expended (specifically reducing effort) may be a self-handicapping behaviour, the value that an individual places on such effort should not be

reflected in the measurement of self-handicapping *behaviours*. The role of gender in self-handicapping still requires further theoretical and empirical investigation.

3.5.3 Self-esteem

No significant relationship was observed between the CBS and self-esteem. In the original discussion of self-handicapping, Jones & Berglas (1978) suggested that self-handicapping occurs in order to protect an individual's self-esteem. Rhodewalt has suggested that although self-esteem and self-handicapping are theoretically linked, self-handicapping is independent of level of self-esteem. He suggests that individuals with, "completely negative self-concepts should have nothing to protect, and consequently, should have no need to self-handicap" (1990, p. 86). Rhodewalt suggests that self-esteem levels may predict whether an individual self-handicaps indiscriminately (lower self-esteem) or only in anticipation of objectively important evaluative events (higher self-esteem). Self-esteem should not, however, theoretically overlap with self-handicapping to the degree that previous empirical evidence has suggested. The non-significant association between the CBS and self-esteem may be indicative of these differential self-esteem driven motives for self-handicapping, or it may reflect a lack of construct validity for the CBS. Further investigation of the self-esteem driven motives for self-handicapping is an important line of future research.

3.5.4 Measuring self-handicapping and limitations

Self-handicapping is a complex, multifaceted process. As such, measurement of self-handicapping is not, and has not been straightforward. In creating the CBS we focussed on measuring just one aspect of this complex multifaceted process – behaviours. This follows the recommendation of Clarke and MacCann (2016) who suggested that measurement of self-handicapping should distinguish between cognitions, affect, and behaviours that comprise self-handicapping, and assess these in relation to a real-life evaluative event. As we have argued, self-handicapping is not comprised of behaviours alone, but rather behaviours that

follow specific self-handicapping motivations in the face of particular situational factors (i.e. an evaluative task or event). In this study we only present a new measure of *behaviours*. We anticipate that such a measure will in future be accompanied by a scale assessing self-handicapping cognitive and affective motivations. In combination such measures can be used to “triangulate” the self-handicapping process among individuals, as proposed by Rhodewalt (1990).

The new scale presented here was significantly related to only one academic outcome – assignment grade, but not to end of semester grade. This is despite the end of semester grade being calculated partly from assignment grades. It may be that the CBS, in referring to a very specific evaluative event (i.e. the submission of a graded assignment), is too specific in its focus (i.e. the bandwidth-fidelity problem). Similarly, the observed correlations between the CBS and assignment grade, and between the CBS and SH External were smaller than expected. For the CBS’s correlation with end of semester grade, with maladaptive cognitions, and with self-esteem, non-significant rather than small but significant coefficients were observed. Thus only partial validity evidence was presented for the new Change in Behaviours Scale.

The instructions that were presented with the CBS have two assumptions, (a) that students are completing their assignments in the week leading up to its submission, and (b) that students can adequately gauge their ‘typical’ frequency of behaviours against an hypothesised frequency. We offer these potentially incorrect assumptions as a possible explanation for the shortcomings of the CBS. Future research might consider the assessment of behaviour frequency at different time points in relation to an evaluative task, e.g. in a typical versus exam week during the university semester, rather than assessing hypothesised frequencies.

3.5.5 Conclusions

This study presents the CBS – a new tool for assessing self-handicapping behaviours. The creation of the scale addresses and attempts to minimise common method and measurement issues that have been identified in other measures of self-handicapping. Although some promising results are seen here, the measurement of self-handicapping is an area that requires much revision and refinement.

CHAPTER 4: Self-handicapping mediates the relationship between achievement goal orientation and academic achievement: A meta-analysis, meta-analytic path model, and empirical extension with two elements of self-handicapping

This chapter is a minor revision of Clarke and MacCann (2017b), currently submitted for publication.

4.1 Abstract

Both self-handicapping and achievement goal orientation have a clear impact on important educational outcomes, and also show a substantial empirical relationship with one another. To clarify the effects of achievement goal orientation and self-handicapping on academic achievement, a path model in which self-handicapping mediates the effect of goals on achievement is tested. This model is tested using: (a) an original meta-analysis ($N = 22,887$, $k = 43$) in combination with existing meta-analytic estimates; and (b) an empirical study of university students ($N = 484$) that uses a two-factor conceptualisation of self-handicapping. Our meta-analysis demonstrates that self-handicapping relates to mastery approach goals ($r = -.22$), mastery avoidance goals ($r = .24$) and performance avoidance goals ($r = .30$) but not to performance approach goals ($r = .03$). Meta-analytic path modelling shows that self-handicapping significantly mediates the goal/achievement relationship for mastery approach, mastery avoidance and performance avoidance goals (with full mediation for mastery approach goals). The empirical study showed that two elements of self-handicapping – self-handicapping behaviour and self-handicapping affect – have different relationships with achievement goals, and also mediate the relationship between achievement goals and academic achievement. Results suggest that the established relationship between performance avoidance goals and self-handicapping is primarily due to *affective* components of self-

handicapping, whereas the established relationship between mastery approach goals and self-handicapping is primarily due to *behavioural* components of self-handicapping. Results are discussed in terms of the conceptual distinction between self-handicapping behaviours and self-handicapping affect.

4.2 Introduction

Both theory and empirical evidence link self-handicapping with achievement goal orientations (Chen, Wu, Kee, Lin, & Shui, 2009; Schwinger & Stiensmeier-Pelster, 2011; Urdan & Midgley, 2001). Moreover, meta-analyses show that both self-handicapping and achievement goals relate to academic achievement (Huang, 2012; Schwinger, Wirthwein, Lemmer, & Steinmayr, 2014). In this paper, we present two studies examining the relationship between self-handicapping and achievement goals. The primary aim of these studies is to test a mediation model in which self-handicapping mediates the relationship between achievement goals and academic achievement. Study 1 presents an original meta-analysis of the relationships between self-handicapping and four achievement goal orientations. In addition, we use these estimates, along with estimates from previously published meta-analyses, to test a model in which self-handicapping mediates the effect of achievement goal orientation on academic achievement.

In Study 2, we use original data to extend the model tested in Study 1 to include two elements of self-handicapping. Self-handicapping is typically assessed using a single global score derived from a single rating scale, despite substantial theory and evidence that self-handicapping consists of multiple separate elements (Arkin & Baumgardner, 1985; Berglas & Jones, 1978; Chen, Wu, et al., 2009; Clarke & MacCann, 2016; Jones & Berglas, 1978; Leary & Shepperd, 1986; Lovejoy & Durik, 2010; Rhodewalt, 1990; Schwinger et al., 2014). In Study 2, we separately consider external and internal elements of self-handicapping recently identified in structural analyses (Clarke & MacCann, 2016). These factors represent self-

handicapping behaviour and self-handicapping affect respectively. We examine how achievement goals and these two elements of self-handicapping together predict academic achievement in university students. Specifically, we: (a) test whether self-handicapping behaviour and self-handicapping affect have substantively different relationships with achievement goal orientations, and; (b) extend the model tested in Study 1 to include these two elements of self-handicapping as mediators of the relationship between achievement goal orientation and academic achievement.

4.2.1 Introduction to self-handicapping

Self-handicapping is the phenomenon in which an individual will create an obstacle to their own success prior to an evaluative task. Performance on the task can then be attributed to the obstacle rather than the individual's worth or abilities, protecting self-esteem in the event of failure or mediocre performance. Self-handicapping has been observed in sporting, social, and academic settings (Chen, Wu, et al., 2009; Schwinger et al., 2014; Snyder, Smith, Augelli, & Ingram, 1985). Self-handicapping is commonly operationalised as the frequency of or proclivity for certain self-handicapping behaviours, and is typically assessed using the total score from a self-report questionnaire (e.g. Jones & Rhodewalt, 1982; Urdan, Midgley, & Anderman, 1998). However, both theory and empirical evidence suggest that there are distinct and separable elements of self-handicapping.

Leary and Shepperd (1986), extending on the work of Arkin and Baumgardner (1985), suggested that the term “self-handicapping” had come to describe *two* types of self-handicapping – behavioural self-handicapping, and self-reported handicaps. They proposed that *behavioural self-handicapping* be used to describe “the actions of people who construct handicaps that augment non-ability attributions for possible failure” (p. 1267), and *self-reported handicaps* be “the use of verbal claims that one possesses handicaps that interfere with one's performance” (p. 1267). ‘Self-reported handicaps’ have come to be referred to as

claimed self-handicaps (Ferradás, Freire, Valle, & Núñez, 2016; Lovejoy & Durik, 2010; McCrea, Hirt, Hendrix, Milner, & Steele, 2008). Behavioural self-handicaps include withdrawing effort prior to an evaluative task, drug use, and failing to take advantage of factors that might improve performance on an evaluative task. Claimed self-handicaps include claiming illness, shyness, and anxiety according to Leary and Shepperd (1986).

Rhodewalt (1990) proposed that the Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982) contained two factors reflecting “proclivity for excuse making” and “concern about effort or motivation” (p. 79). This distinction has since been adopted by some researchers (Chen, Chen, Lin, Kee, Kuo, & Shui, 2008; Chen, Wu, et al., 2009; Martin & Brawley, 1999), and has come to be treated as substantively equivalent to *claimed* and *behavioural* self-handicapping respectively (Chen, Chen, Lin, Kee, & Shui, 2009).

More recently, Clarke and MacCann (2016) found that the SHS contained two factors, described as ‘internal’ and ‘external’ components of self-handicapping. The internal component reflects the predominantly affective motivations for self-handicapping, and the external component reflected self-handicapping behaviours. It was proposed that self-handicapping be conceptualised as both the handicapping behaviours and the motivations for these behaviours (Clarke & MacCann, 2016). In the current studies we adopt this two-factor model of self-handicapping, naming the factors ‘self-handicapping behaviour’ and ‘self-handicapping affect’, in order to increase the clarity of description for these two constructs. We describe these two constructs in detail below.

This distinction between behavioural and affective components of self-handicapping differs from the claimed versus behavioural self-handicapping distinction. In that earlier distinction, both claimed self-handicapping and behavioural self-handicapping refer to the handicap itself, and to an extent both represent behaviours – either the creation of the handicap (behavioural self-handicapping), or the act of stating to others that a handicap exists

(claimed self-handicapping). On the other hand, the differentiation between self-handicapping affect and self-handicapping behaviour represents: (1) the negative affect felt in response to an evaluative event; and (2) the behaviour/s that are triggered by that preceding affect. These behaviours constitute the handicap. We discuss self-handicapping behaviour and self-handicapping affect in turn below.

4.2.1.1 Self-handicapping behaviour

Self-handicapping behaviours form *the handicap* that is instantiated prior to an evaluative event. Some examples of self-handicapping behaviours include choosing adverse performance settings (Schwinger & Stiensmeier-Pelster, 2011), getting involved in too many activities (Urdan et al., 1998), and alcohol use (Jones & Berglas, 1978). A common example of a self-handicapping behaviour in student populations is leaving insufficient time to prepare for an evaluative event, i.e. procrastination (Ferrari & Tice, 2000; Steel, 2007). By procrastinating, any subsequent sub-optimal performance can be attributed to inadequate preparation rather than inadequate skill or ability. In experimental paradigms, self-handicapping is operationalised as the amount of practice done prior to an evaluative task, where less practice is indicative of greater self-handicapping (Ferrari & Tice, 2000; Lay, Knish, & Zanatta, 1992). However, the observation of procrastination alone is insufficient to define or identify self-handicapping. Procrastination that has no implication for failure on an evaluative task may be the product of laziness or disengagement. For example, procrastinating on household chores (a non-evaluative task) does not constitute self-handicapping, whereas procrastinating on studying for tomorrow's exam (an evaluative task) can represent self-handicapping.

4.2.1.2 Self-handicapping affect

Self-handicapping includes not only the behaviours that comprise the handicap, but also the affective and cognitive motivators of such behaviours. Certainly, 'self-handicapping

behaviours' are driven by some sort of motivation, as the original definition of self-handicapping by Jones and Berglas makes clear, "...by finding or creating impediments that make good performance less likely, the strategist nicely protects his sense of self-competence" (1978, p. 201). It is the *motivation* to self-handicap that separates the self-handicapping process from 'mere' laziness. Urdan and Midgley have claimed that self-handicapping is, "...the behavioral manifestation of avoidance motives" (2001, p. 118). Clarke and MacCann's (2016) self-handicapping affect factor reflects the affective motivations for self-handicapping. Self-handicapping affect represents task-contingent negative affect, or the extent to which negative affect is triggered by an upcoming evaluative event. We propose that this construct differs from broader conceptualisations of negative affect due to the situation-contingency involved, and is similar to but conceptually broader than the concept of test anxiety. The primary differences between self-handicapping affect and test anxiety are: (a) the broadness of the triggering evaluative situations (e.g., athletic performance, submitting assignments or projects, presentations, dating, and other non-examination situations may be relevant evaluative situations for inducing self-handicapping affect); and (b) the broadness of the emotional content (shame, guilt, fear, depression, low self-worth and other negative feelings in addition to anxiety may be elicited by the evaluative situations). In support of this definition, the four highest-loading items in Clarke and MacCann's self-handicapping affect factor (labelled Self-handicapping Internal in their paper) refer to a range of negative emotions – "depressed" "emotions get in the way", "anxious" and "feel 'under the weather'". The strongest correlation between self-handicapping affect and personality domains was the negative relationship with emotional stability, indicating a link to the frequent experience of negative emotions.

Thus, self-handicapping affect reflects the negative affect experienced by an individual in response to an anticipated evaluative event. If self-handicapping affect is triggered by the

anticipation of evaluation, then relief from that negative affect can be provided by behaviours that offer an excuse for poor performance (i.e. self-handicapping behaviours). Thus, self-handicapping affect acts as a motivator for self-handicapping behaviour. Meta-analyses demonstrate that the most effective method of reducing negative emotions is to change one's interpretation of the negative situation, a strategy known as positive reappraisal (Webb, Miles, & Sheeran, 2012; Aldao, Nolen-Hoeksema, & Schweizer, 2010). In the context of self-handicapping, one way to positively reappraise possible poor performance on an upcoming evaluative task would be to attribute the cause of poor performance to external factors rather than one's internal qualities. Self-handicapping behaviours allow the individual to use the emotion regulation strategy of positive reappraisal to relieve the negative affect brought on by the evaluative situation. Although this strategy is very effective for reducing negative affect, it may of course be highly ineffective for achieving a high level of performance (Zuckerman, Kieffer, & Knee, 1998). Given that achievement goal orientations concern the type of outcome that students strive towards, goal orientations that focus on negative outcomes should relate to self-handicapping affect (which also focuses on negative outcomes). Such goal orientations would also indirectly predict self-handicapping behaviour (through self-handicapping affect, which motivates such behaviour). We discuss the relationships between achievement goal orientations and self-handicapping in more detail below.

4.2.2 Self-handicapping and achievement goals

Achievement goal orientations profile the purpose of achievement for individuals (Urda & Midgley, 2001). There are four commonly discussed achievement goal orientations – performance approach, performance avoidance, mastery approach, and mastery avoidance (Elliot & McGregor, 2001). Performance goals are concerned with achievement compared to others, whereas mastery goals are concerned with developing skill or ability. A further distinction is made between approach goals and avoidance goals for both mastery and

performance. Mastery approach goals are concerned with mastering skills or abilities and focus on increasing understanding, whereas mastery avoidance goals are concerned with avoiding misunderstanding and focus on avoiding decreasing skills or abilities. Performance approach goals relate to out-performing others or public demonstrations of skills and abilities, whereas performance avoidance goals relate to avoiding being the individual with the worst performance.

Performance avoidance goals are one of the two most cited determinants of self-handicapping (along with self-esteem; Schwinger & Stiensmeier-Pelster, 2011; Schwinger et al., 2014), and display a generally consistent positive relationship with self-handicapping (e.g. Deemer, Carter, & Lobrano, 2010; Schwinger & Stiensmeier-Pelster, 2011), however this has ranged in magnitude. The association between mastery approach goals and self-handicapping has been less consistent. Some researchers have observed a negative relationship between mastery approach goals and self-handicapping (e.g. Chen, Wu, et al., 2009; Schwinger & Stiensmeier-Pelster, 2011), whereas other researchers have not observed any evidence of a relationship between the two constructs (e.g. Leondari & Gonida, 2007; Lovejoy & Durik, 2010; Matthews, 2014). Evidence for the relationship between performance approach goals and self-handicapping has been the most varied of the four achievement goal orientations, with positive (e.g. Midgley, Arunkumar, & Urdan, 1996; Rhodewalt, 1994), negative (e.g. Akin, 2014; De Castella & Byrne, 2015), and no relationship (e.g. Standage, Treasure, Hooper, & Kuczka, 2007; Tas & Tekkaya, 2010) having been observed. Finally, there is limited empirical evidence for the association between mastery avoidance goals and self-handicapping. Given the mixed evidence for the relationship between self-handicapping and the achievement goal orientations, in particular mastery approach and performance approach goals, the primary aim of our first study is to summarise and meta-analyse the extant empirical evidence for these important relationships.

