Are positive self-perceptions and optimistic expectations really beneficial in an academic context?

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ABSTRACT

The main aim of this study was to discover interrelations between university students' self-perceptions, expectations and academic achievement. This study used a sample of 645 Unisa students, divided into three groups: over-estimators, realists, and under-estimators. The data revealed that, compared with under-estimators, over-estimators (a) expected significantly higher marks; (b) were significantly more confident about their expectations, and (c) perceived themselves to have significantly more ability. Although over-estimators had more positive psychological profiles than under-estimators, they obtained significantly lower marks than under-estimators (47% and 76% respectively) in the examinations. In strong contrast to dominant psychological theories (which posit that a strongly positive self-image leads to achievement) the results of this study suggest that, in a university context (a) poor performance is NOT associated with negative self-perceptions and low expectations, and (b) over-optimistic self-perceptions and high expectations may in fact be maladaptive. Indeed, these results suggest that humble self-assessments may be more conducive to success.

INTRODUCTION

An article entitled Alarming drop-out rate in the Sunday Times (2/7/2000) drew attention to the fact that "One in three students at some South African universities and technikons are dropping out ... costing the government about R1,5-billion a year in subsidies, and draining the institutions of millions ... Some [institutions] reported drop-out rates from 10% to 27% and up to 40% for 1999 first-year students. Reasons included wrong degree choices, a poor school system and financial hardship."

Not only do tertiary institutions have relatively high drop-out rates; they also have relatively high failure rates (especially in the case of undergraduates). This not only affects the taxpayer; it also has unpleasant consequences for the unsuccessful students themselves, simply because it is likely to make it difficult for them to find lucrative employment.

Unfortunately, some of the factors that contribute to student drop-out and failure (eg poor educational background) are difficult, if not impossible, to rectify at tertiary level. But various major psychological theories have claimed to offer some hope. These theories (which include expectancy-value theory; self-concept theory; efficacy theory and self-worth theory) suggest that mutable cognitive factors such as self-perceptions and expectations of success have a significant impact on motivation and achievement.

These theories suggest that success or failure is not solely determined by actual ability or lack of ability. Instead, according to these theories, our performance is also determined by our perceptions of our ability (whether accurate or inaccurate) and our expectations, which influence both our motivation and our persistence. Indeed, unsuccessful students may be handicapping themselves by believing they have little ability (and therefore expecting to fail). Such students, so proponents of these theories tell us, are likely to be hesitant and unsure of themselves which, in turn, will undermine their concentration. They are likely to reduce their efforts or even give up completely when they encounter problems. As Graham (1989:120) suggested, "Far too many minority children perform poorly in school not because they lack basic intellectual capacities or specific learning skills but because they have low expectancies [and] feel hopeless."

The implication, of all of these theories, is that we can improve poor students' performance by helping them to gain more positive self-perceptions, expectations and confidence. In turn, so we are told, these positive beliefs will improve their motivation, encourage them to work harder and be more successful. And it is probably on the basis of such theories that motivational programmes and self-help books are designed and written - all these programmes and books start from the basic idea that "you can achieve anything as long as you believe in yourself".

Previous research has indeed supported the idea that perceptions of ability (rather than ability per se) are important. For example, it has been found that self-perceptions of high ability are positively related to persistence and motivation. A number of authors (including Bandura 1982; Boekaerts 1991; Chapman, Lambourne & Silva 1990; Martin & Debus 1998, and Sanna & Pusecker 1994) who have come to similar conclusions, strongly suggest that self-perceptions influence achievement as a result of various cognitive and motivational processes. As Bandura (1989:40) puts it: "a striking common characteristic of people who eventually achieved eminence in their respective fields was an inextinguishable sense of self-efficacy that enabled them to override innumerable rejections of their early work".

In strong contrast to these suggestions, however, a previous study I conducted on the motivation of a sample of 621 students (Moore 1998) pointed to a problem that Unisa (University of South Africa) lecturers confront daily: namely, that it is unsuccessful students who seem to have unrealistically high expectations about their future success. And, to exacerbate the problem, because of their optimistic expectations, such students tend to be extremely surprised, disappointed, and even angry when they do not succeed academically.

