Integrating Self-Worth Motivation Theory and Need Achievement Theory: A Quadripolar Representation of Self-Handicapping and Defensive Pessimism

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Abstract

From need achievement (Atkinson, 1957) and self-worth motivation (Covington & Beery, 1976) perspectives, self-handicapping and defensive pessimism (comprising defensive expectations and reflectivity) are integrated into a quadripolar model reflecting the motives to avoid failure and approach success (Covington & Omelich, 1991). Consistent with hypotheses, defensive expectations and self-handicapping reflected failure avoidance (with self-handicapping bordering failure acceptance); reflectivity was marked by the dual motives to avoid failure and approach success; and, self-concept essentially reflected success orientation. Interpretation of these constructs along failure avoidance and success orientation lines was validated through structural equation modelling in which self-handicapping, defensive pessimism, and self-concept differentially predicted a variety of academic outcomes.

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Need achievement theory (Atkinson, 1957; see also McClelland, 1965) and self-worth motivation theory (Beery, 1975; Covington, 1984, 1992, 1997; Covington & Beery, 1976) are used as a basis upon which to integrate self-handicapping and defensive pessimism, two strategies individuals use to protect their self-worth. From a self-worth motivation perspective that has as its central platform the motive to protect self-worth, self-handicapping and defensive pessimism are integrated into a quadripolar model of need achievement (Covington, 1992, 1997; Covington & Omelich, 1991). This quadripolar framework is considered to be a conceptually feasible means by which to represent the two strategies in terms of the dual motives to avoid failure and approach success.

Need achievement theory and a quadripolar representation

The theory of need achievement (Atkinson, 1957; see also McClelland, 1965) proposes that individuals can be broadly characterised in terms of their motives to avoid failure and
approach success. The bulk of research dealing with these phenomena consider need achievement as a unidimensional continuum that has success orientation at one pole and failure avoidance at the other. More recently, Covington and Omelich (1991; see also Covington, 1992, 1997) have revisited need achievement theory and represented it in two dimensions thus yielding four broad typologies - students high in success orientation and low in failure avoidance; students high on both dimensions; students low in success orientation and high in failure avoidance; and, students low on both dimensions. Individuals high on success orientation and low on failure avoidance have been referred to by Covington and Omelich as optimists. Individuals high on both dimensions have been referred to as overstrivers. Individuals low in success orientation and high in failure avoidance are failure avoiders, whilst those low on both dimensions are failure accepters. This two dimensional framework is shown in Figure 1.

Insert Figure 1 about here

Need achievement theory and self-worth motivation theory

This two dimensional model has also been considered from a self-worth motivation perspective (Beery, 1975; Covington, 1984, 1992, 1997; Covington & Beery, 1976) which focuses on individuals' need to protect their self-worth. According to the self-worth theory of motivation, the need to protect self-worth arises primarily from a fear of failure and the implications this failure may have for one's private and public sense of ability and subsequent self-worth. Individuals who see failure as reflecting poorly on their ability are inclined to self-protect because ability is typically equated with self-worth (Covington, 1984, 1992, 1997).

According to Covington and Omelich (1991), self-worth motivation theory predicts that all but the optimists (who are self-confident and display "exemplary achievement behaviors" - Covington & Omelich, 1991, p. 86) are motivated by the need to protect their self-worth. The overstrivers defend themselves from failure by succeeding. They are usually bright, hard-working, and meticulous, and whilst they can be optimistic, they harbour doubts about their ability and so their success is to a large degree motivated by the need to avoid failure. The failure avoiders are motivated primarily to avoid failure rather than strive for success (high in avoidance and low in approach). These individuals manoeuvre prior to achievement scenarios in a bid to alter the meaning and implications of failure if it should occur. Failure acceptance can also be seen as a defensive mode. Failure accepters tend to withdraw from the academic setting altogether as the primary means by which they protect themselves from the failure they are certain is going to occur. These individuals are generally disengaged from their studies and display a helpless pattern of motivation (Abramson, Seligman, & Teasdale, 1978; see also Covington, 1992, 1997).

Specific strategies aimed at protecting self-worth

We propose that each of the four typologies is reflected in different strategies students use when going about their studies. We focus on self-handicapping and defensive pessimism (comprising defensive expectations and reflectivity) and argue that the quadripolar need achievement model provides a useful framework by which to conceptually integrate these strategies.