4.2.2.1 Self-handicapping, achievement goals, and academic achievement

Both achievement goals and self-handicapping have demonstrated relationships with academic achievement. In a meta-analysis of 19 studies of the relationship between achievement goals and academic achievement, Huang (2012) found that the mean correlation between approach goals, be they mastery or performance approach, and academic achievement was small and positive, whereas the mean correlation between avoidance goals and academic achievement was small and negative. In a meta-analysis of 49 samples, Schwinger et al. (2014) found that the mean correlation between self-handicapping and academic achievement was medium-sized and negative. There is also evidence that self-handicapping predicts lower academic achievement (Martin, Marsh, & Debus, 2003; Zuckerman et al., 1998), and that sustained engagement in self-handicapping results in long-term lowered achievement (Martin, Marsh, & Debus, 2003).

Previous research has examined how self-handicapping and achievement goals together predict academic achievement. For example, Schwinger et al.'s (2014) meta-analysis showed that mastery approach goals significantly moderated the relationship between self-handicapping and academic achievement. Specifically, the negative effect of self-handicapping on academic achievement was larger in samples with "medium sized" mastery approach goals compared to "high" mastery approach goals (p. 753). A high level of mastery goals buffered the detrimental effect of self-handicapping on academic achievement. Performance approach and performance avoidance goals did not significantly moderate the relationship between self-handicapping and academic achievement in Schwinger et al.'s meta-analysis. In addition, studies have examined how achievement goals and academic achievement together predict self-handicapping (Leondari & Gonida, 2007; Midgley & Urdan, 2001). Leondari and Gonida (2007) found that performance avoidance goals significantly mediated the predictive relationship from math achievement to self-

handicapping. They did not examine any other achievement goals as mediators. Using an hierarchical regression that included other variables, Midgley and Urdan (2001) found that academic achievement in math and mastery goals negatively predicted self-handicapping, while performance avoidance goals positively predicted self-handicapping. Performance approach goals did not significantly predict self-handicapping.

4.2.3 The present research

Given the literature outlined above, the present research has three primary aims: (1) to summarise and clarify existing empirical findings regarding the relationship between achievement goal orientations and self-handicapping using meta-analytic techniques; (2) to model the relationships between achievement goal orientations, self-handicapping, and academic achievement, and; (3) to extend this model to include a two-factor representation of self-handicapping – self-handicapping behaviours and self-handicapping affect. We present two studies in line with these overarching aims.

4.3 Study 1

The first aim of Study 1 is to conduct a meta-analysis of the relationships between self-handicapping and achievement goal orientations. It is anticipated that the results of this meta-analysis will, in particular, clarify the mixed evidence for the relationship between self-handicapping and performance approach goals. Using the results of the meta-analysis, the second aim of this study is then to test a model of the relationships among self-handicapping, achievement goals, and academic achievement. Specifically, this model tests the hypothesis that self-handicapping mediates the relationship between achievement goal orientation and academic achievement. This model extends on previous research that has examined these relationships in two ways. First, we use meta-analytically derived estimates for all the inter-relationships among self-handicapping, achievement goals, and academic achievement, such that results are robust. Second, in our proposed model both self-handicapping and academic

achievement are motivated by the type of achievement goal or goals that a student endorses. Given that self-handicapping is theoretically situation-specific, in that it occurs prior to an event that has been perceived as evaluative, we include self-handicapping as a proximal mediator, while achievement goals are a more distal determinant of academic achievement. This is in contrast to previous research that has examined self-handicapping as antecedent to achievement goal orientations, or as the outcome of achievement goals and academic achievement (e.g. Leondari & Gonida, 2007; Midgley & Urdan, 2001). We believe that this model better reflects both goal and self-handicapping processes in academic contexts whereby students: (1) endorse particular achievement goal/s in their academic life; (2) are sometimes confronted with evaluative events that lead them to self-handicap; and (3) these two processes in combination affect their academic achievement.

4.3.1 Method

4.3.1.1 Meta-analysis of self-handicapping and achievement goals

Both PsycINFO and ERIC databases were searched for English language peer-reviewed journal article abstracts published before April 2017 that contained the words “self-handicap*” and any of “motiv*”, “achiev*”, “goal*”, “performance”, “mastery”, “approach”, or “avoidance”. PsycINFO returned 238 articles, and ERIC returned 51 articles. After discarding duplicate results, 248 articles remained. English language, peer-reviewed published articles not already captured by these searches but that were included in the meta-analysis conducted by Schwinger et al. (2014) were also examined. This added another 5 articles. The 253 articles were examined, and studies using experimental measures of either self-handicapping or achievement goals were excluded. Studies reporting a zero-order bivariate correlation coefficient for the relationship between self-handicapping and at least one of the four achievement goal orientations were included in the meta-analysis. This yielded 37 articles comprising 43 independent samples for inclusion. Composite bivariate correlation

coefficients were used if: (a) more than one ‘type’ of self-handicapping (e.g. claimed versus behavioural) was measured in the same sample ($k = 3$), or; (b) an achievement goal orientation was measured in more than one way ($k = 2$), or; (c) correlations across multiple time points were reported ($k = 3$). Van Rhee, Suurmond, and Hak’s (2015) Meta-Essentials tool was used to calculate the mean sample-weighted correlation between self-handicapping and each of the four achievement goal orientations using a random effects model based on the Hedges-Olkin approach to meta-analysis (Hedges & Olkin, 1985).

4.3.1.2 Meta-analytic path model of self-handicapping, achievement goals, and academic achievement

A model in which self-handicapping mediates the relationship between achievement goals and academic achievement was tested using our original meta-analytic correlations (described above) as well as estimates from existing meta-analyses. Estimates for the relationships among achievement goals, and between achievement goals and academic achievement were taken from Huang (2012). The estimate for the relationship between self-handicapping and academic achievement was taken from Schwinger et al. (2014). We estimated path coefficients by regressing academic achievement onto self-handicapping and the four achievement goal orientations, and regressing self-handicapping onto the four goal orientations. The significance of the indirect effects of each achievement goal orientation on academic achievement was obtained from the Sobel test.

4.3.2 Results and discussion

Table 4.1

Meta-analysis of the relationships between self-handicapping and achievement goal orientations

Study	M-Ap	M-Av	P-Ap	P-Av	SH measure	AG measure	N
Akin (2014)	-.61	.30	-.72	.77	Self-handicapping Scale (SHS; Jones & Rhodewalt; 1982) – Turkish (Akin, 2012)	2 x 2 Achievement Goal Orientations Scale (Akin, 2006)	355
Anderman, Griesinger & Westerfield (1998)	-.18				Academic Self-handicapping Scale (ASHS; Midgley & Urdan, 1995; Urdan, Midgley, & Anderman, 1998)	Adapted from Anderman and Johnston (1998), Midgley et al. (1998), Young & Urdan (1993)	285
Boon (2007)	-.11				Patterns of Adaptive Learning Scales (PALS; Midgley et al., 2000)	PALS	879
Buckner et al. (2016)	-.29 ^a	.28 ^a	-.13 ^a	.36 ^a	SHS	Achievement Goal Questionnaire (AGQ; Elliot & Church, 1997; Elliot & McGregor, 2001)	63 ^c
Chen, Wu, Kee, Lin, & Shui (2009)	-.10 ^a	.22 ^a	.06 ^a	.37 ^a	SHS – Chinese (Wu, Wang, & Lin, 2004)	Chinese 2 x 2 Achievement Goal Questionnaire for Physical Education (Chen, 2007)	691
De Castella & Byrne (2015)	-.21		-.13	.07	PALS	AGQ	643
Deemer, Carter, & Lobrano (2010)		.23	.31	.42	10-item SHS (Strube, 1986)	Achievement Goals for Research Scale (Deemer et al., 2010)	186
Ferradás, Freire, Valle, & Núñez (2016)	-.31 ^a		.08 ^a	.21 ^a	Self-handicapping Scale (Martin, 1998) – Spanish	Goal Orientation Scale (GOS; Skaalvik, 1997) – Spanish	940
Kleitman & Gibson (2011)	-.18				ASHS	PALS	177
Leondari & Gonida (2007)	-.05		.10	.21	ASHS	PALS	702
Lovejoy & Durik (2010)	.09	.19 ^b	.03	.10	Hassles Scale (Kanner, Coyne, Schaefer, & Lazarus, 1981) – modified	AGQ	281
Martin (2003a)	-.39				Student Motivation Scale (SMS;	SMS – parent-form	481

Study	M-Ap	M-Av	P-Ap	P-Av	SH measure	AG measure	N
					Martin, 2001) – parent-form		
Martin (2003b)	-.18				SMS	SMS	2561
Martin (2004) – females	-.20				SMS	SMS	1258
Martin (2004) – males	-.15				SMS	SMS	1669
Martin (2006)	-.21				SMS – teacher-form	SMS – teacher-form	1019
Martin (2008) – music sample	-.35				Motivation and Engagement Scale (MES; Martin, 2010) – Music	MES – Music	224
Martin (2008) – sport sample	-.41				MES – Sport	MES – Sport	239
Martin, Marsh & Debus (2001)	-.23 ^a		.26 ^a	.39 ^a	ASHS; 10-item SHS	Motivation Orientation Scale (MOS; Nicholls, 1989); Harter, Whitesell, and Kowalski (1992)	584
Martin, Marsh, & Debus (2003)	-.38 ^a				ASHS; 10-item SHS	MOS; Harter et al. (1992)	328
Martin, Nejad, Colmar, Liem & Collie (2015)				.48	MES – High-school	MES – High-School	969
Matthews (2014)	-.04				ASHS	PALS	330
Mesa (2012)	-.22		.29		PALS	PALS	777
Midgley, Arunkumar, & Urdan(1996)	.03		.22		ASHS	PALS	112
Midgley & Urdan (1995)	-.24		.02		ASHS	PALS	256
Midgley & Urdan (2001)	-.20		.12	.33	PALS	PALS	484
Ommundsen (2001)	-.24		.03		ASHS	Perception of Success Questionnaire (POSQ; Roberts, Treasure, & Balague, 1998)	343
Ommundsen (2004)	-.25		-.15	.23	ASHS	GOS	273
Parker & Martin (2009)	-.28				MES – Work	MES – Work	515
Plenty & Heubeck (2011) – females	-.29				MES – High-school	MES – High-school	558
Plenty & Heubeck (2011) – males	-.15				MES – High-school	MES – High-school	456
Rhodewalt (1994)	-.24		.42		SHS	Personal Goals in School Scale (PGSS; Nicholls, Patashnick, & Nolen, 1985)	80
Rončević Zubković & Kolić-Vehovec (2014)	-.30		.07		Components of Self-regulated	PALS	403

Study	M-Ap	M-Av	P-Ap	P-Av	SH measure	AG measure	N
					Learning Inventory (Niemivirta, 1996) – Croatian (Rijavec & Brdar, 2002)		
Schwinger & Stiensmeier-Pelster (2011) – Study 1	-.16		.06	.27	ASHS – German (Schwinger & Stiensmeier-Pelster, 2010)	PGSS – German (Spinath, Stiensmeier-Pelster, Schone, & Dickhauser, 2002)	343
Schwinger & Stiensmeier-Pelster (2011) – Study 2	-.20		.01	.13	ASHS – German	PGSS - German	167
Schwinger & Stiensmeier-Pelster (2011) – Study 3	-.18			.23	ASHS – German	PGSS - German	389
Senko & Tropiano (2016) – Study 1	-.21		.08 ^a		14-item SHS (Rhodewalt, 1990)	Revised Achievement Goal Questionnaire (AGQ-R; Elliot & Murayama, 2008)	168
Senko & Tropiano (2016) – Study 2	-.23		.14 ^a	.25	14-item SHS	AGQ-R	160
Shih (2005)	-.19		-.07	.15	ASHS	AGQ	242
Smith, Sinclair & Chapman (2002)	-.02		-.16	.22	PALS	PALS	63
Standage, Treasure, Hooper, & Kuczka (2007)	-.26		.00		Custom scale	POSQ	70
Tas & Tekkaya (2010)	-.25		-.04		PALS	PALS	1950
Yamauchi & Miki (2003)	-.06 ^a		.06 ^a		Self-regulated Learning Scale (SRLS; Yamauchi & Tanaka, 1998)	SRLS	214
Number of studies (k)	41	5	26	18			
Total N	21732	1569	10550	7535			
Mean sample-weighted correlation	-.22	.24	.03	.30			
95% confidence interval	[-.25, -.18]	[.20, .27]	[-.05, .11]	[.22, .38]			

Note. ASHS and PALS are different editions of the same scale. SMS and MES are the same are different editions of the same scale. M-Ap = mastery approach goals; M-Av = mastery avoidance goals; P-Ap = performance approach goals; P-Av = performance-avoidance goals; SH = self-handicapping; AG = achievement goal.

^a Composite correlation. ^b N = 274. ^c Time 1 n = 84; Time 2 n = 42.

4.3.2.1 Meta-analysis of self-handicapping and achievement goals

Table 4.1 shows the studies included in the meta-analysis, and also includes the four effect sizes for each of the achievement goal orientations with self-handicapping. Using Cohen's (1988) guidelines for effect sizes, mastery approach goals showed a small to moderate negative association with self-handicapping (mean sample-weighted $r = -.22$, $k = 41$, $N = 21,732$, 95% C.I.: $-.25, -.18$). Mastery avoidance goals shared a moderate positive relationship with self-handicapping, although evidence for this relationship is comparatively limited (mean sample-weighted $r = .24$, $k = 5$, $N = 1,569$, 95% C.I.: $.20, .27$). There was no evidence of an association between performance approach goals and self-handicapping (mean sample-weighted $r = .03$, $k = 26$, $N = 10,550$, 95% C.I.: $-.05, .11$). Performance avoidance goals and self-handicapping shared a moderate positive relationship (mean sample-weighted $r = .30$, $k = 18$, $N = 7,535$, 95% C.I.: $.22, .38$).

These results support the claim that performance avoidance goals facilitate self-handicapping (Urdan & Midgley, 2001). Further, mastery avoidance goals relate to self-handicapping, suggesting that avoidance goals in general are conducive to self-handicapping. Mastery approach goals, on the other hand, had a negative association with self-handicapping, suggesting that they have a protective role against self-handicapping (Schwinger & Stiensmeier-Pelster, 2011). Finally, mixed evidence for the relationship between self-handicapping and performance approach goals resulted in a null association in our meta-analysis. Given the number of studies finding a significant association between performance approach goals and self-handicapping, we hypothesised that the overall non-significant relationship may be due to differences in measurement. In their meta-analysis, Hulleman et al. (2010) found that goal-outcome relationships differed significantly depending on the achievement goal measure used. As a post hoc analysis, we examined the mean sample-weighted correlation coefficients for the relationship between self-handicapping and

performance approach goals when the studies were grouped by achievement goal measure. The test for homogeneity of effect sizes suggested that differences between the sub-groups could not be explained by within-study error alone, $Q_B = 33.73$, $p < .001$. The results of this post hoc analysis are shown in Table 4.2. The different achievement goal orientation measures used yielded different mean sample-weighted correlation coefficients for the relationship between performance approach goals and self-handicapping, some were negative and some were positive. However according to the 95% confidence intervals for these correlation coefficients, none were significantly different from one another (Lipsey & Wilson, 2001). Moreover, all correlation coefficients were of small to trivial magnitude.

Table 4.2

Meta-analysis of the relationship between self-handicapping and performance approach goal orientation, grouped by achievement goal measure used

Achievement goal measure	Mean sample-weighted r	95% CI	k	N
Achievement Goal Questionnaire (AGQ)	-.07	-.23, .09	4	1229
Revised Achievement Goal Questionnaire (AGQ-R)	.11		2	328
Goal Orientation Scale (GOS)	-.03		2	1213
Patterns of Adaptive Learning Scales (PALS)	.09	-.03, .20	8	4747
Personal Goals in School Scale (PGSS)	.15	-.91, .95	3	590
Perception of Success Questionnaire (POSQ)	.03		2	413
Other	-.04	-.64, .58	5	2030

Note. For scales with $k < 3$, confidence intervals were not calculated.

4.3.2.2 Meta-analytic path model of self-handicapping, achievement goals, and academic achievement

Table 4.3 shows the meta-analytic correlation matrix derived from: (1) our original meta-analysis (of self-handicapping with achievement goal orientations); (2) the meta-analysis reporting the correlation between academic achievement and self-handicapping

(Schwinger et al., 2014); and (3) the meta-analysis reporting the relationships among achievement goal orientations and with academic achievement (Huang, 2012). Cell sizes in this matrix were highly variable (ranging from $N = 1,569$ to $N = 25,550$). For this reason, we used the conservative approach for meta-analytic path modelling recommended by Do and Minbashian (2014), using the lowest N from any cell in the correlation matrix when inputting the meta-analytic correlation matrix ($N = 1,569$).

Table 4.3

Meta-analytic correlation matrix (Study 1)

	SH	M-Ap	M-Av	P-Ap	P-Av
Mastery approach	-.22 ^a (41/21,732)				
Mastery avoidance	.24 ^a (5/1,569)	.19 ^c (19/6,888)			
Performance approach	.03 ^a (26/10,550)	.22 ^c (19/6,888)	.20 ^c (18/6,651)		
Performance avoidance	.30 ^a (18/7,535)	.06 ^c (19/6,888)	.36 ^c (18/6,651)	.28 ^c (18/6,651)	
Academic achievement	-.23 ^b (49/25,550)	.10 ^c (19/6,888)	-.11 ^c (19/6,888)	.13 ^c (19/6,888)	-.13 ^c (19/6,888)

Note. Below each correlation is: k (number of effect sizes) and N (sample size) in the form k/N . SH = self-handicapping; M-Ap = mastery approach; M-Av = mastery avoidance; P-Ap = performance approach; P-Av = performance avoidance.