This contrast between personal experience and 20th century popular theory gives rise to the question of how students' perceptions of their own ability and their expectations actually relate to their academic performance. Baumeister (1989) suggests that researchers should examine the quantity of optimism before predicting whether this optimism is functional or dysfunctional. And, as Gollwitzer and Kinney (1989) advise, optimism should be examined within the context in which it occurs to determine whether it is adaptive or maladaptive.

The aim of my study was to examine the relationship between optimism and achievement in the context of academic performance in a tertiary educational institution.

METHOD

Sample

The study sample consisted of 715 third-year psychology students.

Measures employed

Before their final examinations, students were asked to complete a questionnaire which contained the following questions (including others which are beyond the scope of this paper):

- (Roughly) what do you think your average mark will be for the exams in psychology this year ? ....%
- How sure are you of getting this much?

100% sure	75% sure	50% sure	25% sure	0% sure

To measure their perception of their own ability to master psychology they were also asked whether they strongly disagreed; disagreed; were uncertain; agreed, or strongly agreed with the following statements:

- I am confident that I can perform as well as or better than other students in this course.
- I have no talent for psychology (reverse scored).
- I am above class average.
- I think my ability for doing psychology is above average.
- I think my psychology marks will be above average.

(These items were interspersed with other statements which have little relevance for the present paper.)

The reliability (Cronbach a) of this little 5 item "perception of ability" scale was 0,76).

After the examinations, subjects were assigned to three groups according to the difference between the mark they had expected and the mark they actually gained:

1. The group called "over-estimators" consisted of students whose expected mark was nine or more marks higher than the mark they subsequently obtained (N=259).
2. The group called "realists" consisted of students whose expected mark was between nine marks above and nine marks below the mark they subsequently obtained (N=272).
3. The group called "under-estimators" consisted of students whose expected mark was nine or more marks lower than the mark subsequently obtained (N=114).

The total number of students in these three groups is lower than that of the whole sample, because not all of them eventually wrote the examinations.

Academic achievement was measured by averaging the students' marks for the subsequent examinations in three third-level Psychology courses (Social Psychology, Research Methodology, and Psychopathology). The average mark for the examinations obtained by this sample of students was 58,92% and the standard deviation was 14,03.

Please note: I analysed the data obtained by using the following:

- analyses of variance (anovas)
- Least Squares Means for Scheffé post hoc comparisons

to determine significant differences between group means (all anovas were calculated at $p = < 0,01$ level)

HYPOTHESIS TESTS AND RESULTS

Hypothesis 1: There is no significant difference between the academic performance of over-estimators, realists, and under-estimators

The null hypothesis was rejected. An anova and post hoc Scheffé tests revealed that under-estimators achieved significantly higher marks than both realists and over-estimators. As table 1 shows: under-estimators achieved a distinction average (17,47% above class average); realists passed on average (4.93% above class average); over-estimators failed on average (11,46 % below class average).

Table 1: Scheffé grouping for the mean examination marks obtained by the three groups

	N	Mean %	Std Dev	Scheffé grouping*
Under-estimators	114	76,39	7,79	A
Realists	272	63,85	9,32	B
Over-estimators	289	47,46	8,78	C
Critical value F =4,64 Minimum significant difference = 2,77 *Means with different letters are significantly different at the 1%-level				

The relatively poor marks obtained by over-estimators may be attributed to circularity between the definition of over-estimators and the marks obtained. By this I mean that, if every student expected the same mark then, by definition, over-estimators would gain lower marks than under-estimators. But further findings support the contention that the relation between overestimated expectations and relatively poor performance should not merely be attributed to such circularity.

Hypothesis 2: There is no significant difference between the marks expected by over-estimators, realists, and under-estimators

The null hypothesis was rejected. An anova and a post hoc Scheffé test revealed that, on average, over-estimators expected significantly higher marks than did both realists and under-estimators (although they actually gained lower marks) (see table 2).