Self-handicapping

Self-handicappers choose impediments or obstacles to successful performance that enable them to deflect the cause of failure away from their competence and on to the acquired impediments. By these means, they are able to avoid disconfirmation of a desired self-
conception (Rhodewalt & Davison, 1986). Typical examples of self-handicapping include procrastination, the choice of performance-debilitating circumstances, engaging in little or no practice for upcoming tasks, and the strategic reduction of effort (see Berglas & Jones, 1978; Higgins & Harris, 1988; Rhodewalt & Davison, 1986; Shepperd & Arkin, 1989; Tice & Baumeister, 1990). In the event of failure, the individual has a ready excuse. For example, the lack of effort is seen as the cause and not the individual's lack of ability.

**Defensive pessimism**

Defensive pessimism involves setting unrealistically low expectations and thinking through a variety of possible outcomes prior to events in which one's performance is to be evaluated (Norem & Cantor, 1986a, 1986b). There are, then, two components underpinning defensive pessimism: defensive expectations and reflectivity. Essentially, defensively pessimistic individuals acknowledge apprehensions and work through them cognitively leaving them feeling less anxious and more in control (Norem & Illingworth, 1993). Moreover, setting lower, and possibly safer, expectations can lower the threshold for satisfactory performance (Baumgardner & Brownlee, 1987) or serve to set performance standards that are less difficult to achieve (Showers & Ruben, 1990). In a number of ways, then, defensive pessimism is a protective strategy. Defensive pessimists cushion the blow of potential failure and set lower and safer standards against which to be judged. It has been shown, however, that simply thinking about various outcomes (reflectivity) can be quite different from actually expecting those outcomes (expectations). Negative thinkers can perform better than positive thinkers and it is only when negative expectations are formed that performance suffers (Goodhart, 1986). It is proposed, then, that the difference between simply thinking about a negative outcome and actually expecting a negative outcome is suggestive of a difference between reflectivity and defensive expectations. Specifically, it is hypothesised that whereas reflectivity is a protective strategy that is more adaptive and positively-focused, holding defensive expectations is a protective strategy that is not so adaptive.

**Self-handicapping, defensive expectations, and reflectivity in the quadripolar model**

As noted, the quadripolar need achievement model as proposed by Covington and Omelich (1991) provides a useful framework by which to integrate self-handicapping, defensive expectations, and reflectivity. Firstly, it is suggested that the overstriver shares characteristics with the reflective student. Because these individuals are both success oriented and failure avoidant (see also Arkin & Oleson, 1998), they tend to contemplate both success and failure - a hallmark of reflectivity (Norem & Illingworth, 1993). In terms of the quadripolar model, then, reflective students are hypothesised to be positioned in Quadrant B (see Figure 2).

Failure avoiders are distinct from the overstrivers because they are not confident in their capacity to meet upcoming challenges. They are more inclined to contemplate failure, motivated to avoid it, and engage in strategies designed to protect the self (Covington, 1992). Setting defensive expectations and engaging in self-handicapping are two such strategies. These strategies are focused on failure avoidance and so are positioned in Quadrant C. Importantly, because students high in defensive expectations do not actively set obstacles that obviate success they are not low in success orientation and so can be positioned closer to the overstriving quadrant (see Figure 2). On the other hand, self-handicappers actually set obstacles in the path to success and so are opposed to a success orientation. Self-handicapping, then, can be positioned closer to the failure accepting quadrant (see Figure 2).
We include self-concept as an index of optimism (see Weinglert & Rosen, 1995). Positive self-concept is therefore proposed to be positioned in the quadripolar framework reflecting high success orientation and low failure avoidance (see Figure 2).

Validating the quadripolar need achievement model

If the quadripolar representation of the three failure avoidance strategies and self-concept is as hypothesised, then each should lead to different outcomes. Given that reflectivity and self-concept are high in success orientation, they should yield positive effects. Because defensive expectations and self-handicapping are both failure avoidant and not dually success oriented, they should yield negative outcomes. Importantly, because self-handicapping is hypothesised to be opposed to success orientation - hence positioned closer to the failure accepting quadrant than defensive expectations - it should be more strongly negatively associated with academic outcomes. In testing these ideas, five academic outcomes are studied: three measures of current and anticipated engagement (persistence, self-regulation, and future academic plans), one measure of performance (academic grades), and a measure of attendance in students’ second year.