^a Estimates taken from Study 1. ^b Estimate taken from Schwinger et al. (2014). ^c Estimates taken from Huang (2012).

The results of the meta-analytically derived path model are presented in Figure 4.1. The model explained 18.2% of the variance in self-handicapping and 8.8% of the variation in academic achievement. Mastery approach, mastery avoidance, and performance avoidance goals had significant direct effects on self-handicapping, which in turn had a significant direct

negative effect on academic achievement. Mastery approach goals had a negative direct effect on self-handicapping, whereas the two avoidance goals (mastery and performance) had positive direct effects on self-handicapping. Performance approach goals did not have a significant direct effect on self-handicapping. Mastery avoidance, performance approach, and performance avoidance goals had significant direct effects on academic achievement. The two avoidance goals (mastery and performance) had negative direct effects on academic achievement, whereas performance approach goals had a positive direct effect on academic achievement.

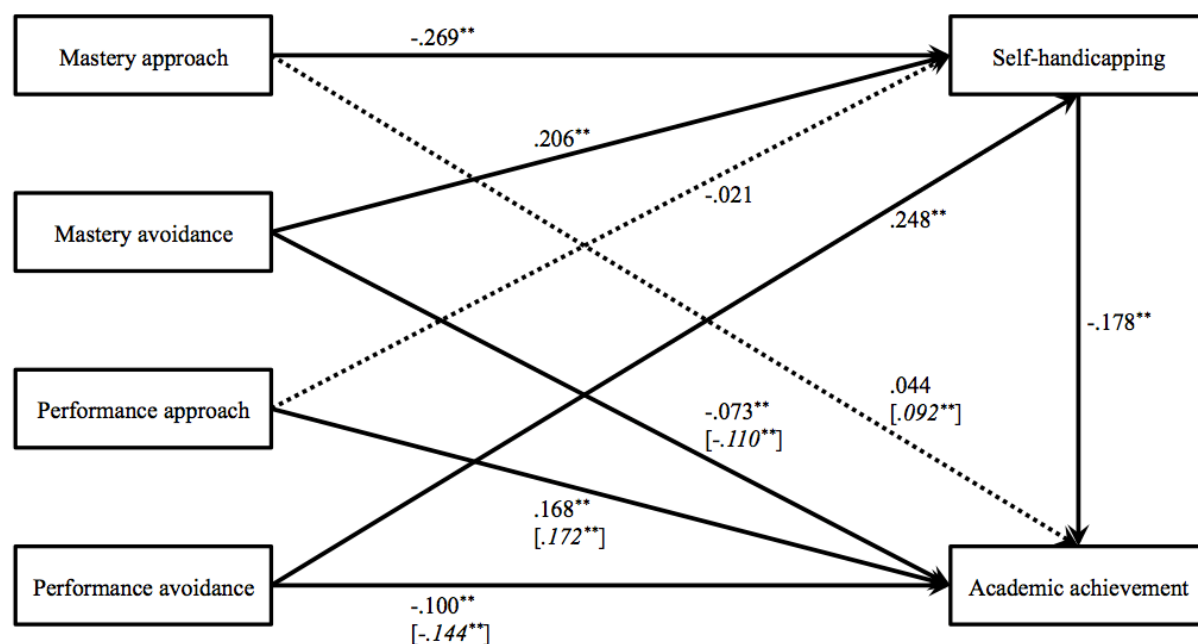


Figure 4.1. Meta-analytic path analysis of whether self-handicapping mediates the effect of achievement goal orientation on academic achievement (Study 1). Displayed values are standardised. Dotted lines indicate non-significant paths ($p > .05$). Standardised total effects are shown in italics in square brackets.

** $p < .01$ (two-tailed).

Sobel tests showed that self-handicapping significantly mediated the goal/achievement relationship for mastery approach (indirect effect = 0.048, $z = 5.68$, $p < .001$), mastery avoidance (indirect effect = -0.037, $z = -5.15$, $p < .001$), and performance avoidance (indirect

effect = -0.044, $z = -5.49$, $p < .001$), but not for performance approach goals (indirect effect = 0.004, $z = 0.87$, $p = 0.192$). Self-handicapping accounted for 52%, 34%, 2% and 31% of the effect of achievement goal orientation on academic achievement for mastery approach, mastery avoidance, performance approach, and performance avoidance respectively. Self-handicapping fully mediated the effect of mastery approach goals on academic achievement.

Taken together, these results suggest that avoidance goals, be they mastery or performance, facilitate self-handicapping and in turn self-handicapping contributes to the detrimental effect of avoidance goals on academic achievement. Mastery approach goals, on the other hand, may protect against self-handicapping. Even though it appears that self-handicapping diminishes the positive effects of mastery approach goals on academic achievement, mastery approach goals may still contribute indirectly to academic achievement. This suggests that mastery approach goals should be encouraged in students and learning environments, whereas avoidance goals of any kind should be discouraged.

4.4 Study 2

In this study, we aim to test the model from Study 1 using original data, and extend the model by including two elements of self-handicapping – self-handicapping behaviour and self-handicapping affect. We examine how these two elements of self-handicapping mediate the relationships between achievement goal orientations and academic achievement. Past research examining multifactorial self-handicapping and its relationship with either achievement goal orientations or academic achievement is discussed below.

4.4.1. Achievement goals, academic achievement, and multidimensional self-handicapping

Three studies to date have examined the relationships among achievement goals and self-handicapping while conceptualising self-handicapping as a multidimensional construct (Chen, Wu, et al., 2009; Ferradás, Freire, Valle, & Núñez, 2016; Lovejoy & Durik, 2010).

Both Ferradás, Freire, Valle, and Núñez (2016), and Lovejoy and Durik (2010), use the behavioural versus claimed self-handicapping distinction. Ferradás, Freire, Valle, and Núñez (2016) examined each achievement goal separately as a predictor of both behavioural and claimed self-handicapping simultaneously, and found that mastery approach, performance approach, and performance avoidance goals predicted both types of self-handicapping. Each achievement goal was analysed as ‘high’, ‘medium’ and ‘low’ goal groups. Between-group comparisons showed that: (a) low mastery approach goals were associated with more behavioural and claimed self-handicapping than medium or high mastery approach goals; (b) medium performance approach goals were associated with more behavioural and claimed self-handicapping than low or high performance approach goals; and (c) high performance avoidance goals were associated with more behavioural and claimed self-handicapping than low or medium performance avoidance goals. Lovejoy and Durik (2010) found that the only relationship between the two types of self-handicapping and four achievement goals was that claimed self-handicapping predicted greater mastery avoidance. However, they used a lab-based task outcome (amount of practice) to assess behavioural self-handicapping, so their results may not be consistent with self-handicapping as measured by psychometric scales. The third study that examined self-handicapping as a multidimensional construct, separated self-handicapping into two factors – “making excuses” and “reducing effort” (p. 301, Chen, Wu, et al., 2009). Making excuses is “the tendency to make excuses prior to evaluative situations” (p. 301), whereas reducing effort is “willingness to decrease effort” (p. 301). In a path model predicting the two self-handicapping factors from both achievement goals and fear of failure, Chen, Wu, et al. (2009) found that performance approach goals negatively predicted both self-handicapping factors, and performance avoidance goals positively predicted both self-handicapping factors. In addition, mastery approach goals negatively predicted reducing effort, and mastery avoidance goals positively predicted making excuses.

In this study, we test a model in which self-handicapping *behaviour* and self-handicapping *affect* mediate the relationship between achievement goal orientation and academic achievement. As previously discussed, this is distinctly different from other research examining the relationships among achievement goals, academic achievement and multidimensional self-handicapping (e.g. claimed versus behavioural self-handicapping; making excuses and reducing effort). Although there is a small body of literature regarding self-handicapping and affect, e.g. mood after self-handicapping (Rhodewalt, Morf, Hazlett, & Fairfield, 1991); negative affect as a claimed handicap (Baumgardner, 1991); and general temperament predicting self-handicapping (Greaven, Santor, Thompson, & Zuroff, 2000), we know of no literature regarding the relationship between self-handicapping affect and achievement goal orientations¹. However, the small body of literature examining the relationship between achievement goal orientation and general affect is reviewed below.

4.4.2. Achievement goals, self-handicapping affect, and self-handicapping behaviour

In our conceptualisation, self-handicapping affect occurs due to anticipating undesirable outcomes of evaluative events. Self-handicapping affect then motivates self-handicapping behaviour as the behaviour is enacted to relieve this negative affective state. The relief occurs because the undesirable outcome becomes less threatening once it can be attributed to the handicap (caused by the behaviour), rather than to the internal attributes of the individual. We propose that achievement orientation goals might relate to this process through their effect on both self-handicapping affect and self-handicapping behaviour. Linnenbrink and Pintrich (2002) and Bjørnebekk (2008) have acknowledged that the role of affect in achievement goal theory has been, until recently, largely overlooked. Linnenbrink and Pintrich (2002) proposed that the relationships between achievement goal orientations and affective states are bidirectional and mood-related, but that achievement goals directly influence emotions.

¹ Smith et al. (2002) examined the relationships among self-handicapping, achievement goal orientations, and psychological distress, but did not find significant relationships among all three.

Huang stated that, “avoidance motivation focuses on avoiding undesirable outcomes” (2012, p. 48). A focus on undesirable outcomes would make an evaluative situation more threatening. Individuals endorsing avoidance goals are therefore more likely to have greater self-handicapping affect (i.e., are more likely to feel greater negative affect when facing an evaluative situation). The threat of the evaluative situation would be particularly acute when the achievement goal relates to failure to demonstrate competence (performance avoidance) rather than failure to learn (mastery avoidance). This is because an evaluation inherently involves a demonstration of performance. That is, we expect both performance avoidance and mastery avoidance goals to relate to a greater degree of self-handicapping affect, with a stronger relationship for performance avoidance than mastery avoidance goals. This claim is supported by research showing that a performance avoidance goal orientation is associated with greater negative affect (Vassiou, Mouratidis, Andreou, & Kafetsios, 2016). Vassiou et al.’s study did not include mastery avoidance goals.

The role of approach goals on self-handicapping affect is less clear-cut. The converse of avoidance motivation, “approach motivation emphasizes seeking desirable outcomes” (Huang, 2012, p. 48). A focus on positive aspects of evaluative situations (e.g. as opportunities for learning), would make such situations less threatening, and less likely to trigger self-handicapping affect. In fact, approaching a desirable outcome may even lead to a reduction in negative affect. There is some evidence to support this for mastery approach goals, but not for performance approach goals. Both Vassiou et al. (2016) and Vlachopoulos and Biddle (1997) found that mastery approach goals (but not performance approach goals) were associated with less negative affect. Vassiou et al. (2016) also found that both mastery approach and performance approach goals predicted positive affect. However, we emphasise that self-handicapping affect is not synonymous with trait affect. We further propose that approach goal orientations may directly predict self-handicapping behaviours, as motivation

to perform well lies in direct contradiction to behaviours that impair one's performance, i.e., performance approach goals should relate to lower levels of self-handicapping behaviour. In addition, we propose that a mastery approach goal orientation would also lead to less self-handicapping behaviour, as performance-impairing handicaps are also likely to impair ability to learn (e.g., lack of practice, study or preparation).

In summary, we expect avoidance goal orientations (particularly performance avoidance) to directly predict self-handicapping affect and indirectly predict self-handicapping behaviours. In addition, approach goal orientations will directly predict less self-handicapping behaviour, with mastery approach goals also predicting less self-handicapping affect.

4.4.3 Aims and hypotheses

We investigate three hypotheses in this study. First, we hypothesise that self-handicapping behaviour and self-handicapping affect will have significantly different relationships with achievement goals. Specifically, we anticipate that avoidance goals (mastery or performance) will be more strongly related to self-handicapping affect than self-handicapping behaviour (Hypothesis 1). Second, self-handicapping affect will mediate the relationship between avoidance goal orientations and self-handicapping behaviour (Hypothesis 2). Third, we hypothesise that together self-handicapping affect and self-handicapping behaviour will mediate the relationship between achievement goal orientations and academic achievement (Hypothesis 3). Specifically, we anticipate that self-handicapping affect and self-handicapping behaviour will amplify the negative effects of mastery avoidance and performance avoidance goals, and dampen the positive effect of mastery approach goals on academic achievement.

4.4.4 Method

4.4.4.1 Participants

Participants were 484 undergraduates (314 females) at a large public university at the first author's institution. Participant age ranged from 17 to 60 years ($M = 19.70$, $SD = 3.79$). Most participants received course credit in exchange for participation. The remaining participants received no incentive ($n = 15$).

4.4.4.2 Measures

4.4.4.2.1 Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982)

The SHS contains 25 items and uses a six-point response scale ranging from (1) 'strongly disagree' to (6) 'strongly agree'. There is evidence that the SHS represents two distinct factors reflecting internal (Self-handicapping Affect, 8 items, e.g. "I tend to get very anxious before an exam or 'performance'") and external aspects of self-handicapping (Self-handicapping Behaviour, 5 items, e.g. "I tend to put things off to the last moment") (Clarke & MacCann, 2016).

4.4.4.2.2 Achievement Goal Questionnaire-Revised (Elliot & Murayama, 2008)

This 12-item questionnaire assesses four achievement goals: mastery approach, mastery avoidance, performance approach, and performance avoidance, e.g. "My goal is to learn as much as possible" (mastery approach). The questionnaire uses a five-point response scale ranging from (1) 'strongly disagree' to (5) 'strongly agree'.

4.4.4.2.3 Academic achievement

Each participant's end of semester grade for introductory psychology was collected. The end of semester grade was out of 100 ($M = 61.76$, $SD = 16.07$). Participants consented to their grades being collected.

4.4.4.3 Procedure

Responses were unproctored and collected online using Qualtrics. The responses formed part of a larger study of self-handicapping, which included additional measures of academic behaviours, beliefs and motivations, a subset of which has previously been published (Clarke & MacCann, 2016). The full protocol took approximately one hour to complete. This study received approval from the Human Research Ethics Committee at the first author's institution.

4.4.4.4 Analysis

Path and mediation analyses were conducted using IBM SPSS AMOS version 19. All other analyses were conducted using IBM SPSS version 24. No data were missing, as participants were required to respond to all items in the protocol.

4.4.5 Results

4.4.5.1 Descriptive statistics and reliability

Descriptive statistics and reliability indices for all scales used in statistical analyses are shown in Table 4.4. Cronbach's alpha was acceptable for Self-handicapping Behaviour and Self-Handicapping Affect. However, Clark and Watson (1995) argue that average inter-item correlation is a more useful indicator of the homogeneity of a scale and recommend that this statistic fall within the range of .15-.50. Both self-handicapping factors fell within this range, unlike the SHS total score which fell below this range.

4.4.5.2 Correlations

The two self-handicapping factors displayed a substantively different pattern of correlations with achievement goals (see Table 4.4). Self-handicapping Behaviour was significantly negatively correlated with mastery approach, mastery avoidance, and performance approach goals, and not significantly correlated with performance avoidance goals. This is in contrast to Self-handicapping Affect, which was significantly positively

correlated with performance avoidance goals, and not significantly correlated with any other achievement goal orientations. Steiger's z-test for dependent correlations showed that the differences between Self-handicapping Behaviour and Self-handicapping Affect in their relationships with the achievement goal orientations were statistically significant for all four types of achievement goals.

Self-handicapping Behaviour, Self-handicapping Affect, and SHS total score were all significantly negatively correlated with academic achievement as measured by grades. Steiger's z-test for dependent correlations showed that none of the correlations with grades significantly differed from one another.

Self-handicapping behaviour and self-handicapping affect displayed significantly different relationships with achievement goal orientations, but not with academic achievement. As expected, performance avoidance goals showed a significantly stronger relationship with self-handicapping affect than with self-handicapping behaviour. The other three achievement goals – mastery approach, mastery avoidance, and performance approach, showed significantly stronger relationships with self-handicapping behaviour than with self-handicapping affect. Hypothesis 1 was partially supported – self-handicapping affect was more strongly related to performance avoidance goals (but not to mastery avoidance goals) than self-handicapping behaviour.

Table 4.4

Descriptive statistics and correlations among all variables used in Study 2 analyses

	Mean	SD	<i>A</i>	Mean inter-item <i>r</i>	1.	2.	3.	4.	5.	6.	7.
1. Self-handicapping Behaviour	3.82	0.81	.73	.35							
2. Self-handicapping Affect	3.53	0.82	.77	.29	.23**						
3. Self-handicapping Scale ^a	3.54	0.47	.76	.11	.66**	.80**					
4. Mastery approach goals ^a	3.66	0.74	.79	.55	-.34**	-.02	-.21**				
5. Mastery avoidance goals ^a	3.25	0.81	.73	.47	-.22**	.07	-.11*	.49**			
6. Performance approach goals ^a	3.74	0.73	.82	.60	-.20**	-.01	-.13**	.43**	.31**		
7. Performance avoidance goals ^a	3.67	0.83	.85	.65	-.07	.17**	.10*	.23**	.43**	.59**	
8. Grades	61.76	16.07			-.25**	-.23**	-.28**	.10*	.03	.18**	.01

Note. *N* = 481 for all variables except Grades, *N* = 455.

^a Significant difference in correlation for Self-handicapping Behaviour versus Self-handicapping Affect using Steiger's z-test for dependent correlations ($p < .01$).