Table 2: Scheffé grouping for the mean expectancy scores obtained by the three groups

	N	Mean %	Std Dev	Scheffé grouping*
Over-estimators	289	68,06	8,60	A
Realists	272	64,20	8,10	B
Under-estimators	114	62,06	8,23	B
Critical value F = 4,64 Minimum significant difference = 2,61 Level of significance: 0,01 *Means with the same letter are not significantly different at the 1%-level				

Hypothesis 3: There is no significant difference between the confidence levels of over-estimators, realists, and under-estimators

The null hypothesis was rejected. An anova and post hoc Scheffé test revealed that over-estimators were significantly more confident than under-estimators that they had accurately estimated their future performance (see table 3).

An inspection of the data computed from a different angle reveals that, as confidence levels decreased, so did overestimations (see table 2).

Table 3: Scheffé grouping for the mean confidence level scores obtained by the three groups

	N	Mean %	Std Dev	Scheffé grouping*
Over-estimators	287	69,51	16,41	A
Realists	272	65,53	16,91	A/B
Under-estimators	114	63,82	18,82	B
Critical value F =4,64 Minimum significant difference = 5,35 *Means with the same letter are not significantly different at the 1%-level				

Table 4: Scheffé grouping for the mean over-estimation scores obtained by those who were 25%, 50%, 75% and 100% confident about the accuracy of their expectations

	N	Mean Over/under-estimation	Std Dev	Scheffé grouping
100% confident	67	12,06	15,91	A
75% confident	368	7,23	17,38	A
50% confident	242	4,99	16,86	A
25% confident	16	-7,00	15,77	B
Critical value F = 3,81 Minimum significant difference = 10,20 *Means with the same letter are not significantly different at the 1%-level				

What is notable is that students who were 100% confident overestimated their future performance on average by over 12%, whereas those who were the least confident underestimated their future performance by 7%.

Furthermore it was found that, unlike less confident students, those who declared themselves to be highly confident about their expectations not only (a) expected higher marks, and (b) were more inclined to overestimate their success (ie were more unrealistic), but also perceived themselves to have higher ability (see table 2).

These findings agree with those of Zeleznik, Hojat, Goepp, Amadio, Kowlessar and Borenstein (1988), who all found that students who were highly confident about the correctness of their answers to a series of multiple-choice questions were more unrealistic than those who were only slightly or moderately overconfident. They also found that highly under-confident students achieved higher grades than those who were slightly or moderately under-confident. These findings may be partly elucidated by Lichtenstein and Fischhoff (1977), who found that, up to a point, increasing knowledge decreases confidence - and suggest there may be some truth in the adage: "The more you know the more you realise what you don't know".

Hypothesis 4: There is no significant difference between over-estimators, realists, and under-estimators regarding their perceptions of their own ability

The null hypothesis was rejected. An anova and a post hoc Scheffé test revealed that over-estimators had significantly higher scores regarding their perceptions of their own ability than did under-estimators (see table 5).

Table 5: Scheffé grouping for the mean of perceptions of ability scores obtained by the realistic and unrealistic groups

	N	Mean	Std Dev	Scheffé grouping
Over-estimators	289	3,85	0,58	A
Realists	272	3,80	0,57	A/B
Under-estimators	114	3,64	0,59	B

Critical value F =4,64 Minimum significant difference = 0,18
*Means with the same letter are not significantly different at the 1%-level

SUMMARY OF FINDINGS RELATING TO OVER-ESTIMATORS, REALISTS AND UNDER-ESTIMATORS

On average, over-estimators

- expected significantly higher marks than did both realists and under-estimators.
- were significantly more confident about the accuracy of their expectations than under-estimators. Furthermore, it can be seen from Table 2 that confidence levels increased with overestimation.
- compared with under-estimators, perceived themselves as having higher levels of ability and thus well able to master psychology.
- actually gained lowest marks of the three groups (11,46% below class average).