Method

Respondents were 584 First Year teacher education students from three universities in Sydney, Australia. Approximately 85% (n=495) were female and 15% (n=89) were male. The mean age was 20 years (SD=5.2). The mean rank of students for the previous final year of school was 66.79/100 (SD=16.5). The majority (63.7%, n=372) were enrolled in a Primary teaching program, 21.1% (n=123) in a Secondary program, and 15.2% (n=89) in an Early Childhood program. Data for males and females were pooled as preliminary analyses demonstrated that the factor loadings, item uniquenesses, and factor correlations are invariant across males and females (Martin, 1998). Similarly, data for the three institutions were pooled as preliminary analyses indicated that the factor structures were invariant across institutions also (Martin, 1998).

Measures

To all subscale items in the questionnaire, participants were asked to indicate their response in relation to the mathematics domain (“Subjects that mainly involve maths and numbers”). The math domain was selected as the one on which to focus because recent data have demonstrated mathematics anxiety amongst university students (e.g., Pajares & Urdan, 1996) and this may be particularly relevant to the present study of self-protection. Aside from the demographic and background details, items on all subscales were responded to using a 7-point Likert-type rating scale (1=Strongly disagree to 7=Strongly agree). After reversal of appropriate items, high scores on items reflected more agreement to the respective item and subscale referents. Items were randomly interspersed throughout the questionnaire rather than presented subscale-by-subscale.

The central constructs

Self-handicapping. Academic self-handicapping subscale items (e.g., "I often fool around the night before a test or exam so I have an excuse if I don't do as well as I hoped" - 8 items) were drawn from the Academic Self-Handicapping Scale (Midgley, Arunkumar, & Urdan, 1996) and the Shortened Self-handicapping Scale (Strube, 1986).
Defensive expectations. Norem, Cantor, and colleagues (e.g., Norem & Cantor, 1986a, 1986b; Norem & Illingworth, 1993) have proposed defensive pessimism to comprise two dimensions: defensive expectations and reflectivity. Some adaptation of two existing defensive expectation measures as well as the Life Orientation Test (Scheier, Carver, & Bridges, 1994) was carried out to form a modified defensive expectation subscale (e.g., "No matter how well I have done in the past, I go into academic situations expecting to do worse" - 8 items).

Reflectivity. Reflectivity refers to the thinking-through process that accompanies defensive expectations. Norem (personal communication, December 12, 1996) has constructed a reflectivity scale that addresses these issues and these items (e.g., "I carefully consider all possible outcomes before tests and assignments" - 7 items) are used in the present questionnaire as originally formulated.

Self-concept. Self-concept is used as the measure for optimism and reflects students' positive beliefs about their skills, their competence, and their ability to succeed. Self-concept (e.g., "I learn quickly in these subjects" - 6 items) was assessed using the Academic Self Description Questionnaire II (Marsh, 1992).

Criterion Measures

Persistence. The persistence subscale was drawn from the Miller, Greene, Montalvo, Ravindran, and Nichols (1996) Cognitive Engagement Scale. Whilst the theme of the original items was retained, they were adapted such that a sharper focus was placed upon the persistence component (e.g., "If I have trouble understanding a problem or task, I keep going over it until I understand it" - 7 items).

Self-regulation. Self-regulation items were drawn from the Cognitive Engagement Scale (Miller et al., 1996). Minor adaptation of the original items was undertaken with a view to tightening the self-regulatory focus (e.g., "Before taking an exam or quiz, I plan out how I will study the material" - 7 items).

Future academic plans. The future plans subscale was adapted from a Skaalvik and Rankin (1995) subscale which comprised seven declarative statements that asked respondents to indicate their willingness to engage in a given subject area in their further education or occupation. These items were adapted slightly to be more consistent with a higher education focus (e.g., "I don't mind doing subjects in this area in my further education" - 7 items).

Grades. Each end-of-year grade a student received was assigned a score. Fails were scored zero; Passes were scored one; Credits were scored two; Distinctions were scored three; High Distinctions were scored four. Sums of these scores were computed for each student and a final Grade score was computed by dividing this sum by the total number of grades received. The performance measure used throughout the majority of analyses is a representation of academic grades generally rather than maths grades in particular.