* $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

4.4.5.3 Mediation analysis

A path model was used to test: (1) whether self-handicapping affect mediates the relationship between avoidance goal orientations and self-handicapping behaviour; and (2) whether the two elements of self-handicapping mediate the relationship between achievement goal orientation and academic achievement. We tested a path model in which the two elements of self-handicapping were regressed on the four achievement goal orientations, self-handicapping behaviour was regressed on self-handicapping affect, and academic achievement (grades) was regressed on both the four achievement goals and self-handicapping behaviour (see Figure 4.2). The analysis was conducted using IBM SPSS AMOS version 19, with 2000 bootstrap samples to calculate standardised effect sizes. Figure 4.2 presents the statistically significant standardised direct effects. The fit indices for this path model were: $\chi^2 = 13.774$, $df = 1$, $p < .001$; CFI = .980, RMSEA = .168 (90% C.I.: .097, .251). CFI suggests good model fit, whereas RMSEA suggests poor model fit. The poor RMSEA may be due to the low df of the model (Kenny, 2015).

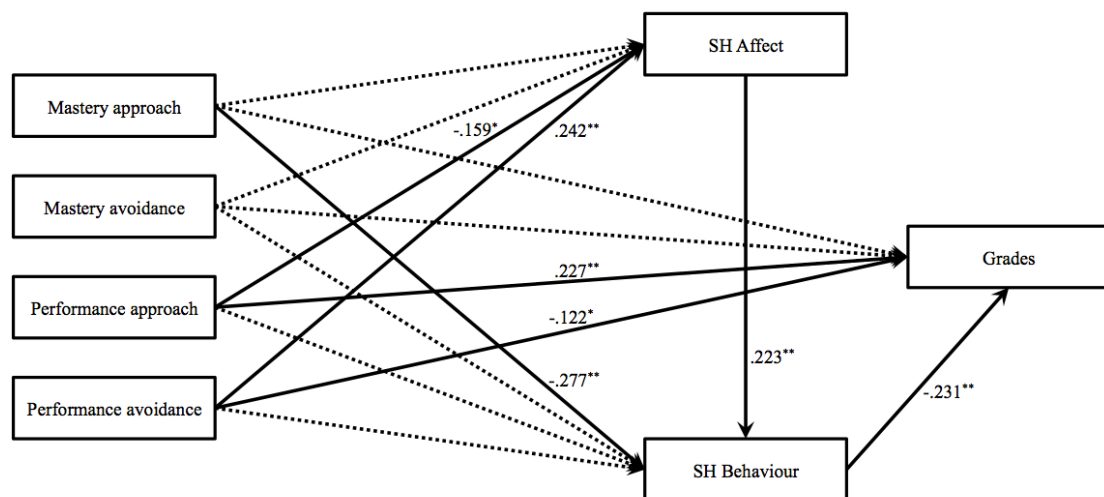


Figure 4.2. Empirical results of a mediation model in which each achievement goal predicts grades, and these relationships are mediated by two serial self-handicapping factors – affect and behaviour. Significant paths are indicated by solid line, with standardised values. Non-significant paths are indicated by dotted line. SH = self-handicapping.

* $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

Both performance approach and performance avoidance goals had significant direct effects on Self-handicapping Affect (negative and positive, respectively), whereas mastery approach goals had a significant negative direct effect on Self-handicapping Behaviour. Self-handicapping Affect had a significant positive direct effect on self-handicapping behaviour, which in turn had a significant negative direct effect on grades. Only performance goals had significant direct effects on grades.

Both performance approach and performance avoidance goals had significant indirect effects on self-handicapping behaviour. Performance approach goals had a negative indirect effect (total indirect effect = $-.036$, $p = .017$; 95% C.I.: $-.082$, $-.007$), whereas performance avoidance goals had a positive indirect effect (total indirect effect = $.054$, $p = .001$; 95% C.I.: $.022$, $.101$). Self-handicapping affect significantly mediated the relationship between performance approach and self-handicapping behaviour, and fully mediated the relationship between performance avoidance goals and self-handicapping behaviour. Both effects were small to medium². Hypothesis 2 was supported.

Mastery approach, performance approach, and performance avoidance goals all had significant indirect effects on grades. Both approach goals, mastery (total indirect effect = $.065$, $p < .001$; 95% C.I.: $.032$, $.116$) and performance (total indirect effect = $.029$, $p = .036$; 95% C.I.: $.002$, $.066$) had positive indirect effects on grades, whereas performance avoidance goals (total indirect effect = $-.027$, $p = .021$; 95% C.I.: $-.061$, $-.003$) had a negative indirect effect on grades. The indirect effect of mastery avoidance goals on grades failed to reach statistical significance (total indirect effect = $.020$, $p = .057$; 95% C.I.: $-.001$, $.049$). All indirect effects were of small to medium effect size. The two self-handicapping factors significantly mediated the relationships between mastery approach goals and academic

² Effect sizes were interpreted in terms of the square root of the interaction product (i.e., if paths a and b formed the indirect effect, we interpreted $ab = .01$ as small, $ab = .09$ as medium, and $ab = .25$ as large; Kenny, 2016).

achievement, performance approach goals and academic achievement, and performance avoidance goals and academic achievement. Hypothesis 3 was supported.

4.4.6 Discussion

We hypothesised that avoidance goal orientations would be more strongly related to self-handicapping affect (as compared to self-handicapping behaviour; H1), such that self-handicapping affect would mediate the relationship between avoidance goal orientations and self-handicapping behaviour (H2). These two hypotheses were supported for performance avoidance but not for mastery avoidance goal orientations. Our third hypothesis was that the relationship between the four goal orientations and academic achievement would be mediated by the two self-handicapping factors. This hypothesis was supported for three of the four goal orientations (mediation was not significant for mastery avoidance).

4.4.6.1 Self-handicapping affect: Performance orientation, not avoidance motivation, is key

We hypothesised that avoidance goals would predict self-handicapping affect (and indirectly predict self-handicapping behaviour) whereas approach goals would directly predict self-handicapping behaviour. In fact, the path model showed that both performance approach and performance avoidance goals significantly predicted self-handicapping affect, and both showed only indirect relationships to self-handicapping behaviours. In contrast, mastery approach goal orientation directly predicted self-handicapping behaviour but was not significantly related to self-handicapping affect. That is, we hypothesised a different pattern for approach versus avoidance goal orientations (i.e., where avoidance would predict affect whereas approach would predict behaviours), based on avoidance motivation being key to whether anticipated evaluative situations would produce negative affect. In fact, the data show that the critical aspect of goal orientation for self-handicapping affect was the distinction between performance and mastery orientations – performance goals predicted self-

handicapping affect whereas mastery goals (specifically, mastery approach) predicted self-handicapping behaviour.

4.4.6.2 Self-handicapping behaviour: Mastery approach goal orientation is key

The correlational analyses and the path model results were consistent for mastery approach goals. Mastery approach goals were negatively correlated with self-handicapping behaviours and not correlated with self-handicapping affect. Similarly, in the path model mastery approach goals significantly predicted self-handicapping behaviours, but not self-handicapping affect. Mastery approach goals did not have a significant direct effect on grades, but predicted grades indirectly via self-handicapping behaviours. These results suggest that mastery approach goals are more closely related to the adoption of a handicap than the affective motivations for such an adoption. In particular, striving for thorough knowledge and skill reduces the likelihood of acquiring such handicaps, diminishing the negative effect of self-handicapping behaviours on academic achievement. It appears that task-contingent negative affect is neither enhanced nor diminished by the endorsement of mastery approach goals.

4.4.6.3 Performance goal orientation and academic achievement

Performance avoidance goals were positively correlated with self-handicapping affect, and not related to self-handicapping behaviours. Similarly, in the path model performance avoidance goals significantly predicted self-handicapping affect, but not self-handicapping behaviours. Performance avoidance goals had both significant direct and indirect negative effects on academic achievement. This suggests that wishing to avoid poor performance relative to one's peers may enhance sensitivity to task-contingent negative affect, in turn facilitating self-handicapping behaviours and their negative effect on academic achievement. This was supported by the full mediation of the effect of performance avoidance goals on self-handicapping behaviour by self-handicapping affect.

The nature of the relationship between the two elements of self-handicapping and performance approach goals was mixed. Performance approach goals were negatively correlated with self-handicapping behaviour, and not significantly related to self-handicapping affect, however in the path model performance approach goals significantly negatively predicted self-handicapping affect, but not self-handicapping behaviour. Performance approach goals had both significant positive direct and indirect effects on academic achievement. It appears that although performance approach goals facilitate academic achievement, the way in which self-handicapping mediates this relationship is still unclear. However, self-handicapping affect mediated the relationship between performance approach goals and self-handicapping behaviour, suggesting that performance orientation increases the (negative) affective response to upcoming evaluative events. Finally, there was little evidence for the role of mastery avoidance goals in these analyses. Mastery avoidance goals were significantly negatively correlated with self-handicapping behaviour only, and did not significantly predict any other variables in the path model.

4.5 General discussion

4.5.1 Self-handicapping and mastery approach goals

Endorsing goals in which an individual strives to develop their understanding or knowledge is related to less self-handicapping. When self-handicapping is split into two elements – self-handicapping affect and self-handicapping behaviour – mastery approach goals are significantly related to self-handicapping behaviour but not to self-handicapping affect. In addition, self-handicapping mediates the established positive relationship between mastery approach goals and academic achievement, and this is driven by a reduction in self-handicapping behaviour. These findings were consistent across both Study 1 and Study 2. Study 1 showed that mastery approach goals and self-handicapping are negatively related, and that self-handicapping diminishes the positive effect of mastery goals on academic

achievement. Study 2 showed that this relationship is specific to self-handicapping behaviour but not self-handicapping affect. These findings are also consistent with Schwinger and Stiensmeier-Pelster (2011), who found that mastery approach goals had a direct negative effect on self-handicapping. In addition, Schwinger and Stiensmeier-Pelster found that endorsing mastery approach goals buffered the negative effect of performance avoidance goals on self-handicapping. This suggests that encouraging mastery approach goals in students will not only reduce self-handicapping behaviour, but may also protect against the negative effects of avoidance goals (mastery or performance) on academic achievement. In setting task-directed goals, students are focussed on engaging in skill-acquisition behaviours rather than affective states in response to impending evaluations.

4.5.2 Self-handicapping and mastery avoidance goals

Evidence of the relationship between self-handicapping and mastery avoidance goals is limited. This is partly due to the fact that not all researchers adopt a four-factor model of achievement goal orientations (see Huang, 2012 for a review) and models with fewer than four factors typically exclude mastery avoidance goals. Our meta-analysis of five studies showed a small to moderate positive relationship between mastery avoidance goals and self-handicapping. This is consistent with Urdan and Midgley's (2001) assertion that self-handicapping is driven by avoidance motives. However when self-handicapping was split into self-handicapping behaviour and self-handicapping affect, only self-handicapping behaviour was significantly (negatively) correlated with mastery avoidance goals. Similarly, mastery approach goals were related to self-handicapping behaviour but not self-handicapping affect. This suggests that mastery goals (be they approach or avoidance motivated) allow for students to focus on goal-facilitating behaviours, and divert their focus away from task-contingent negative affect.

Although self-handicapping significantly mediated the effect of mastery avoidance goals on academic achievement in our meta-analytic mediation model (Study 1), this was not the case when self-handicapping was separated in to affect and behaviour (Study 2). This is likely due to the fact that there was no significant correlation found between mastery avoidance goals and academic achievement in Study 2. Although Study 2 found a negative correlation between mastery avoidance goals and self-handicapping behaviour, evidence from the meta-analytic path model suggests that wishing to avoid limitations in skill or knowledge promotes self-handicapping. This in turn is likely to diminish academic achievement. The relationship between mastery avoidance goals and self-handicapping warrants further research.

4.5.3 Self-handicapping and performance approach goals

Evidence for the relationship between performance approach goals and self-handicapping was mixed. Study 1 demonstrated no significant relationship between self-handicapping and performance approach goals, despite a large amount of research available. However, Study 2 demonstrated that performance approach goals correlated with self-handicapping behaviour, but not with self-handicapping affect. The meta-analytic path model presented in Study 1 showed that self-handicapping did not significantly mediate the relationship between performance approach goals and academic achievement, however the empirical results of Study 2 showed this mediation to be significant.

We suggest that these mixed results may be due to the recent differentiation between appearance-focussed performance approach goals and normative-focussed performance approach goals (Hulleman et al., 2010; Senko & Tropicano, 2016). This differentiation separates performance approach goal measures that emphasise demonstrating competence (appearance) from performance approach goal measures that emphasise success (normative). Hulleman et al. (2010) found that normative performance approach goals were positively

related to academic achievement, whereas appearance performance approach goals were negatively related to academic achievement. This may be a contributing factor to the wide range of mixed findings that were included in our meta-analysis, resulting in a non-significant mean correlation.

4.5.4 Self-handicapping and performance avoidance goals

Self-handicapping enhances the negative effect of performance avoidance goals on academic achievement. Wishing to avoid poor performance relative to others facilitates both self-handicapping and diminished academic achievement. In particular, endorsement of performance avoidance goals promotes self-handicapping behaviour via self-handicapping affect. The meta-analysis presented in Study 1 showed that performance avoidance goals had the strongest relationship to self-handicapping of any of the achievement goals. Study 2 demonstrated that performance avoidance goals were significantly related to self-handicapping affect in particular. Both Study 1 and Study 2 showed that self-handicapping significantly mediates the detrimental effect of performance avoidance goals on academic achievement. Study 2 showed that this is due to the effect of performance avoidance goals on the affective drivers for self-handicapping behaviour. Urdan and Midgley (2001) proposed that self-handicapping shares a positive association with performance avoidance goals because both constructs are related to self-presentation and not wanting to appear incompetent to others. We would argue that concern about being evaluated by others heightens the esteem-threatening nature of upcoming evaluative tasks and events, eliciting a negative affective response to such tasks. This task-contingent negative affect in turn promotes self-handicapping behaviours.

4.5.5 Self-handicapping affect versus self-handicapping behaviour

Though both self-handicapping behaviour and self-handicapping affect were derived from the same scale (the SHS), they were only weakly related. That is, the substantive

theoretical difference between these concepts is supported by empirical evidence. Our results demonstrated that splitting the SHS into two factors provided additional substantive information, and did not merely create two parallel forms of the SHS. Self-handicapping affect and self-handicapping behaviour showed a different pattern of correlations with achievement goal orientations. Self-handicapping affect was significantly related only to performance avoidance goals, whereas self-handicapping behaviour was significantly related to the other three goal orientations but not to performance avoidance. In addition, self-handicapping affect mediated the relationship between performance goals (approach and avoidance) and self-handicapping behaviour, but not for mastery goals (approach or avoidance). This suggests that the other-directedness of performance goals facilitates negative affective responses to anticipated evaluative events. Task-focussed mastery goals, on the other hand, do not. Similarly, mastery approach goals negatively predicted self-handicapping behaviour, suggesting that task-directed goals facilitate adaptive behaviours toward academic achievement.

4.5.6 Limitations

In the path models presented in both Study 1 and Study 2, self-handicapping was predicted by all four achievement goal orientations simultaneously. Recently attention has turned to how combinations of achievement goal profiles predict self-handicapping (and academic achievement). When controlling for performance avoidance goals, Shih (2005), found that individuals who were high in both mastery and performance approach goals, or high in mastery and low in performance approach goals reported engaging in less self-handicapping than individuals who were low in both mastery and performance approach goals. Our studies did not consider multiple goal profiles, and this would certainly be an important line of future research.

In addition, we used a cross-sectional design to examine the effects of distal (achievement goal orientation) and proximal (self-handicapping) influences on academic achievement. Such a model would clearly benefit from examination in a longitudinal design. Note, however, that course grades were obtained from university records at the end of the semester in which participants had completed the goal orientation and self-handicapping scales.

4.5.7 Conclusions and future directions

Self-handicapping, both as a single- and multi-factor construct mediated the relationship between achievement goal orientation and academic achievement. Separating self-handicapping into behavioural and affective elements yields new, more nuanced, and substantive information about the relationships between self-handicapping and achievement goal orientations – self-handicapping affect is related to performance goals, whereas self-handicapping behaviour is related to mastery approach goals. We argue that self-handicapping is better modelled as a multi-component process, rather than a trait or discrete behaviour, and recommend that future research consider self-handicapping as multidimensional.

CHAPTER 5: Self-concept clarity mediates the relationship between self-esteem and self-handicapping

This chapter is a minor revision of Clarke and MacCann (2017a), currently submitted for publication.

5.1 Abstract

Objective: The theoretical link between self-esteem and self-handicapping is long-standing. This association has been examined empirically over many decades, and this paper presents a systematic investigation of this relationship, and the investigation of self-concept clarity as a mediator of this relationship.

Method: Study 1 ($N = 9,736$, $k = 43$) utilises meta-analytic techniques to examine the relationship between self-esteem and self-handicapping. Study 2 ($N = 484$ university students) tests self-concept clarity as a mediator of the self-esteem/self-handicapping relationship, using a two-factor model of self-handicapping that separates self-handicapping behaviour from the situation-contingent affect that drives this behaviour (self-handicapping affect).

Results: Study 1 shows that self-esteem and self-handicapping share a moderate negative relationship ($r = -.34$), and that this relationship is moderated by the scale used to assess self-handicapping. Study 2 shows that self-concept clarity mediates the effect of self-esteem on both self-handicapping affect and self-handicapping behaviour, fully mediating the effect on self-handicapping behaviour.

Conclusions: Results are discussed in terms of the distinction between the roles of self-esteem and self-concept clarity as motives for self-handicapping. It is suggested that structure of self-concept (represented by self-concept clarity) is a more theoretically relevant driver of self-handicapping than valence of self-evaluations.