These results are in strong contrast to theory and research findings which suggest that poor performance is likely to be associated with negative perceptions of one's own ability, lack of confidence, and low expectations for success.

It may be argued that the findings relating to over-estimators in this study reflect a response bias. Their very positive self-reports may be influenced by a desire to give what they believe to be socially desirable responses. They may perhaps have been encouraged by the dictum "if you believe in yourself then others will too".

On average, the realistic group

- expected lower marks than did the over-estimators
- were less confident than over-estimators, but more confident than under-estimators about the accuracy of their expectations
- perceived themselves to have a lower level of ability than over-estimators did and a higher level of ability than under-estimators did
- obtained on average a mark 4,93% above the class average.

Overall, this looks like a balanced group, whose perceptions of themselves and their expectations of their academic performance standards match reality. Again, the moderate nature of their scores may be attributed to a response bias which inclines them to give "central or moderate" responses to subjective questions. But this viewpoint is invalidated by the objective fact that these students also obtained "central or moderate" marks in the examinations.

On average, under-estimators

- were significantly less confident than over-estimators about the accuracy of their expectations

- had less favourable perceptions of their own ability than did the over-estimators
- gained the highest marks (17,47% above class average).

At first glance it may appear that this group, the most academically successful group, has a tendency to be cautious, and give modest responses to questions relating to their self-perceptions. Although it consisted mainly of white females, their relatively humble responses may not necessarily reflect feminine modesty (or a tendency to make what females might consider to be socially desirable responses). Instead, their modest opinions of their own capacities may reflect their high standards.

IMPLICATIONS

The above findings clearly show consistent patterns of negative relationships between optimistic self-perceptions and academic achievement. These patterns lend little support to some of the theories that gained popular acclaim in the 20th century and that spawned a number of programmes aimed at empowering people by bolstering their self-perception and confidence.

There is, of course, much to be said for such programmes for people whose performance depends largely on self-confidence, such as entrepreneurs or sportsmen whose lack of confidence makes them too cautious to take risks - or for politicians and salesmen who lack the confidence to sell themselves or their products. But there is little evidence in the findings of the present study to suggest that self-confidence will be translated into real academic achievement. Indeed, these findings suggest that accurate or even pessimistic self-assessments may be more conducive to academic success. Interventions aimed at promoting students' perceptions of their own actual ability should be therefore be approached with caution. It may be wiser to encourage unsuccessful students with the how of developing academic potential.

Over-optimism may reflect ignorance of the standards required and result in complacency, inappropriate preparation, or carelessness in students who have insufficient knowledge to know what they should know, but don't know. It takes a learned under-estimator such as François Voltaire (1764/1976:521) to recognise that "The more I read, the more I meditate; and the more I acquire, the more I am enabled to affirm that I know nothing."

When academic outcomes fall short of overoptimistic expectations, students may feel frustrated and angry - and develop a hostile attitude towards learning and the academic institution. Indeed, as Griffin and Tversky (1992) remark, the benefits of overconfidence may be purchased at a high price. It therefore appears that, despite the fact that so much research has attested to the value of illusory optimism, in an academic context educators should reconsider the importance of accurate self-perception.

The main challenge is to achieve this without destroying students' self-esteem. It would hardly be feasible or acceptable to quell an excess of optimism by deliberately demolishing a person's positive self-concept. This is surely not the way to go about improving performance. As George Bernard Shaw (1903/1974:489) pointed out, "It is easy - terribly easy - to shake a man's faith in himself. To take advantage of that to break a man's spirit is devil's work." To avoid the negative consequences of overconfidence, students should therefore be encouraged to have enough optimism to sustain their hope for future success, motivation, persistence and activity level (even perhaps in another field).

This may be made easier by helping students analyse their particular difficulties and weaknesses in terms of the requirements of their courses and by helping them to realise what they do not know - for "Education is learning what you didn't know you didn't know" (Ralph Waldo Emerson).

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