Non-attendance in second year. Non-attendance was included as an additional outcome measure. Students were coded as 0 if they were in attendance for the second year questionnaire administration and 1 if they were not in attendance. While withdrawal from the course at end of first year may be the major reason for non-attendance at Time 2, it is recognised that non-attendance at Time 2 could be for a number of other reasons. Thus non-attendance as an index of withdrawal is to some extent limited.
Statistical analyses

Multidimensional scaling

Multidimensional scaling (MDS) was used to explore the strategies from the quadripolar need achievement perspective. MDS assists the researcher in determining the perceived relative position of a set of objects or items (Hair, Anderson, Tatham, & Black, 1995). While MDS is typically used to determine similarities amongst a set of objects (rather than self-report questionnaire items), it is considered appropriate for use in the present study not only in terms of its heuristic value, but also in terms of its focus on mapping constructs in multidimensional space as is relevant here. If two items are similarly rated by respondents, they will be located in multidimensional space in a way that the distance between them is smaller than the distance between other pairs of items. The resulting perceptual map indicates the relative positioning of all items. The researcher then interprets the underlying dimensions in a way that best explains the positioning of items in the map, particularly as it relates to an underlying theoretical rationale which in this case, is the quadripolar need achievement model. The present analysis used the multidimensional scaling procedure in SPSS which created the similarity matrix from the raw data using the Euclidean distance measure (Young & Harris, 1994). Given that the analysis seeks to test a two-dimensional model specified a priori, only a two dimensional model was examined.

Validatory confirmatory factor analysis and structural equation modelling

The need achievement multidimensional profile is validated through confirmatory factor analysis (CFA) and structural equation modelling (SEM) using LISREL 7.2 (Joreskog & Sorbom, 1989). Using this approach, we tested the extent to which each of the four constructs predict a variety of academic outcomes. Maximum likelihood was the method of estimation used for the models. The raw data were used as input to PRELIS (Joreskog & Sorbom, 1988) and a covariance matrix was produced which was subsequently analysed using LISREL. In terms of goodness of fit indices, the Tucker Lewis Index (TLI) is emphasised as simulation studies have shown that it is relatively independent of sample size and also imposes an appropriate penalty for inclusion of additional variables in a given model (Marsh, Balla, & Hau, 1996; McDonald & Marsh, 1990). Following Marsh et al. (1996) and McDonald and Marsh (1990), the Relative Noncentrality Index (RNI) and Root Mean Square Error of Approximation (RMSEA) are also emphasised as measures of goodness of fit. TLI and RNI values above .90 are typically considered to indicate acceptable fit of the data to the model.

Items in each subscale were aggregated into three to four (depending on the number of items in the subscale) item-pairs such that the first two items in the subscale were assigned to the first pair, the next two to the second pair, and so on. Accordingly, item parcels were computed by generating the mean of two (in most cases) or three (in a few cases) items in a given subscale and these item parcels were used in the MDS procedure and as indicators in the CFA and SEM. Self-handicapping ($\alpha=.90$) and defensive expectations ($\alpha=.91$) were represented by four item parcels each. Reflectivity ($\alpha=.71$), self-concept ($\alpha=.90$), persistence ($\alpha=.79$), self-regulation ($\alpha=.81$), and future academic plans ($\alpha=.91$) were all represented by three item parcels each.

Results

Testing the quadripolar need achievement model

The data fit the model well (RSQ=.98, S Stress=.068). Stimulus coordinates are mapped in Figure 3. Results to a large degree conform to the proposed quadripolar need achievement
model. As predicted, self-concept was positioned in the optimism quadrant (high success orientation and low failure avoidance) and reflectivity was positioned in the overstriver quadrant (high success orientation and high failure avoidance). The defensive expectations item parcels were positioned in a way that primarily reflected high failure avoidance (but were partly positioned in the high success orientation dimension and partly in the low success orientation dimension). Not only was self-handicapping diametrically opposed to a success orientation, its relative positioning actually bordered failure acceptance.