5.2 Introduction

The theoretical and empirical links between self-esteem and self-handicapping are well-established (Jones & Berglas, 1978; Rhodewalt, 1990; Schwinger & Stiensmeier-Pelster, 2011). Clarity of self-concept is a related but distinct important additional predictor of self-handicapping (Campbell, 1990). In two studies, we examine the relationship between self-esteem and self-handicapping, and consider self-concept clarity as a mediator of this relationship.

In Study 1, we conduct a meta-analysis to estimate the effect size of the relationship between self-handicapping and self-esteem. To our knowledge, no such analysis has been performed to date despite many decades of empirical study of the association between self-esteem and self-handicapping. In addition, we test the self-handicapping measure used as a potential moderator of the relationship between self-esteem and self-handicapping. In Study 2, we introduce original data to test a model in which self-concept clarity mediates the relationship between self-esteem and two factors of self-handicapping. These two factors reflect: (1) self-handicapping behaviours, and (2) task-contingent negative affect (i.e. self-handicapping affect; Clarke & MacCann, 2016, 2017b). In our model, self-concept clarity is added as a mediator of the relationship between self-esteem and both factors of self-handicapping, with self-handicapping affect predicting self-handicapping behaviour (see Figure 5.1).

5.2.1 A brief introduction to self-handicapping

Self-handicapping is the phenomenon in which an individual will create an obstacle to their own success prior to an evaluative event. Any resulting failure can then be attributed to the obstacle rather than the individual's worth or abilities, protecting self-esteem. Importantly, obstacles are instigated *before* the evaluative event occurs. Post hoc attributions are substantively different from self-handicapping (Midgley & Urdan, 1995). Recently, research

has moved toward conceptualising and modelling self-handicapping as a multidimensional construct. One such model proposes that self-handicapping be separated into self-handicapping behaviours and the affective and cognitive motivations for such behaviours (Clarke & MacCann, 2016, 2017b). Clarke and MacCann (2016, 2017b) found that the content of the Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982) reflected both behaviours and the affective motivations for those behaviours. They showed that these two factors were substantively distinct, and differentially related to self-esteem (Clarke & MacCann, 2016), and achievement goal orientation (Clarke & MacCann, 2017b). Self-handicapping behaviours are behaviours that comprise a handicap to successful performance at an evaluative event but provide an excuse for potential failure. Self-handicapping affect is the negative affect individuals experience in the face of an upcoming evaluative event. Such task-contingent negative affect drives self-handicapping behaviours.

5.2.2 Measures of self-handicapping

There are two widely used self-report measures of self-handicapping – the SHS, and the Academic Self-handicapping Scale (ASHS; Midgley, Arunkumar, & Urdan, 1996; Midgley & Urdan, 1995; Urdan, Midgley, & Anderman, 1998). The SHS is a general measure of trait self-handicapping, whereas the ASHS is a domain-specific measure of self-handicapping in academic settings. Although both scales are associated with lower academic achievement, Schwinger, Wirthwein, Lemmer, and Steinmayr (2014) found that this relationship is stronger for the ASHS ($r = -.25$) than the SHS ($r = -.11$), as might be expected based on the academia-specific content domain. The SHS has been criticised for its “psychometric weaknesses” (Martin & Brawley, 1999, p. 909), and has an unresolved factorial structure (see Clarke & MacCann, 2016 for a review). The ASHS, on the other hand, shows relatively stable psychometric properties across studies (Urdan & Midgley, 2001). There are also other less widely used measures of self-handicapping, such as short versions of the SHS (Rhodewalt,

1990; Strube, 1986), the self-handicapping subscale of the Motivation and Engagement Scale (Martin, 2010), and various claimed self-handicapping scales (e.g. Martin & Brawley, 2002). In our meta-analysis we test whether self-esteem shows different levels of association with four different self-handicapping instruments (ASHS, SHS, short versions of the SHS, and other measures of self-handicapping), given their conceptual and psychometric differences.

5.2.3 Self-handicapping and self-esteem

It is widely acknowledged that self-esteem and self-handicapping are theoretically linked (Campbell, 1990; Jones & Berglas, 1978; Rhodewalt, 1990), although different accounts of this relationship have been proposed. The predominant view is that self-handicapping occurs in order to protect an individual's self-esteem (Jones & Berglas, 1978; Martin, Marsh, & Debus, 2001; Rhodewalt, 1990). That is, perceived threats to self-esteem motivate self-handicapping. Self-handicapping obscures the self-relevant meaning of performance feedback, and so the threat of feedback to an individual's self-beliefs is removed following self-handicapping.

Jones and Berglas (1978) and others (e.g. Rhodewalt, 1990) argue that the purpose of a self-protecting strategy such as self-handicapping is to *protect*, and thus there must be something worth protecting and requiring protection, i.e. a positive, but fragile, self-image. In addition, both Jones and Berglas (1978) and Rhodewalt (1990) have proposed that very low self-esteem individuals would theoretically have no motivation to self-handicap, as these individuals have no esteem worth protecting. Rhodewalt (1990) outlined three possible mechanisms by which self-esteem affects self-handicapping.

First, low self-esteem individuals may be engaging in chronic self-handicapping (i.e. without regard for situational factors), whereas high self-esteem individuals will only self-handicap when they perceive a real threat to their self-esteem. This mechanism would produce a negative relationship between self-esteem and self-handicapping. Second, self-

handicapping is motivated by uncertainty about the likely outcome of a performance (Snyder & Higgins, 1988). Low self-esteem individuals encounter more situations in which they are uncertain about their ability to produce a desired outcome and would therefore self-handicap more often than high self-esteem individuals, who would have more positive performance expectancies. This mechanism would also produce a negative relationship between self-esteem and self-handicapping, but mediated by uncertainty about self-concept. Third, it may be that low self-esteem individuals will self-handicap for protective reasons, whereas high self-esteem individuals will self-handicap for acquisitive reasons, i.e. to enhance positive self-attributions resulting from success *in spite* of a handicap. In this scenario, success in spite of self-handicapping is anticipated. Similarly, Tice (1991) has suggested that both low and high self-esteem individuals will self-handicap, but with different motivations. Low self-esteem individuals will self-handicap for self-protective reasons, while high self-esteem individuals will self-handicap for self-enhancing reasons. With different motivational pathways to self-handicapping for people with high and low self-esteem, self-esteem and self-handicapping would be unrelated. That is, it is unclear from different theoretical perspectives whether a relationship between self-handicapping and self-esteem is expected, and what the size of such a relationship might be.

We conduct a meta-analysis of self-esteem and self-handicapping in order to: (a) estimate precisely the effect size overall, as no previous meta-analysis has done this; and (b) use moderator analysis to test which measures of self-handicapping show the strongest associations with self-esteem. We then examine self-concept clarity as a possible mediation of the self-esteem/self-handicapping association.

5.2.4 Self-handicapping and self-concept clarity

While self-esteem forms part of the *content* of the self-concept (an evaluation of the self), self-concept clarity is the extent to which such content is clearly defined, i.e. the

structure of the self-concept (Campbell, 1990; Campbell et al., 1996). A number of researchers have proposed that it is not necessarily *positive* and fragile self-images that predict the use of self-handicapping behaviours, but rather any *uncertain* self-concept (Harris & Snyder, 1986; Rhodewalt, 1990; Thomas & Gadbois, 2007). Harris and Snyder (1986) proposed that the individuals most likely to self-handicap were neither those with very low nor very high self-esteem, but individuals who have “at least some level of self-esteem” (p. 451) and who experience uncertainty about positive performance on evaluative tasks. Self-handicapping allows for performance feedback to be rendered invalid – the source of a failure may be the individual’s ability, or the pre-arranged handicap. It may be that individuals who have an unclear self-concept use self-handicapping to avoid accurate feedback about the self because they fear that it may be negative (Rhodewalt, 1990). Despite these theoretical links between self-concept clarity and self-handicapping, there has been little empirical study of this relationship. We are aware of five published studies that report the correlation between self-concept clarity and self-handicapping (Gadbois & Sturgeon, 2011; Martin et al., 2001; Thomas & Gadbois, 2007; Thompson & Dinnel, 2003). All five studies found a small to moderate negative relationship between the two constructs. We anticipate that self-concept clarity will similarly share a negative relationship with both self-handicapping affect and self-handicapping behaviour in this study. In addition, we propose that self-concept clarity will mediate the relationship between self-esteem and self-handicapping (affect and behaviour), reflecting the importance of an unstable structure of the self-concept as a motivator for self-handicapping compared to solely an evaluation of the self as the motivator for self-handicapping.

5.2.5 The present studies

We investigate the relationships among self-esteem, self-concept clarity, self-handicapping affect, and self-handicapping behaviour in two studies. First, we examine the

magnitude of association between self-esteem and self-handicapping (assessed as a unidimensional construct) using meta-analytic techniques. Second, we test self-concept clarity as a mediator of the relationships between self-esteem and two components of self-handicapping: self-handicapping affect and self-handicapping behaviour.

5.3 Study 1

The primary aim of Study 1 is to conduct a meta-analysis of the extant evidence for the relationship between self-esteem and self-handicapping. The secondary aim of this study is to test for differences in meta-analytic effect size as a function of the self-handicapping measure used. We hypothesise that the SHS will have a stronger relationship with self-esteem than the ASHS, due to its global trait-like conceptualisation of self-handicapping. That is, we expect that self-handicapping measure will moderate the relationship between self-esteem and self-handicapping.

5.3.1 Method

Both PsycINFO and ERIC databases were searched for English language peer-reviewed journal articles published before April 2017 with: (1) article titles containing the words “self” and “handicap*”; or (2) abstracts containing the words “self-handicap*” and “esteem”; or (3) abstracts containing “self-handicap*” and “clari*”; or (4) abstracts containing “self-handicap*” and “stab*”. PsycINFO returned 330 articles, and ERIC returned 85 articles. After discarding duplicate results, 348 articles remained. Studies reporting a zero-order bivariate correlation coefficient for the relationship between self-handicapping and self-esteem were included in the meta-analysis. This yielded 34 articles reporting 43 independent samples for inclusion. Composite correlation coefficients were used if: (a) more than one ‘type’ of self-handicapping (e.g. claimed versus behavioural; see Clarke & MacCann, 2017b) was measured in the same sample ($k = 9$); or, (b) self-esteem was assessed in more than one way ($k = 1$); or, (c) correlations across multiple time points were reported ($k = 2$); or, (d) there was some

combination of these ($k = 1$). Van Rhee, Suurmond, and Hak's (2015) Meta-Essentials tool was used to calculate the mean sample-weighted correlation between self-handicapping and self-esteem using a random effects model based on the Hedges-Olkin approach to meta-analysis (Hedges & Olkin, 1985).

A moderator analysis was conducted in which effect sizes were grouped by the self-handicapping measure used. These measures were: (1) SHS, (2) shortened versions of the SHS (Rhodewalt, 1990; Strube, 1986; Zuckerman, Kieffer, & Knee, 1998), (3) ASHS, and (4) other measures of self-handicapping (e.g. Martin, 2010; Martin & Brawley, 2002). The test for homogeneity of effect sizes suggested that differences between the sub-groups cannot be explained by within-study error alone, $Q_B = 81.01$, $p < .001$.

5.3.2 Results and discussion

Table 5.1 shows the included studies and result of the meta-analysis examining the relationship between self-handicapping and self-esteem. Self-handicapping and self-esteem showed a moderate negative correlation (mean sample-weighted $r = -.34$, $k = 43$, $N = 9736$, 95% C.I.: $-.39$, $-.30$). For studies that used the SHS, the mean sample-weighted correlation between self-handicapping and self-esteem was $-.41$ ($k = 14$, $N = 2525$, 95% C.I.: $-.50$, $-.32$). For studies that used a shortened version of the SHS, the mean sample-weighted correlation was $-.50$ ($k = 5$, $N = 1227$, 95% C.I.: $-.70$, $-.23$). For studies using the ASHS, the mean sample-weighted correlation was $-.21$ ($k = 6$, $N = 1428$, 95% C.I.: $-.30$, $-.11$), and for studies using other measures of self-handicapping, the mean sample-weighted correlation was $-.28$ ($k = 12$, $N = 4095$, 95% C.I.: $-.41$, $-.15$). It is noteworthy that the 95% confidence intervals of the mean sample-weighted correlation coefficients for studies using the SHS compared to the ASHS did not overlap, indicating a difference in these two effect sizes (Lipsey & Wilson, 2001). These scales are the two most commonly used self-handicapping measures.

Table 5.1

Included studies in meta-analysis of the relationship between self-handicapping and self-esteem

Study	<i>r</i>	<i>N</i>	Self-handicapping measure	Self-esteem measure
Alesi, Rappo, & Pepi (2012)	.13	42	Self-handicapping Scale for Children (Waschbusch, Craig, Pelham, & King, 2007)	Multidimensional Test of Self-esteem (Bracken, 1992)
Beck, Koons, & Milgrim (2000) – Study 2	-.50	169	Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982)	Rosenberg Self-esteem Scale (RSE; Rosenberg, 1965)
Callan, Kay, & Dawtry (2014) – Study 6	-.54	139	14-item SHS (Rhodewalt, 1990; Zuckerman, Kieffer, & Knee, 1998)	RSE
Coudevylle, Gernigon, & Martin Ginis (2011)	-.35	68	Claimed Self-handicapping (Martin & Brawley, 2002) – modified	RSE – French (Vallieres & Vallerand, 1990)
Coudevylle, Martin Ginis, & Famose (2008)	-.42 ^a	30	Claimed Self-handicapping (Martin & Brawley, 2002) – modified; Experimental outcome	RSE – French
Feick & Rhodewalt (1997)	-.48	121	SHS	RSE
Ferradás, Freire, Valle, Núñez, Regueiro, & Vallejo (2016)	-.19 ^a	1031	Self-handicapping Scale (Martin, 1998)	RSE
Finez, Berjot, Rosnet, & Cleveland (2011)	-.10	103	Claimed Self-handicapping Scale in Sport (CSHS-S; Finez, 2008)	Self-rating Scale (Fleming & Courtney, 1984) – French (Berjot, Gregg, & Richards, 2004)
Finez, Berjot, Rosnet, Cleveland, & Tice (2012) – Study 1	-.32 ^a	99	CSHS-S	Self-rating Scale – French
Finez et al. (2012) – Study 2	-.16 ^a	107	CSHS-S; Claimed Self-handicapping (Kuczka & Treasure, 2005)	Self-rating Scale – French
Hendrix & Hirt (2009)	-.44	183	SHS	RSE
Martin & Brawley (2002) – Study 1	-.73 ^a	79	Custom scale	RSE – modified (Campbell, Fairey, & Fehr, 1986)
Martin & Brawley (2002) – Study 2	-.27	138	CSH	RSE – modified (Campbell et al., 1986)
Martin, Marsh, & Debus (2001)	-.09 ^a	584	Academic Self-handicapping Scale (ASHS; Midgley & Urdan, 1995; Urdan, Midgley, & Anderman, 1998); 10-item SHS (Strube, 1986)	Self-description Questionnaire II (SDQII; Marsh, 1992)

Study	<i>r</i>	<i>N</i>	Self-handicapping measure	Self-esteem measure
Martin, Marsh & Debus (2003)	-.11 ^a	328	ASHS; 10-item SHS	SDQII
Martin, Nejad, Colmar, & Liem (2013)	-.41	969	Motivation and Engagement Scale (Martin, 2010)	SDQII
McCrea, Hirt, & Milner (2008) – Study 1	-.60	158	SHS	RSE
Mello-Goldner & Jackson (1999)	-.46	75	SHS	State Self-esteem Scale (Heatherton & Polivy, 1991)
Midgley, Arunkumar, & Urdan (1996)	-.14 ^a	112	ASHS	Adolescent Self-esteem Scale (Rosenberg & Simmons, 1973)
Midgley & Urdan (1995)	-.32	256	ASHS	Patterns of Adaptive Learning Scales – Self-worth subscale (Midgley, Maehr, & Urdan, 1993)
Petersen (2014)	-.53	173	SHS	RSE – German (Collani & Herzberg, 2003)
Prapavessis & Grove (1998)	-.37 ^a	109	14-item SHS; Custom scale	RSE – modified
Pulford, Johnson, & Awaidda (2005) – Group 1	-.41	64	SHS	RSE
Pulford et al. (2005) – Group 2	-.34	64	SHS	RSE
Rhodewalt (1994)	-.37	80	SHS	Revised Janis-Field Feelings of Inadequacy Scale (Eagly, 1969)
Rhodewalt & Hill (1995)	-.15 ^a	86	SHS; Claimed Self-handicapping (Strube, 1986)	Texas Social Behavior Inventory (Helmreich & Stapp, 1974); Resultant Self-esteem Scale (McFarland & Ross, 1982)
Richards, Johnson, Collins, & Wood (2002)	-.69	339	14-item SHS	RSE
Schwinger & Stiensmeier-Pelster (2011) – Study 1	-.18	343	ASHS – German (Schwinger & Stiensmeier-Pelster, 2010)	RSE – German (Ferring & Filipp, 1996)
Schwinger & Stiensmeier-Pelster (2011) – Study 2	-.15	167	ASHS – German	RSE – German
Schwinger & Stiensmeier-Pelster (2011) – Study 3	-.27	389	ASHS – German	RSE – German
Strube (1986) – females	-.37	82	SHS	Revised Janis-Field Feelings of Inadequacy Scale
Strube (1986) – males	-.38	86	SHS	Revised Janis-Field Feelings of Inadequacy Scale
Takeuchi et al. (2013)	-.45	185	SHS – Japanese (Numazaki & Oguchi, 1990)	RSE – Japanese (Yamamoto, Matsui, & Yamanari, 1982)
Thomas & Gadbois (2007)	-.10	161	ASHS	RSE
Thompson & Dinnel (2003) – Study 1	-.59	243	Revised Academic Self-handicapping Scale (RASH; Murray & Warden, 1992)	Self-description Questionnaire III (SDQIII; Marsh, 1990)

Study	<i>r</i>	<i>N</i>	Self-handicapping measure	Self-esteem measure
Thompson & Dinnel (2003) – Study 2	-.46	411	RASH	SDQIII
Török, Szabó, & Boda-Ujlaky (2014)	-.44	578	SHS – Hungarian	RSE – Hungarian (Kiss, 2012)
Uysal & Knee (2012) – Study 1	-.52	160	14-item SHS	RSE
Uysal & Knee (2012) – Study 2	-.38 ^a	74	14-item SHS; Claimed Self-handicapping (Strube, 1986)	RSE
Uysal & Knee (2012) – Study 3	-.30 ^a	55	14-item SHS; Experimental outcome	RSE
Warner & Moore (2004)	-.25	337	14-item SHS	RSE
Yavuzer (2015)	.11	507	SHS – Turkish (Akin, 2012)	RSE – Turkish (Çuhadaroglu, 1986)
Zuckerman et al. (1998) – Study 2	-.42 ^a	252	14-item SHS	RSE
Number of studies	43			
Total <i>N</i>	9736			
Mean sample-weighted correlation	-.34			
95% confidence interval	-.39, -.30			

Note. ^a Composite correlation.

