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Expectations of an exercise prescription scheme: An exploratory study using repertory grids

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Objectives. The study aimed to investigate in depth the personal constructs relating to exercise of individuals referred by their medical practitioner for a 10-week gym-based exercise programme. It further aimed to study the expectations of change on these constructs and the extent to which these predicted adherence. A subsidiary aim was to evaluate the usefulness of repertory grid methodology in the exercise context.

Design. This was a longitudinal study.

Methods. Participants were interviewed at the start of the 10-week exercise programme. During the interview they completed repertory grids designed to elicit constructs about exercise-related change. Participants were followed up at three months to check adherence.

Results. Three illustrative individual case studies are presented in detail followed by some aggregated analyses. These suggest that expectations of change were very diverse and often overoptimistic. Those who completed their course of exercise had more modest expectations of change than those who failed to complete. They also showed less gulf between their current view of themselves and their view of themselves as they would like to be.

Conclusions. The study suggests that having realistic aims and understanding of the outcomes that can be expected from a brief exercise programme is an important predictor of success, but one that may currently be overlooked in the enthusiasm to implement exercise prescription schemes.

In recent years, schemes in which medical practitioners refer patients for specially designed courses of exercise (sometimes also known as exercise prescription schemes) have been developed all over the UK in recognition of the need to promote physical exercise

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and as a response to the 'Health-of-the-Nation strategy' to reduce levels of coronary heart disease and stroke (Secretary of State for Health, 1992). There are a number of alternative models for such schemes, but the approach that formed the focus of the present study is typical of many. Here, people suffering from a range of minor medical conditions (for example, raised blood pressure, obesity or anxiety) were offered a 10-week course of individually tailored and supervised exercise at a local gym. Participants were able to attend the gym at a concessionary rate. Progress was monitored by fitness assessments at the start and after 10 weeks.

There has been little research into the effectiveness of these schemes (Jones & Harris, in press) but a few recent studies have shown physical and psychological benefits where people have completed the course of exercise. For example, two small-scale evaluations, in Liverpool (Hammond, Brodie, Bundred & Cummins, 1995) and in Hertfordshire (Jones & Harris, 1995*a*) both found significant improvements in aerobic capacity, blood pressure and body fat as well as in psychological well-being. However, failure to adhere to exercise prescriptions is a persistent feature of such schemes (Lord, 1994; Taylor, 1996). The major challenge for exercise schemes is to find ways to increase adherence to the initial programme and to establish long-term maintenance if major health improvements are to be achieved.

There is, as yet, little clear evidence concerning the factors that may influence adherence to these schemes. Lord (1994) and Taylor (1996) both found that those who were most inactive at the point of referral (and by implication most likely to be in need of the programme) were least likely to adhere. Those in younger age groups were also less likely to adhere (Hammond *et al.*, 1995; Lord, 1994). Few studies have looked at the psychological factors involved in participation in prescribed exercise, though one recent study by Clarke & Eves (1997) has found partial support for the transtheoretical model. While there is a lack of research findings on the psychological predictors of adherence to these schemes (Jones & Harris, 1998) the literature relating to adherence to exercise in general offers some insights. For example studies using the theory of reasoned action (Fishbein & Ajzen, 1975) and the theory of planned behaviour show that attitudes, subjective norms and perceived behavioural control predict exercise intentions and behaviour (e.g. for a review see Godin, 1993). However, such tests often leave large amounts of variance unexplained (e.g. Godin, Valois, Jobin & Ross, 1991; Godin, Vezina & LeClerc, 1989).

According to Ajzen (1991) if we believe that desirable outcomes will stem from a behaviour this will lead us to adopt positive attitudes towards it. However, if our experience fails to confirm those beliefs and expectations, then we may become disillusioned and give up. In relation to exercise, there is some evidence that those who expect more benefits from exercise are less likely to adhere (Desharnais, Bouillon & Godin, 1986). However, the nature of expectations in relation to exercise schemes (in terms of the degree of change expected and the nature of that change) have not been investigated in any depth, yet these may be a key factor in explaining why TRA/TPB models do not account for more of the variance in behaviour and an important focus of interventions to increase adherence.

The present study, which was part of a larger evaluation of an exercise prescription scheme, used repertory grid methodology to investigate the constructs related to exercise of a subset of participants. The study investigated their expectations of change over the

period of participation in the scheme and the extent to which these expectations predicted adherence.

Repertory grid technique, which stems from Kelly's Personal Construct theory (Kelly, 1955), is frequently used in clinical settings as part of therapeutic interventions. It can be equally valuable for assessment and for mapping the process of change in a range of situations. However, there are currently few examples of its application in sport and exercise psychology (e.g. Feixas, Marti & Villagas, 1989; Furnham, Titman & Sleeman, 1994). For detailed explanation of this methodology and its application to exercise, see Jones & Harris, 1995*b*.