Validating the quadripolar model

To validate the status of each of the four constructs as overstriving (in the case of reflectivity), failure avoidant (in the case of defensive expectations and self-handicapping) and optimistic (in the case of positive self-concept), structural equation modelling was carried out. In these analyses, the four strategies predict four outcomes (persistence, self-regulation, future academic plans, and grades). In addition to these parameters, correlations among constructs at the same point in the model (i.e., amongst the strategies and amongst the residuals of the outcomes) were estimated. The model yielded a good fit to the data (chi square=644.17, df=225, RNI=.95, TLI=.94, RMSEA=.056). The structural parameters are presented in Figure 4.

Results in Figure 4 show that the effects of the strategies were generally as hypothesised. Self-handicapping had the most negative impact on academic outcomes, negatively predicting all four academic outcomes. The negative effects of defensive expectations were not so marked, predicting only self-regulation and persistence. Reflectivity and positive self-concept were both positively associated with persistence, whilst self-concept strongly predicted future academic plans and reflectivity strongly predicted self-regulation.

Attendance in students’ second year

The MDS finding that self-handicapping bordered failure acceptance is a new perspective on self-handicapping. It is contended that a strong indicator of failure acceptance is withdrawal from one’s studies (Covington & Omelich, 1991). A number of respondents present for the survey administration at Time 1 were not present when grades were collected at Time 2 and it is argued that one primary reason for students’ non-attendance at Time 2 is that they had withdrawn from their course. Non-attendance, therefore, was incorporated as an additional outcome construct in further analyses and it was hypothesised that consistent with the above data, self-handicapping, reflecting failure acceptance, would be positively associated with non-attendance at Time 2.

To test this issue, CFA was performed involving all four strategies and Time 2 non-attendance. Because, non-attendance is a dichotomous variable (0=Present, 1=Not Present), it was specified in PRELIS as ordinal which subsequently produced a polychoric correlation matrix. This matrix was analysed using LISREL. This model fit the data well (chi square=236.06, df=81, RNI=.97, TLI=.96, RMSEA=.057). Consistent with hypotheses, Time 1 self-handicapping was significantly correlated with non-attendance (r=.17) such that self-handicappers were less likely to be in attendance in second year. Positive self-concept was significantly negatively associated with non-attendance (r=.10) such that students higher in self-concept at Time 1 were more likely to be in attendance in second year.
Discussion

The central focus of the present study is on the integration of need achievement and self-worth motivation theory with a set of strategies individuals use to protect their self-worth. From a self-worth motivation perspective, four strategies were hypothesised to be mapped in terms of the dual motives to approach success and avoid failure. These hypothesised profiles were then validated in follow-up structural equation modelling.

Summary of findings and links with previous research

Positive self-concept reflected high approach and low avoidance and was therefore akin to optimism; reflectivity was marked by high approach and high avoidance and therefore aligned with overstriving; defensive expectations essentially reflected failure avoidance and both high and low approach motive and therefore primarily failure avoiding; and self-handicapping was diametrically opposed to success orientation and actually bordered failure acceptance. The designation of these strategies as reflecting optimism, overstriving, failure avoidance, and failure acceptance was tested in follow-up SEM and CFA. Findings provided support for the designations: Positive self-concept and reflectivity were positively associated with academic outcomes - consistent with their success orientation status; defensive expectations were negatively associated with self-regulation, but in other respects were not significantly associated with outcomes - consistent with the fact that it is not opposed to success orientation; self-handicapping was markedly negatively associated with all academic outcomes and predicted non-attendance one year later - consistent with its status as borderline failure accepting.

The designation of each of these strategies as either optimistic, overstriving, failure avoidant, or failure accepting is consistent with previous findings as are the consequences associated with each of these strategies. Covington and Omelich (1991; see also Covington, 1997) showed that overstrivers displayed good study skills and spent much time studying and this parallels the reflective students who were higher in self-regulation and persistence. Failure-avoiding students in Covington and Omelich's analysis were found to have poor study skills. Similarly, in the present study, students high in defensive expectations were poor self-regulators. Failure-accepting students in Covington and Omelich's analysis had poorer study skills and consistent with this, self-handicappers in the present study were poor self-regulators and persisters.