Results of our meta-analysis suggest a substantial empirical relationship between self-handicapping and self-esteem, consistent with explanations that self-handicapping is triggered by threats to self-esteem. The difference in effect sizes between self-handicapping measures most likely relates to the specificity of the scales. The ASHS is domain-specific, whereas the SHS is a broad measure of self-handicapping. The ASHS had a weaker correlation with self-esteem than did the SHS. This difference shows that the stronger correlation with academic achievement previously found for the ASHS compared to the SHS is not indicative of across-the-board higher validity for the ASHS compared to the SHS. It may also indicate that self-esteem is more strongly related to the motivational component of self-handicapping than the behavioural component. Each item in the ASHS contains explicit reference to a self-handicapping behaviour, whereas items in the SHS represent a mix of motivational and behavioural content (Clarke & MacCann, 2016). Self-esteem was assessed using the same broad measure (the Rosenberg Self-esteem Scale) in the majority of studies that were included in the meta-analysis (27 of 43).

5.4 Study 2

In this study, we test a model in which self-concept clarity mediates the relationship between self-esteem and self-handicapping. This model is based on the logic that self-esteem is related to self-handicapping due to a need to protect self-worth from threat by evaluation (Berglas & Jones, 1978; Jones & Berglas, 1978). That is, we propose that it is not necessarily the *level* of self-esteem, but the *extent to which evaluations may alter* self-esteem that is the critical predictor of whether an individual will self-handicap. In testing this model, we use a two-factor conceptualisation of self-handicapping, distinguishing between the negative affect brought on by evaluative situations (self-handicapping affect) and the behaviour that is motivated by this affect (self-handicapping behaviour) (Clarke & MacCann, 2016, 2017b).

Clarke and MacCann (2016) found that self-esteem was significantly related to both of these factors.

In this model (see Figure 5.1): (a) self-esteem predicts self-concept clarity, self-handicapping affect, and self-handicapping behaviour; (b) self-concept clarity predicts both self-handicapping affect and behaviour; and (c) self-handicapping affect predicts self-handicapping behaviour (in line with its purported role as a motivator of such behaviour). Our hypotheses concern the role of self-concept clarity as a mediator. Specifically, we hypothesise that self-concept clarity will mediate the effect of self-esteem on both self-handicapping affect (Hypothesis 1) and self-handicapping behaviour (Hypothesis 2).

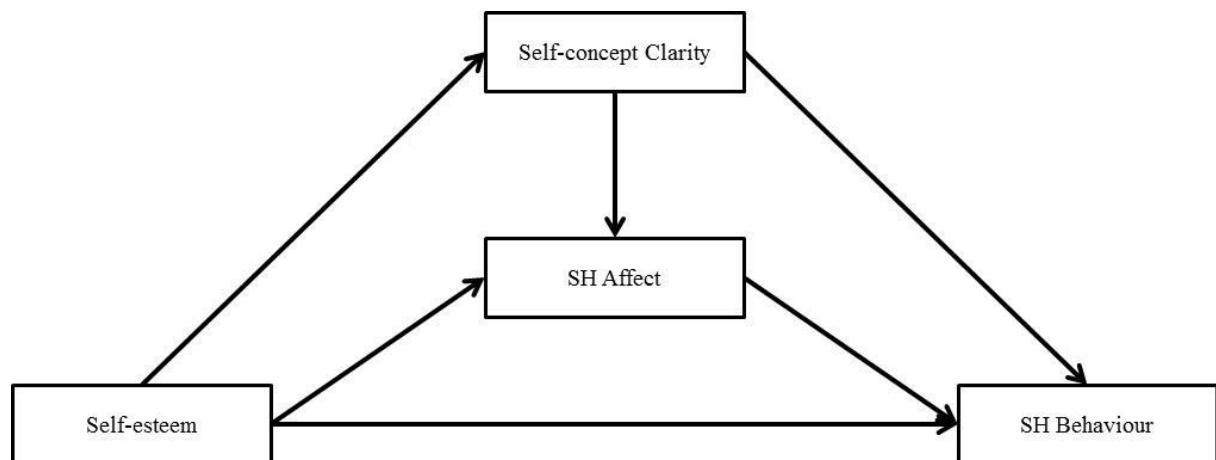


Figure 5.1. Hypothesised path model in which self-concept clarity and self-handicapping affect mediate the relationship between self-esteem and self-handicapping behaviour, and self-handicapping affect mediates the relationship between self-concept clarity and self-handicapping behaviour.

5.4.1 Method

5.4.1.1 Participants

Participants were 484 undergraduates (64.9% female) at a large university in Sydney, Australia. Participant age ranged from 17 to 60 years ($M = 19.70$, $SD = 3.79$). Most

participants received course credit in exchange for participation. The remaining participants received no incentive ($n = 15$).

5.4.1.2 Measures

5.4.1.2.1 Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982)

The SHS contains 25 items and uses a six-point response scale ranging from (1) ‘strongly disagree’ to (6) ‘strongly agree’. Two subscales of the SHS were used for analysis – Self-handicapping Affect (8 items, e.g. “I tend to get very anxious before an exam or ‘performance’”), and Self-handicapping Behaviour (5 items, e.g. “I tend to put things off to the last moment”) (Clarke & MacCann, 2016, 2017b).

5.4.1.2.2 Rosenberg Self-esteem Scale (Rosenberg, 1965)

This 10-item questionnaire uses a four-point response scale ranging from (1) ‘strongly disagree’ to (5) ‘strongly agree’, and assesses global self-esteem. An example item is, “On the whole, I am satisfied with myself” (item 1).

5.4.1.2.3 Self-concept Clarity Scale (SCCS; Campbell et al., 1996)

The SCCS is a 12-item questionnaire that assesses the clarity of an individual’s self-concept using items such as, “In general, I have a clear sense of who I am and what I am” (item 11). Higher scores indicate a more stable self-concept. The SCCS uses a five-point response scale ranging from (1) ‘strongly disagree’ to (5) ‘strongly agree’.

5.4.1.3 Procedure

Responses were unproctored and collected online using Qualtrics. The responses formed part of a larger data set, which included additional measures of academic behaviours, beliefs and motivations, used for different studies (Clarke & MacCann, 2016, 2017b). The full protocol took approximately one hour to complete. This study received approval from the Human Research Ethics Committee at the first author’s institution.

5.4.1.4 Analysis

Path analyses were conducted using IBM SPSS AMOS version 19. Follow-up mediation analyses were conducted using Hayes' (2013) PROCESS macro for SPSS version 2.16.3. All other analyses were conducted using IBM SPSS version 24. No data were missing as participants were required to respond to all items in the protocol.

5.4.2 Results and discussion

5.4.2.1 Descriptive statistics, reliability, and correlations

Descriptive statistics, Cronbach's alpha, and inter-correlations among all scales used in this study are shown in Table 5.2. Internal consistency was acceptable in all cases, ranging from .73 to .90. Both self-handicapping behaviour and self-handicapping affect were significantly negatively correlated with both self-esteem and self-concept clarity. These correlations were of large effect size for self-handicapping affect, and medium effect size for self-handicapping behaviour.

Table 5.2

Descriptive statistics and correlations among all variables used in analyses

	Mean	SD	N	α	Mean inter-item r	1.	2.	3.
1. SH behaviour	3.82	0.81	482	.73	.35			
2. SH affect	3.53	0.82	482	.77	.29	.23**		
3. Self-esteem	2.80	0.52	482	.90	.47	-.26**	-.65**	
4. Self-concept clarity	2.90	0.71	483	.88	.38	-.32**	-.54**	.61**

Note. SH = self-handicapping.

** $p < .01$ (two-tailed).

5.4.2.2 Mediation analysis

A just-identified path model was tested using IBM SPSS AMOS version 19 with 5000 bootstrap samples to calculate effects and 95% confidence intervals. In this model: (1) self-handicapping behaviour was regressed on self-handicapping affect, self-concept clarity, and

self-esteem; (2) self-handicapping affect was regressed on self-concept clarity and self-esteem; and (3) self-concept clarity was regressed on self-esteem (see Figure 5.1). This model explained 37.0% of the variance in self-concept clarity, 45.4% of the variance in self-handicapping affect, and 11.1% of the variance in self-handicapping behaviour. The results are shown in Figure 5.2. Self-esteem significantly positively predicted self-concept clarity and significantly negatively predicted self-handicapping affect. Self-concept clarity in turn significantly negatively predicted both self-handicapping affect and self-handicapping behaviour. Lastly, neither self-esteem nor self-handicapping affect significantly predicted self-handicapping behaviour.

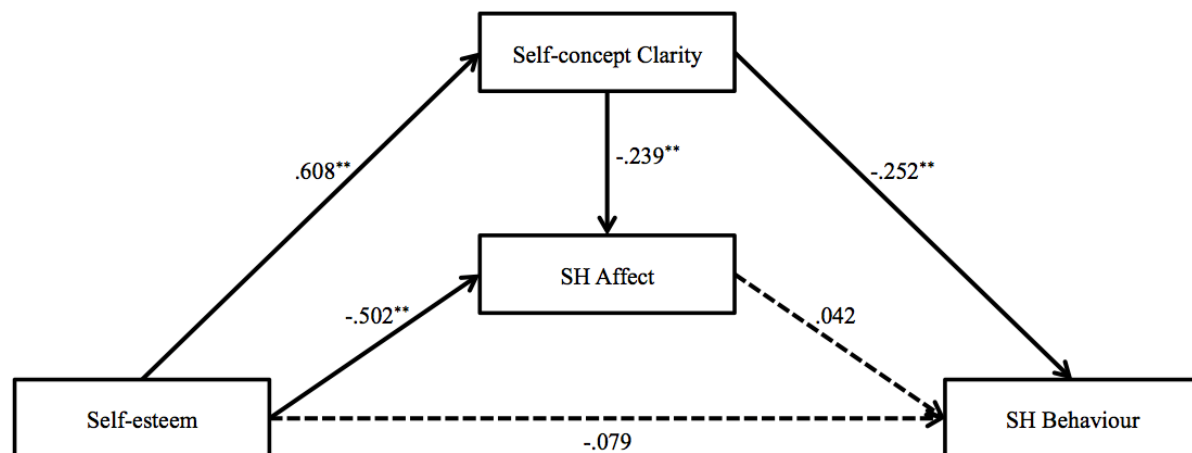


Figure 5.2. Empirical results of a path model in which self-concept clarity and self-handicapping affect mediate the relationship between self-esteem and self-handicapping behaviour, and self-handicapping affect mediates the relationship between self-concept clarity and self-handicapping behaviour. Standardised values are shown. Dotted paths denote $p > .05$. SH = self-handicapping. $N = 481$.

** $p < .01$ (two-tailed).

Self-concept clarity significantly mediated the relationship between self-esteem and self-handicapping affect (standardised indirect effect = $-.145$, $p < .001$; 95% CI: $-.211$, $-.086$). Self-concept clarity also significantly mediated the relationship between self-esteem and self-

handicapping behaviour (standardised indirect effect = $-.180$, $p = .001$; 95% CI: $-.264$, $-.091$).

These effects support Hypothesis 1 and Hypothesis 2. Self-handicapping affect did not significantly mediate the relationship between self-concept clarity and self-handicapping behaviour ($p = .425$; 95% CI: $-.045$, $.016$). Follow up analyses using Hayes' (2013)

PROCESS macro for SPSS version 2.16.3 separately tested the significance of the three different indirect pathways from self-esteem to self-handicapping behaviour: (a) The path from self-esteem to self-concept clarity to behaviour; and (b) the path from self-esteem to self-handicapping affect to self-handicapping behaviour; and (c) the multiple-mediator pathway from self-esteem to self-concept clarity to self-handicapping affect to self-handicapping behaviour. Indirect effect (a) was significant (standardised indirect effect = $-.153$, $p < .001$; 95% CI: $-.223$, $-.088$). Indirect effect (b) was not significant (standardised indirect effect = $-.021$, $p = .486$; 95% CI: $-.080$, $.038$) and indirect effect (c) was also not significant (standardised indirect effect = $-.006$, $p = .512$; 95% CI: $-.027$, $.010$). That is, results demonstrate that the major indirect effect of self-concept clarity on self-handicapping behaviour occurred for a pathway through self-concept clarity. This outcome suggests that self-concept clarity is the critical determinant of whether people will self-handicap.

Both hypotheses were supported, suggesting that self-concept clarity is an important predictor of both self-handicapping affect and self-handicapping behaviour. Self-concept clarity mediated the effect of self-esteem on both aspects of self-handicapping (affect and behaviour). Higher levels of self-esteem (i.e. more positive self-esteem) were associated with higher levels of self-concept clarity (i.e. a more clearly defined and stable self-concept), which together diminish the negative affect an individual may feel toward an upcoming evaluative event (i.e. self-handicapping affect).

Surprisingly, the effect of self-handicapping affect on self-handicapping behaviour was not significant in the path analysis, despite a significant zero-order correlation. Once the

effects of self-concept clarity on both self-handicapping affect and self-handicapping behaviour were accounted for, there was no longer a significant relationship between self-handicapping affect and self-handicapping behaviour. That is, self-concept clarity appears to be a very powerful construct for explaining why people self-handicap. Self-concept clarity appears to account for the negative affect brought on by evaluative situations, such that self-concept clarity predicts self-handicapping behaviour more strongly than self-handicapping affect does.

5.5 General discussion

5.5.1 Self-concept clarity, self-esteem, and self-handicapping

Self-esteem and self-concept clarity, although empirically related, are theoretically distinct. Campbell and colleagues (Campbell, 1990; Campbell et al., 1996) have stated that self-esteem is part of the contents of the self-concept (the evaluations of the self), whereas self-concept clarity is a structural aspect of the self-concept (the stability of the contents). The two constructs, however, share a strong empirical association due to both being related to the self (Campbell, 1990; Thomas & Gadbois, 2007). Despite these close empirical and theoretical links, we found that self-concept clarity significantly mediated the effect of self-esteem on both self-handicapping behaviour and self-handicapping affect. This suggests that the *structure* of the self-concept is an important predictor of self-handicapping in addition to the *content* of the self-concept (self-esteem), in line with the conceptual distinction between the structure and the content of the self proposed by Campbell and colleagues (Campbell, 1990; Campbell et al., 1996).

Berglas and Jones (Berglas & Jones, 1978; Jones & Berglas, 1978) suggested that individuals self-handicap to protect positive but uncertain self-image. Unstable self-image is more vulnerable to revision by feedback from evaluative events than stable self-image, and thus such events would pose more of a threat to individuals with unstable self-concept. In a

related hypothesis, Snyder and Higgins (1988) postulated that low self-esteem individuals encounter more situations in which they are uncertain about the likelihood of a preferred outcome relative to individuals with higher self-esteem. In both hypotheses, certainty rather than valence of self-concepts and self-evaluations was the key driver of self-handicapping. This suggests that independent of level of self-esteem, uncertain positive or negative self-concepts would lead an individual to self-handicap. Our results showed that positive self-esteem is related to lower levels of self-handicapping (Study 1 and Study 2), and that positive self-esteem is related to stable self-concept (Study 2). The stability of self-concept accounted for the negative effect of self-esteem on self-handicapping (Study 2). Specifically, self-concept clarity fully mediated the negative effect of self-esteem on self-handicapping behaviour. This may suggest that self-concept clarity influences individuals' self-handicapping behaviour, potentially overriding the effects of self-esteem and task-contingent negative affect.