In summary, the study had two main purposes. Firstly, it aimed to explore participants' exercise-related constructs, their expectations of change on those constructs and the extent to which these predict adherence. This aim has applied relevance in terms of suggesting methods of improving assessment of the suitability of individuals for such schemes and improving their preparation. A second aim was to evaluate the usefulness of repertory grid technique as a tool for predicting adherence which could potentially be used as a basis for interventions.

Method

Participants

Seventeen people (of whom 12 were women), who were taking part in a larger scale evaluation of an exercise prescription scheme and had volunteered to participate in interviews, were visited as soon as possible after joining the exercise scheme (in most cases within two weeks). Two were subsequently dropped from the analysis, one because she injured her back between the initial assessment and starting to exercise and the other because he had been told that he was terminally ill prior to starting the exercise scheme. Of the remainder, six completed and nine failed to complete their initial 10-week programme.

Measures and procedures

Repertory grid technique essentially involves a form of structured interview in which certain elements form the basis for an exploration of an individual's constructs. The elements are typically people, situations or events. The constructs are the dimensions used by the respondent to differentiate between the elements, for example one respondent may primarily differentiate between 'me now' and 'a fit person I know' in terms of weight or energy level, another may use a construct relating to confidence or work success.

In the present study elements were presented to the participants and these were used to elicit individual constructs. The elements were chosen to include aspects of the self ('me now', 'me as I think I will be in three months' time ', 'me in one year's time', 'me as I would like to be', 'me as I ought to be', 'me as a person close to me would like me to be', and 'me as I fear becoming') and various others who were of general significance to the person ('parent of the same sex', 'close friend of the same sex') or to the area of research ('an unfit person I know', 'a fit person I know', and 'a typical person with health problems like mine').

Nine constructs were elicited using the triadic method of presentation (Fransella & Bannister, 1977). Participants were presented with groups of cards with three of the elements written on them. The same triads were used for each individual. As only a limited number of the possible combinations of cards could be used, nine triads were selected to be as diverse as possible. All triads included at least one of the two elements 'me now' and 'me as I ought to be'. They were asked to suggest ways in which two of the three were alike and different from the third. While the aim was to elicit one construct from each triad, in fact initial triads tended to produce several constructs, while later triads yielded redundant ones. Participants frequently generated both poles of a construct, as in a statement 'Well, these ones are tenacious whereas this one is more of a couch potato'. If they did not do this they were explicitly asking for the opposite. Three constructs were supplied to

everyone ('physically fit/unfit', 'confident/not confident', and 'like me/not like me'). The resulting 12 constructs were used to produce a grid on which every element could be rated on a scale formed from each construct. For example, the participant would be presented with a seven-point rating scale where the pole 'unfit' scored 1 and 'physically fit' scored 7. They were asked to rate in turn 'me now', 'me in three months' time', etc., on this scale. They repeated this procedure for each of the constructs.

Analysis

Analyses were carried out using the specialized repertory grid package, FLEXIGRID, which produces analyses (including a principal components analysis) of individual grids. These formed the basis for the individual case studies discussed below. Although the grids were largely based on different elicited constructs, our hypothesis was that there would be some commonality between the grids of those who persisted and those who dropped out of the exercise scheme. A number of aggregated analyses were justified (Winter, 1992) and carried out. However, given the very low number of participants, these analyses are simply exploratory and should be interpreted with caution.

Results

Individual case studies

The strength of repertory grid analysis lies in the fact that they allow a detailed analysis of an individual's responses. Three case studies were selected as illustrative of some key differences which emerged between the expectations of completers and those who failed to complete. The case study of Mrs A. was selected as typical of participants who completed the course of exercise and Mrs C. as typical of those who failed to complete. Mrs B. is an extreme example of someone with high expectations who also failed to complete.

Case Study 1. A completer: Mrs A. Mrs A. is a middle-aged woman whose fitness has deteriorated as a result of a period of ill-health. The plot of the principal components analysis (PCA) in Fig. 1 gives a representation of Mrs A.'s construct system. Her constructs are shown around the circumference of the circle, the position of each construct being determined by drawing a straight line through the origin of the plot and the point corresponding to the construct's loading on the first two components (Winter, 1992). Thus opposing poles of each construct can be seen by drawing a line through the centre of the plot. The position of the elements represents both their statistical relationship to the constructs and their similarity to the other elements. It should be noted that the plot only gives an approximate indication of the individual's construct system as a multidimensional plot would be required to give a true representation.

In this case the principal component analysis (PCA) indicates that most of the variance (81 per cent) is accounted for by a single component. The constructs 'positive/negative' and 'motivated/unmotivated' load most highly on this factor, as is shown by their closeness to the axis for Component 1. However, PCA indicates that all her constructs are highly correlated: for example, 'physical fitness' correlates with 'relaxed' ($r = .72$), 'stamina' ($r = .93$), 'correct weight' ($r = .93$), 'motivated' ($r = .80$), 'self esteem' ($r = .74$), 'accepting' ($r = .69$), 'aware of other people' ($r = .72$), 'positive' ($r = .83$), 'contact with people' ($r = .80$) and 'confident' ($r = .89$). The construct 'like me' has the lowest correlation with physically fit but still shows a positive correlation ($r = .49$).