Educational implications

This need achievement model of reflectivity, defensive expectations, and self-handicapping demonstrates how students using a variety of strategies can be interlinked on common dimensions using an integrative framework. One strength of such a framework is that educational implications can be advanced using a common conceptualisation that enables specific, yet multifaceted, recommendations regarding pedagogical practice. As Covington and Roberts (1994) question, "how can the threat to learning be diffused, on the one hand, so that overstrivers and failure avoiders feel less vulnerable; yet, on the other hand, how can learning be infused with powerful incentives that appeal to all, sufficient to transform both disengagement (failure-accepters) and defensive vigilance into personal commitment?" (p. 177). To do this, Covington and Roberts argue, the very nature and bases of learning must be changed so that motives become goals and drive rather than drive the student (see also Covington, 1992). Such a program would encourage students to gain knowledge for mastery's sake rather than for the sake of performance, encourage students to serve the interests of the group, and to give expression to their creativity and curiosity. Changing the reward system has also been proposed as a way in which the purpose of learning can be altered. Covington and Roberts suggest that reward should be based on students meeting...
personal standards rather than outperforming others. In a sense, then, the student is encouraged to become success-oriented rather than failure avoiding or failure accepting. When students are success-oriented, they are then in a stronger position to learn and as Covington and Roberts note, have even been shown to perform well in competitive scenarios.

The multidimensional framework showed that reflectivity is marked not only by a high success orientation but also by failure avoidance and this provided support for the notion that students high in reflectivity are very much akin to the overstriver proposed by Covington and Omelich (1991; see also Covington, 1992, 1997). From an educational perspective this is significant because despite the fact that overstrivers are high in success orientation, they are nonetheless vulnerable to failure, no matter how isolated (Covington, 1992). It is suggested here that when the need for failure avoidance becomes more salient than the drive to succeed, the strategic balance is shifted such that these students are then more inclined to hold defensive expectations. Thus, whilst reflectivity is clearly the most adaptive of the three failure avoidance strategies, students high on this dimension remain vulnerable given their concerns with avoiding failure.

As noted earlier, the designation of self-handicapping as failure accepting is parallel to the profile of the helpless student and so from a pedagogical perspective, interventions that have been successful with learned helpless students may also be successful for self-handicappers. Given that self-handicappers are concerned with casting potential failure in the best attributional light possible (Berglas, 1987), interventions involving attribution retraining (see Craven, Marsh, & Debus, 1991) may be more critical to the self-handicapper than to the reflective or defensively expectant student. Importantly, however, whilst reflecting helplessness, the self-handicappers are nonetheless distinct from the helpless students in that they are more motivated to protect their self-worth. Such a perspective on self-handicapping is consistent with that presented by Midgley and Urdan (1995) who argue that self-handicappers "still care enough to want to appear able to others" and that "this is a hopeful sign" (p. 407) because educators may be able to harness this motivation to adaptive ends.

**Conclusion**

Self-worth motivation theory, that has as its central platform the motive to protect self-worth, is used in the present study as a basis to integrate self-handicapping and defensive pessimism into a quadripolar model of need achievement (Covington, 1992, 1997; Covington & Omelich, 1991). This quadripolar framework represented the two strategies in terms of the dual motives to avoid failure and approach success. In testing this framework, the study has provided insights into the specific strategies students use to not only avoid failure and approach success, but also how they coordinate these dual motives. Consistent with this, the data have demonstrated from need achievement and self-worth motivation perspectives the ways the strategies under focus are congruent and the important ways in which they are distinct. Taken together, then, the findings of the present investigation hold not only substantive and methodological implications for researchers studying issues relevant to failure avoidance and success orientation, but are also relevant to practitioners operating in contexts in which students are motivated to manoeuvre defensively.
References


Footnote 1

Whilst defensive pessimism comprises defensive expectations and reflectivity, the bulk of research conducted to date deals primarily with the defensive expectations component and refers to these defensive expectations as defensive pessimism. Thus, in the present discussion of previous research, the term defensive pessimism is used and invariably refers to defensive expectations.

Footnote 2

It is recognised that non-attendance at Time 2 could be for a number of reasons: Students may have withdrawn from their course, may have been ill at Time 2 questionnaire administration, or were 'cutting class'. It therefore can only be speculated as to the reason why these students were not in attendance at Time 2 and thus non-attendance as an index of withdrawal is to some extent limited.

Figure 3

Multidimensional mapping of the four constructs

Note. Ref=Reflectivity; DP=Defensive expectations; SH=Self-handicapping; SC=Self-concept