5.5.2 Self-handicapping behaviour and self-handicapping affect

The results of this study provided additional evidence for the distinction between self-handicapping behaviour and self-handicapping affect. Both had negative correlations with self-esteem and self-concept clarity, however the magnitude of these relationships was greater for self-handicapping affect than self-handicapping behaviour. Both self-handicapping affect and self-handicapping behaviour were significantly predicted by self-concept clarity, but only self-handicapping affect was significantly predicted by self-esteem. However, there was a non-significant effect of self-handicapping affect on self-handicapping behaviour in the tested path model. This is despite a significant correlation between the two factors. When self-handicapping affect was considered in conjunction with self-concept clarity and self-esteem, only self-concept clarity significantly predicted self-handicapping behaviour. This is despite a robust relationship between self-esteem and self-handicapping (as demonstrated in Study 1),

and despite the strong conceptual links and methodological similarities of self-handicapping affect and behaviour. The fact that self-concept clarity can completely account for these well-known and robust effects suggests that this variable is the key to understanding why people introduce handicaps in the face of evaluative situations.

5.5.3 Limitations and future directions

In this study, both self-esteem and self-concept clarity were conceptualised as *preceding* self-handicapping. However, this study utilised a cross-sectional design. Furthermore, it is likely that there are reciprocal relationships between self-esteem and self-handicapping, self-concept clarity and self-handicapping, and also self-esteem and self-concept clarity. There have been limited attempts to model these reciprocal relationships in longitudinal models (e.g. Martin, Marsh, & Debus, 2003).

The prediction of self-handicapping behaviour from self-handicapping affect did not reach statistical significance in the tested path model. While this may be due to the explanatory power of self-concept clarity, we also suggest that this may be due to inadequate construct coverage in the content of the SHS, from which these factors are drawn. The SHS was not developed with a distinction between behaviour and affect in mind. These factors are the result of subsequent structural analyses, and although these factors have evidence for their validity and substantive meaning, the item content in each factor could be more distinct. Future researchers may consider developing the self-handicapping behaviour and self-handicapping affect factors of the SHS to more explicitly cover these domains.

Given the results of this study, we suggest that future researchers include self-concept clarity as an important predictor of self-handicapping when examining the roles of self-concept and self-esteem in the self-handicapping process. Furthermore, given the results of our meta-analyses, choice of self-handicapping measure is an important consideration when examining the relationship between self-esteem and self-handicapping. The mean sample-

weighted correlation between self-handicapping and self-esteem significantly differed when using the SHS compared to the ASHS.

Lastly, in identifying self-concept clarity as a key driver of self-handicapping, future research could: (a) use (lack of) self-concept clarity to identify individuals or groups who are at particular risk of self-handicapping; and (b) develop interventions that focus on developing self-insight and a stable sense of self rather than building self-esteem.

5.5.4 Conclusions

Self-esteem and self-handicapping are negatively related, and this association is moderated by the scale used to assess self-handicapping. Including self-concept clarity as a mediator of the relationship between self-esteem and self-handicapping revealed important substantive information about the motivators of self-handicapping. Self-concept clarity is an important driver of self-handicapping, in this study mediating the relationship between self-esteem and self-handicapping affect, and fully mediating the relationship between self-esteem and self-handicapping behaviour. We argue that self-concept clarity is more theoretically relevant to self-handicapping than is self-esteem, where the *stability* of self-evaluations are more predictive of self-handicapping than the valence of such self-evaluations.

CHAPTER 6: Thesis Discussion

6.1 Summary of findings

The broad aim of this thesis was to investigate self-handicapping as a multifaceted phenomenon that occurs in response to threat from particular situational cues. Specifically, this thesis focused on the multifaceted nature of self-handicapping as observed in a tertiary education setting. In four empirical studies, validity evidence for a two-factor model of self-handicapping was examined. These two factors, it is proposed, represent self-handicapping behaviour and self-handicapping affect. These two factors are empirically and substantively distinct. It is proposed that self-handicapping affect reflects task-contingent negative affect experienced by an individual in the lead-up to an evaluative event. It is further proposed that such self-handicapping affect drives self-handicapping behaviour, which comprises the handicap to successful performance at the evaluative event. This chapter firstly presents a summary of the empirical findings of this thesis (see Table 6.1), and then presents an expanded process model of self-handicapping, centred around the two-factor distinction between self-handicapping affect and self-handicapping behaviour.

6.1.1 Measuring self-handicapping

In Chapter 2 (Clarke & MacCann, 2016), two factors representing internal and external aspects of self-handicapping were extracted from a common self-report measure of self-handicapping – the Self-handicapping Scale (SHS; Jones & Rhodewalt, 1982). It was proposed that these factors represent internal elements of self-handicapping (self-handicapping affect) and external elements of self-handicapping (self-handicapping behaviour). That is, self-handicapping affect reflected the affective motives for self-handicapping behaviours, whereas self-handicapping behaviour represented the behaviours themselves. Both factors understandably had very strong relationships with the SHS. Despite

this, the two factors only shared a small to moderate association. Preliminary validity evidence for the distinction between these two factors was presented. Self-handicapping affect and self-handicapping behaviour had significantly and substantively different relationships with other constructs that form part of the nomological network of self-handicapping. In particular, self-handicapping affect was more strongly related to emotional stability and self-esteem than self-handicapping behaviour, whereas self-handicapping behaviour was more strongly related to procrastination and conscientiousness. Both factors significantly contributed to the incremental prediction of academic achievement. It was proposed that self-handicapping be conceptualised as a multifaceted process in which the facets reflect behaviours, affect, and cognitions.

Following the results and recommendations of Chapter 2, a scale assessing self-handicapping behaviours was created and presented in Chapter 3. This scale – the Change in Behaviours Scale (CBS) – focused only on the behavioural facet of self-handicapping. Self-handicapping behaviours, rather than the motivations for these behaviours, were selected as the construct of interest due to the wide range of possible self-handicapping motivations that exist. Such motivations, e.g. self-esteem, self-concept clarity, and achievement goal orientations, can be assessed via existing scales. Further methodological considerations that were accounted for in the development of the CBS include: (a) capturing respondents' baseline frequency of potentially self-handicapping behaviours, and (b) developing unambiguous, single-clause items. Although a measurement model with acceptable model fit was reached, many items from the original content pool were discarded in the process. In addition, the CBS showed only moderate levels of construct validity. Evidence for the validity of the CBS included: (1) significant small to moderate positive correlations with the SHS and both the internal and external self-handicapping factors (affect and behaviour respectively); (2) a significant moderate positive correlation with a general measure of maladaptive

behaviours, and a non-significant positive correlation with a general measure of maladaptive cognitions; (3) a significant but small negative correlation with conscientiousness; (4) a significant small to moderate negative correlation with emotional stability; (5) a non-significant negative correlation with self-esteem; and (6) a significant small negative correlation with assignment grade. However evidence for the validity of the CBS was not supported by: (1) a non-significant difference between the correlations of the CBS with Self-handicapping Internal and with Self-handicapping External; (2) a non-significant negative correlation with end of semester grade; and (3) a non-significant difference between CBS scores for females and males. The proposed limitations of the CBS were attributed to overly specific content framing (a scenario where students imagined submitting an assignment), and instructions presented during the administration of the scale to respondents (i.e., respondents were asked to report on a change in behaviours, which may have been too cognitively demanding to result in reliable measurement for all participants).

Given the limitations of the CBS presented in Chapter 3, it was decided that no further development of the CBS would take place. Instead, focus was returned to the two subscales identified in Chapter 2. A closer examination of the item content for each of these two factors revealed that the first factor (originally labeled Self-handicapping Internal in Chapter 2) appeared to reflect task-contingent negative affect. That is, when faced with an evaluative event, the degree to which individuals experience negative affect toward the upcoming event (self-handicapping affect) influences self-handicapping behaviour. Self-handicapping Internal was renamed self-handicapping affect, and Self-handicapping External renamed self-handicapping behaviour.

6.1.2 Self-handicapping and achievement goal orientations

Two studies were presented in Chapter 4 (Clarke & MacCann, 2017b). Study 1 included a meta-analysis of the relationships between self-handicapping and four achievement goal

orientations. No published meta-analysis of these relationships existed prior to this. The meta-analysis revealed that self-handicapping, as has been previously hypothesised, is positively and moderately related to performance avoidance goals. A small to moderate negative relationship between mastery approach goals and self-handicapping was also found. No significant relationship between self-handicapping and performance approach goals was found. Finally, a small to moderate positive relationship between self-handicapping and mastery avoidance goals was found. To further investigate the relationship between self-handicapping and performance approach goals, a post hoc analysis tested the moderating effect of measure of achievement goal orientation used. The correlation between performance approach goals and self-handicapping differed (ranging from $r = -.07$ to $.15$) depending on which achievement goal orientation measure was used, but these differences were not statistically significant.

In the second part of Study 1, a meta-analytically derived path model was tested. The path model represented the predictive relationship from achievement goal orientations to academic achievement, mediated by self-handicapping. Self-handicapping mediated the effects of mastery approach, mastery avoidance, and performance avoidance goals on academic achievement. There was full mediation in the case of mastery approach goals, such that mastery approach goals were not significant predictors of academic achievement once self-handicapping was included as a mediator. Self-handicapping contributed to the negative effects of both avoidance-motivated goals on academic achievement, and negated the positive effect of mastery approach goals on academic achievement.

In Study 2, original empirical data was used to test an extension of the Study 1 path model. Self-handicapping was separated into behavioural and affective components. Self-handicapping affect significantly mediated the effect of both performance approach and performance avoidance goals on self-handicapping behaviour, fully mediating the relationship

for performance avoidance goals. Self-handicapping affect and self-handicapping behaviour together significantly mediated the effect of mastery approach, performance approach, and performance avoidance goals on academic achievement, supporting the results of Study 1 for mastery approach and performance avoidance goals. Performance approach goals had significant positive direct and indirect effects on academic achievement, suggesting that performance approach goals protect against the detrimental effects of self-handicapping on achievement.

Self-handicapping was found to have a negative relationship with mastery approach goals, and a positive relationship with performance avoidance goals across both a meta-analysis of 43 independent samples, and original empirical data. Similarly, mastery approach goals protected against self-handicapping and had a positive indirect effect on academic achievement, whereas performance avoidance goals facilitated self-handicapping and had negative direct and indirect effects on academic achievement. These results were consistent across both a model testing meta-analytically derived estimates, and a model testing original empirical data. These findings together lend support to the hypotheses made by Chen, Wu, Kee, Lin, and Shui (2009) that avoidance-motivated goals predict greater self-handicapping, whereas approach-motivated goals would protect against self-handicapping. They reasoned that self-handicapping is motivated by fear of failure, and avoidance goals are the mechanism by which this fear drives self-handicapping. The findings of this thesis are also consistent with Urdan and Midgley (2001), who hypothesised that performance goals would motivate self-handicapping, whereas mastery goals would protect against self-handicapping. This is due to the inherent evaluative nature of performance, and the fact that mastery goals emphasise applying effort, thus preventing the use of self-handicapping.

Further, this thesis found evidence for a small to moderate positive relationship between self-handicapping and mastery avoidance goals, suggesting that it is the avoidance (versus

approach) aspect of achievement goal orientations that relates to self-handicapping. However, no relationship was found between self-handicapping and performance approach goals in a meta-analysis of 26 studies. Although self-handicapping did facilitate a positive indirect effect of performance approach goals on academic achievement.

It may be that both Chen, Wu, et al. (2009) and Urdan and Midgley (2001) are correct in their suppositions, and thus the strongest effects between achievement goals and self-handicapping are seen for mastery approach and performance avoidance goals, best representing the protective effects of both mastery goals and approach motivations, and the facilitating effects of both performance goals and avoidance motivations. This may also explain why both in this thesis and in extant research, results concerning mastery avoidance and performance approach goals have been mixed or non-significant. Future research may wish to focus specifically on the role of mastery avoidance and performance approach goals in order to clarify the mastery-performance versus approach-avoidance accounts of self-handicapping motivations.

6.1.3 Self-handicapping, self-esteem, and self-concept clarity

Two studies were presented in Chapter 5 (Clarke & MacCann, 2017a). Study 1 included a meta-analysis of the relationship between self-handicapping and self-esteem, and a subgroup analysis examining the moderating effect of self-handicapping measure used. No published meta-analysis of this relationship existed prior to this. The meta-analysis revealed that self-handicapping is negatively and moderately related to self-esteem. In addition, the correlation between self-handicapping and self-esteem was significantly larger for studies using the SHS than studies using the Academic Self-handicapping Scale (ASHS; Midgley, Arunkumar, & Urdan, 1996; Midgley & Urdan, 1995; Urdan, Midgley, & Anderman, 1998).

In Study 2, a model was tested in which self-concept clarity mediated the effect of self-esteem on self-handicapping. Self-concept clarity significantly mediated the effect of self-

esteem on both self-handicapping affect and self-handicapping behaviour. The significant zero-order relationship between self-esteem and self-handicapping behaviour, and between self-handicapping affect and self-handicapping behaviour were reduced to non-significance in the mediation model. Self-concept clarity fully mediated the effect of self-esteem on self-handicapping behaviour, demonstrating its importance as a motive for self-handicapping.

Although these findings cannot elucidate the precise mechanism by which *self-esteem* motivates self-handicapping, it is clear that those with lower levels of self-esteem are likely to engage in more self-handicapping. This means that self-handicapping *purely* for the purposes of either self-esteem enhancement or defending a *positive* self-image, are unlikely. Further, irrespective of an individual's level of self-esteem, the clarity and stability of their self-concept may be a more important driver of self-handicapping behaviour. It was found that self-concept clarity completely accounted for the effect of self-esteem on self-handicapping behaviour. Many researchers have argued that the relationship between self-esteem and self-handicapping differs according to the motive for self-handicapping (Finez, Berjot, Rosnet, Cleveland, & Tice, 2012; Tice, 1991), and that thus self-handicapping is independent of level of self-esteem (Rhodewalt, 1990; Urdan & Midgley, 2001). Given the results of this thesis, it may be that this motive is an instability of self-image. This is discussed in further detail below.

However, it must be emphasised that the relationships among self-esteem, self-concept clarity, and self-handicapping are likely reciprocal. This has implications for methodological considerations in future research. In this thesis, all three constructs were measured at the same time point. Future research should investigate longitudinal and reciprocal models of self-esteem, self-concept clarity, and self-handicapping.

6.1.4 Synthesis of empirical findings

Across the four empirical chapters of this thesis, self-handicapping was shown to have clear relationships with: (a) Big Five personality (particularly with lower levels of conscientiousness and emotional stability); (b) achievement goal orientations (specifically, lower levels of mastery approach goals, and greater avoidance goals); and (c) self-esteem and self-concept clarity. Separate analysis of self-handicapping affect and self-handicapping behaviour demonstrated that some of these relationships are influenced by affect whereas others are based on behaviour. A summary of these empirical findings is shown in Table 6.1. In particular, emotional stability, extraversion, performance avoidance goals, self-esteem, and self-concept clarity related more strongly to self-handicapping affect than to self-handicapping behaviour. That is, these traits that relate to positive and negative affect, and to positive or negative beliefs about the self are integral to understanding why people differ in their emotional reactivity to evaluative situations. In contrast, *engaging* in self-handicapping behaviours is influenced more by tendencies representing action and personal agency – lack of conscientiousness, and low levels of mastery approach goals. Procrastination (the most commonly instantiated self-handicapping behaviour) was also, unsurprisingly, related more strongly to self-handicapping behaviour than to self-handicapping affect. Performance on a cognitive ability test (Chapter 2) displayed the opposite pattern of relationships with self-handicapping affect compared to self-handicapping behaviour. Although these relationships were small, performance on the Esoteric Analogies Test was positively related to self-handicapping behaviours but negatively related to self-handicapping affect.

Table 6.1

Summary of correlations from Chapters 2 to 5

	1.	2.	CBS ^b	Self-handicapping meta-analysis ^e
1. Self-handicapping Internal/affect			.16*	
2. Self-handicapping External/behaviour	.23**		.17*	
Self-handicapping Scale ^{a, c}	.80**	.66**	.24**	
Academic Self-handicapping Scale ^a	.34**	.33**		
Procrastination ^a	.21**	.67**		
Maladaptive behaviours			.31**	
Maladaptive cognitions			.13	
Extraversion ^a	-.33**	-.11*		
Agreeableness ^a	-.14**	-.15**		
Conscientiousness ^a	-.29**	-.58**	-.15*	
Emotional stability ^a	-.53**	-.25**	-.23**	
Openness to experience ^a	-.03	-.06		
Mastery approach goals ^c	-.02	-.34**		-.22 [†]
Mastery avoidance goals ^c	.07	-.22**		.24 [†]
Performance approach goals ^c	-.01	-.20**		.03
Performance avoidance goals ^c	.17**	-.07		.30 [†]
Self-esteem ^{a, d}	-.65**	-.26**	-.10	-.34 [†]
Self-concept clarity ^d	-.54**	-.32**		
Esoteric Analogies Test ^a	-.11*	.10*		
Grades ^{a, c}	-.23**	-.25**	-.11	
Assignment grade			-.14*	

Note. CBS = Change in Behaviours Scale.

* $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

[†] 95% confidence interval does not include zero.

^a Reported in Chapter 2, $N = 457-484$. ^b Reported in Chapter 3, $N = 205-206$. ^c Reported in Chapter 4, $N = 455-481$. ^d Reported in Chapter 5, $N = 482-483$. ^e Mean sample-weighted correlation. For details regarding N and k , see Chapters 4 and 5.

Taken together, these results suggest that different people may have different pathways toward self-handicapping. Highly emotional people (people low on extraversion, high on neuroticism), and people with low or fragile views of themselves (people low on self-esteem and self-concept stability) may be more emotionally reactive to evaluative situations, and it is the indirect pathway (through self-handicapping affect), that may lead such individuals to engage in self-handicapping behaviours. On the other hand, other individuals who are lower in personal agency, such as mastery approach goals, conscientiousness, and higher in procrastination, may directly engage in self-handicapping behaviours, which are less influenced by the affective reactions to evaluative situations.

6.2 A revised definition of self-handicapping

In the introduction to this thesis, self-handicapping was defined as the phenomenon in which: (a) an individual creates a handicap for themselves; (b) they do this *prior* to an upcoming event at which they perceive they will be evaluated (e.g. an exam, turning in an assignment, a performance, a sporting match, a romantic date); and (c) the potential for a negative evaluation poses a threat to the individual's sense of self-worth. In creating this handicap, the individual: (d) reduces the threat to self-worth that is posed by evaluations; because (e) the individual's performance at the evaluative event is no longer a reflection of their innate traits and abilities alone; because (f) the individual's performance may also be the result of the fact that a handicap was present.

Given the findings of this thesis, it is proposed that in the process outlined above: part (a) represents the behavioural component of self-handicapping; part (b) represents the situational factors that shape self-handicapping; parts (c) and (d) represent the affective component of self-handicapping; and parts (e) and (f) represent the cognitive components of self-handicapping. Thus, self-handicapping is a process that involves specific situational factors that trigger both self-handicapping cognitions and self-handicapping affect. These

cognitions and affect drive self-handicapping behaviours. This process is represented graphically in Figure 6.1. Each component is discussed below.

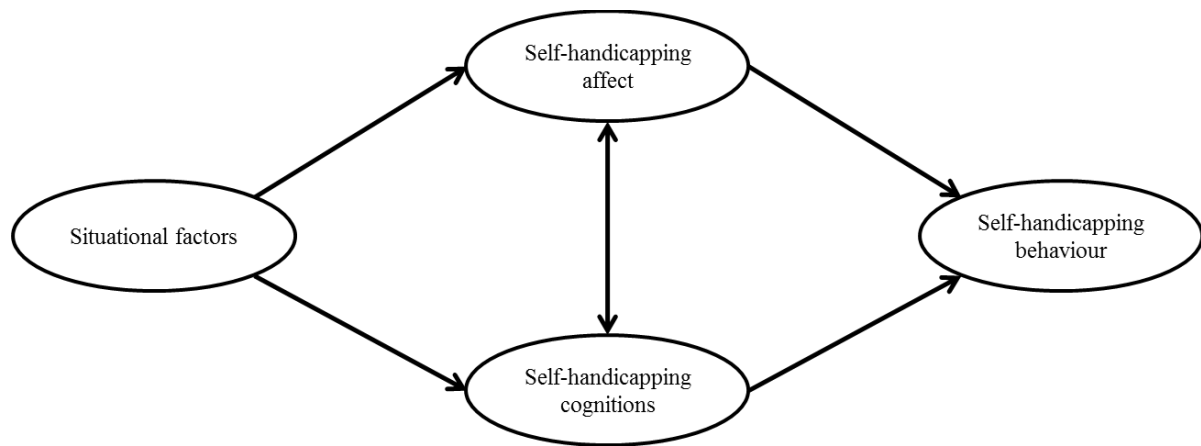


Figure 6.1. Graphical representation of the process of self-handicapping in which situational factors trigger both self-handicapping affect and self-handicapping cognitions, which in turn drive self-handicapping behaviours.

6.2.1 Situational factors in self-handicapping

Certain situational factors are necessary for self-handicapping to take place. First and foremost, there needs to be an event at which the individual will be evaluated. However, not all evaluative scenarios should theoretically elicit self-handicapping. Certain situational features may make self-handicapping more likely (Snyder, 1990). For example, a task that an individual has never encountered before might raise uncertainty about the likely outcome. A very difficult task may also result in uncertainty. In addition, evaluative events that are high-stakes and centrally important to an individual's identity have wider and more severe implications if performance is poor. Paradoxically, by self-handicapping an individual trades better performance for self-protection. At some point, situational features such as task importance should predict that an individual *does not* self-handicap, because good performance is so important that the trade-off is no longer desirable.

Second, self-handicapping occurs *prior* to the evaluative event, and in this way is distinct from post hoc attributions or rationalising. Presumably there must be sufficient time before the evaluative event in which an individual is able to self-handicap. For example, a surprise in-class formative test cannot elicit self-handicapping, because the evaluative event has not been anticipated by the individual. In this scenario, an individual might instead rationalise poor performance once their quiz grade is returned.

6.2.2 Cognitive components of self-handicapping

Situational factors such as those outlined above elicit ‘self-handicapping cognitions’. Self-handicapping has been theoretically linked to principles of augmenting and discounting (Higgins & Berglas, 1990). When an individual self-handicaps, they *discount* ability (or other trait) attributions for poor performance, but *augment* ability attributions for good performance (Kelley, 1971). In order for the principles of discounting/augmenting to effectively protect an individual’s self-image, the individual must hold certain beliefs that make such attributions successful. Valuing ability over effort, and holding a fixed entity view of ability are the primary beliefs that have been linked with self-handicapping (McCrea, Hirt, & Milner, 2008; Rhodewalt & Vohs, 2005).

A fixed entity view of ability is a set of beliefs that are centred on the notion that intelligence is a trait that cannot be modified (Dweck, 2000). Individuals with a fixed entity view believe that people are born with a set level of intelligence, and that this level cannot be changed. Rhodewalt and Vohs state that, “a fixed entity view of ability requires less attention to contextual and motivational influences on performance” (2005, p. 558). Individuals that hold a fixed entity view have little need to learn about contingencies (e.g. the contingency between practice and subsequent performance), because practice, effort, and persistence do not have as much bearing on performance as does one’s pre-existing ability. Thus, individuals

who value the contribution of ability to performance outcomes over that of effort are more likely to self-handicap.

Berglas and Jones (1978) have proposed that not only do individuals with a tendency to self-handicap believe they have a fixed level of ability, but that this level of ability has been reinforced as a central component of their identity. Thus, self-handicapping is used to protect threats to perceived ability, which defines the individual's self-worth. Valuing of ability over effort is also related to the literature on achievement goal orientation. According to Dweck (1986) implicit beliefs about ability orient individuals toward specific achievement goals, where those with a fixed entity view of ability endorse performance goals. Associations among performance goal orientation, fixed entity beliefs about ability, and greater self-handicapping behaviour have been demonstrated empirically (McCrea, Hirt, & Milner, 2008; Ommundsen, 2001; Rhodewalt, 1994). Conversely, holding an incremental view of ability – the belief that intelligence and ability is changeable, means that effort is valued over ability, and is thus linked to mastery goal orientations. Such beliefs and goals predict less self-handicapping (Ommundsen, 2001).

This thesis has provided evidence that uncertain self-concept motivates self-handicapping behaviour. More broadly, uncertainty could stem from the perception that one has no control over future outcomes (Martin, Marsh, & Debus, 2003). For example, students who attribute favourable academic outcomes to external factors such as luck, good teaching, or easy marking, perceive little or no control over their ability to maintain success (or avoid failure). This is similar to 'impostor beliefs', in which individuals perceive that their achievements have come about due to external factors (e.g. being in the right place at the right time) and thus feel like 'impostors' amongst their peers (Clance & Imes, 1978). Impostor beliefs have been linked to greater self-handicapping (Cowman & Ferrari, 2002; Ferrari & Thompson, 2006; Want & Kleitman, 2006). Weidner (1980) proposed that uncertainty about

performance outcomes, coupled with an intolerance for such ambiguity will predict self-handicapping behaviours because the intolerance leads to active creation of a handicap in order to have an explicit attribution for any resulting performance. Evidence for the role of uncertainty as a primary motive for self-handicapping behaviour was presented in Chapter 5. A lack of self-concept clarity fully mediated the effect of negative self-esteem on greater self-handicapping behaviour, in the process accounting for the effect of self-handicapping affect on behaviour.

It is proposed that self-handicapping behaviours are also driven by a cognitive component. This cognitive component is likely to consist of faulty or maladaptive cognitions such as fixed entity views of ability, valuing ability over effort, or impostor beliefs. Thus, these self-handicapping cognitions are primarily concerned with thoughts and beliefs about ability and agency. Such cognitions affect an individual's assessment of how much control the individual has over their performance; how efficacious effort will be in bringing about a desired outcome; and how harmful potentially negative evaluations will actually be to the self. Thus, it is possible that self-handicapping behaviours could be minimised by reshaping these maladaptive cognitions. One way that this could be achieved is through metacognitive interventions.

Broadly speaking, metacognition is the monitoring and control of one's own cognition (Efklides, 2008). There are several ways in which metacognition may relate to the self-handicapping process. On one hand, a certain level of metacognitive ability might be required in order to identify tasks in which one is likely to fail (thereby initiating the self-handicapping behaviour). However on the other hand, metacognitive ability positively predicts performance, and thus might be protective against self-handicapping (Kleitman & Gibson, 2011). Shih (2005) found that metacognition was negatively related to self-handicapping. Developing metacognitive ability in individuals, especially in students, may help to reduce or

revise maladaptive self-handicapping cognitions, in turn minimising self-handicapping behaviours.

6.2.3 Affective components of self-handicapping

A self-handicapping affect factor was identified in this thesis. It was proposed that self-handicapping affect represents the negative affect that an individual experiences when faced with an upcoming evaluative event. This negative affect may then drive an individual to engage in self-handicapping behaviours as a maladaptive form of positive reappraisal. Self-handicapping affect was shown to be positively related to performance avoidance goals, and negatively related to emotional stability, self-esteem, and self-concept clarity. Self-handicapping affect mediated the effect of performance goals (both approach and avoidance) on self-handicapping behaviour.

It is proposed that self-handicapping affect, like self-handicapping cognitions, is triggered by situational factors, and drives self-handicapping behaviour. Self-handicapping affect differs from test anxiety as it is experienced in response to a broader range of evaluative situations, and the emotions experienced are not confined to anxiety alone. However, it is here proposed that self-handicapping affect is primarily comprised of feelings of fear and anxiety. Specifically, fear of a negative outcome, e.g. fear of failure (Chen, Wu, et al., 2009; Elliot & Church, 2003; Martin, Marsh, & Debus, 2003), and anxiety because of the uncertainty of an outcome. Self-handicapping has been found to be related to both state anxiety (Coudeville, Martin Ginis, Famose, & Gernigon, 2008; Prapavessis, Grove, Maddison, & Zillmann, 2003), and trait anxiety (Kalyon, Dadandi, & Yazici, 2016; Török, Szabó, & Boda-Ujlaky, 2014).

Self-handicapping affect is likely also influenced by self-handicapping cognitions such as those discussed in the section above. Jagacinski and Nicholls (1990) found that individuals with a fixed entity view of ability and an orientation toward performance goals experience negative affect following failure, and positive affect following success with little effort. In

addition, Martin, Marsh and Debus (2003) stated that if an individual interprets failure as being indicative of low ability, and low ability is equated with a lack of self-worth, then fear of failure causes the need to protect one's self-worth. Self-handicapping is thus used by individuals with a fear of failure as a means of avoiding failure, or altering the meaning of failure. Further, self-handicapping has been found to be linked to a greater reliance on emotion-oriented coping strategies (Prapavessis et al., 2003; Zuckerman, Kieffer, & Knee, 1998).

6.2.4 Behavioural components of self-handicapping

Finally, after situational factors trigger faulty or maladaptive cognitions about ability and agency (self-handicapping cognitions) and task-contingent negative affect (self-handicapping affect), it is proposed that these cognitions and affect in turn drive self-handicapping behaviour. Such self-handicapping behaviours temporarily alleviate self-handicapping affect, and protect an individual's self-image in the event of negative evaluations. Arkin and Baumgardner (1985) have also proposed that engaging in self-handicapping behaviour allows for individuals to retain a sense of control.

To date, much of the theoretical and empirical research on self-handicapping has been concerned with self-handicapping behaviours more so than any other component of self-handicapping. Such research has focused on classifying types of self-handicapping behaviours (e.g. claimed versus behaviour self-handicaps), examining gender differences in self-handicapping behaviours (e.g. Hirt & McCrea, 2009; Lucas & Lovaglia, 2005; McCrea, Hirt, & Milner, 2008), and eliciting self-handicapping behaviours (e.g. Brown, Park, & Folger, 2012; Kolditz & Arkin, 1982).

In this thesis, self-handicapping behaviour was found to be negatively related to conscientiousness, mastery goals, performance approach goals, self-esteem, and self-concept clarity. Self-handicapping behaviour was predicted by self-handicapping affect (in Chapter 4

only), and mediated the effect of mastery approach goals on academic achievement. Although self-handicapping behaviours are an important (and key) component of the self-handicapping process, future research should focus on the other components of self-handicapping proposed here – situational, cognitive, and affective components. Examining these other components of the self-handicapping process will provide a fuller picture of the mechanisms of self-handicapping.

6.3 A persisting measurement issue

Very little research has specifically investigated whether conscious intentionality underscores self-handicapping. In fact, Rhodewalt, Tragakis, and Finnerty state that the “standard self-handicapping paradigm” (2006, p. 576) does *not* require the presence of an intention to self-handicap, and that the fact a self-handicap has occurred is sufficient to be called “self-handicapping” regardless of the individual’s intentions. In one of the few studies to address this, McCrea and Flamm cite the importance of “strategic anticipatory thinking in self-handicapping” (2012, p. 79), suggesting that self-handicapping is intentional, and that individuals who engage in self-handicapping are aware of this intent.

Exploring the extent to which cognitive initiation and processing is involved in or required for self-handicapping seems necessary in order to obtain valid measurement of self-handicapping. For example, the ASHS is constructed based on the assumption that self-handicapping is consciously and actively initiated. If self-handicapping is intentionally initiated then the likelihood of socially desirable responding as well as probable unwillingness to admit to self-handicapping would make valid measurement of this intent difficult. On the other hand, there might be no conscious decision-making involved in the self-handicapping process, even though it may be that an individual can identify their self-handicapping retroactively (Rhodewalt, 1990). Thus, that conscious intention is necessary in order to self-handicap is a problematic assumption to make, and deserves further investigation in the

future. In this thesis, an attempt was made to remove any assumption of intentionality from the Change in Behaviours Scale (Chapter 3) by separating self-handicapping behaviours from the potential motivations for those behaviours. Although this new scale requires further refinement, future researchers might consider adopting a similar approach to scale construction, and the investigation of self-handicapping. Further, direct investigation of whether individuals consciously ‘choose’ to self-handicap is important and results will clarify many remaining theoretical issues. However, in the process model of self-handicapping proposed in this chapter, no conscious intentionality is assumed. Self-handicapping behaviours are an implicit response to self-handicapping cognitions and self-handicapping affect, which in turn are triggered by specific situational factors. However, it is likely that individuals can identify instances of self-handicapping after the fact.

6.4 Limitations and future research directions

In addition to the limitations of the current research and suggestions for future research already raised throughout this chapter, two additional concerns are discussed below.

First, primary data in this thesis relied on a single cross-sectional data set (with the exception of data collection for indicators of academic achievement). Thus, data concerning the two-factor model of self-handicapping are not independent across empirical chapters, nor is there evidence for the direction of causality posited in the path models. As has already been discussed, self-handicapping is best understood as process. Further, it is a process that through its many (or few) occurrences in an individual’s life, forms a reciprocal relationship with many other constructs, both trait or trait-like (e.g. self-esteem), and transient (e.g. academic achievement). Thus, it is appropriate and necessary that future researchers endeavour to model these processes and longitudinal relationships accordingly.

Second, in the current research, self-report measures were used for almost all constructs (except academic achievement). More specifically, this thesis relied on a single self-report

measure of self-handicapping. As demonstrated in this thesis, the measure chosen to assess self-handicapping can have a significant effect on the empirical results. Although an attempt was made at development of a self-handicapping behaviours scale, the Change in Behaviours Scale had many limitations (Chapter 3). Despite this, developing and refining self-report assessments of self-handicapping is still a worthy and important area of research. It is suggested that future researchers could use the self-handicapping process proposed here as a theoretical foundation for scale content development. Further, the two-factor structure of the SHS proposed in this thesis should be retested in other populations. It should also be noted that specific labeling of the two factors extracted from the self-handicapping scale (Internal Self-handicapping/Self-handicapping Affect and External Self-handicapping/Self-handicapping Behaviour), should not be viewed as prescriptive.

Future researchers should endeavor to examine self-handicapping as a multi-faceted process, employing refined measures of self-handicapping in longitudinal designs. It is suggested that such designs should include the collection of non-self-report data that relates to real-life evaluative events. Thus, all aspects of the proposed self-handicapping process, including situational factors, can be studied in tandem. For example, in the week leading up to an assessment task, students could complete a daily diary that examines affect, cognitions, and behaviour, as well as fluctuating self-concept and attributions for success and failure at the task.

6.5 Conclusions

Self-handicapping is a complex, multi-faceted, person- and situation-driven process. Although this is not a unique description of a psychological phenomenon, it explains why the theoretical and empirical study of self-handicapping has not been straightforward. This thesis has extended investigations of self-handicapping as a multidimensional construct, proposing and providing evidence for a model in which self-handicapping behaviours are influenced by

task-contingent negative affect (self-handicapping affect). These two components of self-handicapping are differentially related to personality domains, achievement goal orientation, self-esteem, self-concept clarity, and differentially predict academic achievement. It is proposed that these components sit within a larger process model of self-handicapping that is comprised of situational and cognitive as well as affective and behavioural components.

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References marked with a dagger (†) indicate studies included in the Chapter 5 meta-analysis.

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