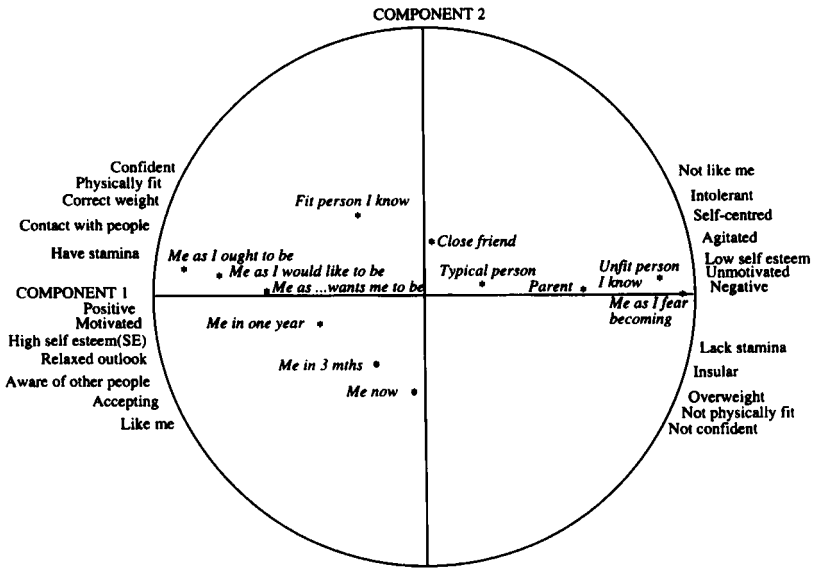

Figure 1. Plot of an exercise grid for Mrs. A. who completed the exercise programme. (Elements are shown in italics within the circle and the approximate angular positions of the constructs are shown on the periphery.)

It can be seen from the plot that the element 'Me now' is quite close to the mid-point of Component 1 (representing the fact that Mrs A. does not perceive herself to be at extremes on this dimension) and the amount of change that is expected between 'me now', 'me in three months' time' and 'me in a year' is relatively small. The numeric value for the distance between elements referring to the self at different times, for example, the element 'me now' and the element 'me in three months', gives more accurate representation of how each individual is expecting to change across all the constructs they have used. The statistic used is based on a scale on which a value of zero means two elements are construed as identical, a value of 1 would be expected by chance and scores seldom exceed 2. The distance between 'me now' and 'me in three months' time' for Mrs A. is .33 and between 'me now' and 'me in a year' is .61. The distance between 'me now' and 'me as I would like to be' is .91. She expects that even after a year there will remain a distance between herself and how she would like to be (.39) and ought to be (.49). While physical fitness was associated with a range of other constructs for Mrs A., she primarily expected to change herself on the constructs of stamina, weight, and fitness. Inspection of her individual rating on these constructs showed that there was a three-point difference or more in her rating on 'me now' and 'me in one year' on these constructs whereas she expected only one point changes over a year in confidence, positivity and contact with people and no change on other constructs. Mrs A.'s expectations for the next year are restricted in scope and arguably fairly realistic.

Case Study 2. Mrs B.: A non-completer. Mrs B. is a young woman with a young family. She has health problems associated with excess weight gain in recent years. The plot of the principal components analysis of Mrs B. is shown in Fig. 2. Here the first component

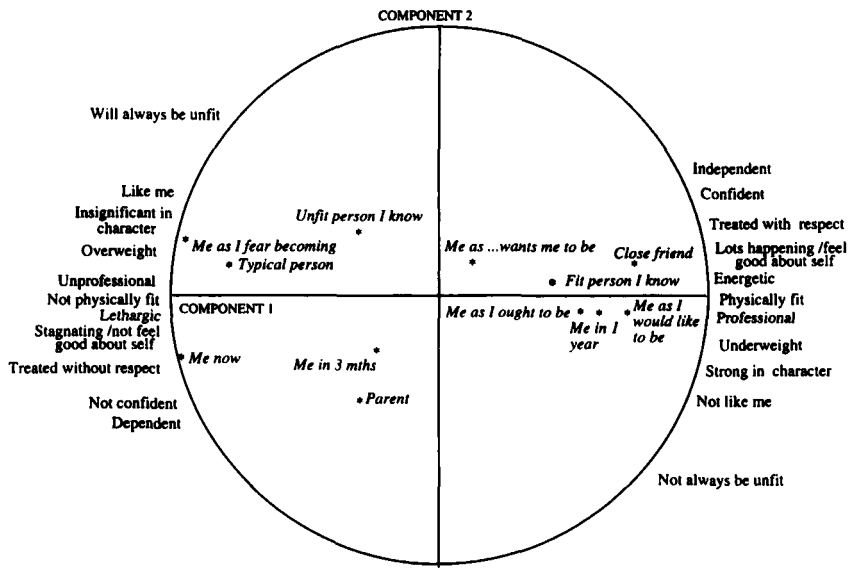

Figure 2. Plot of an exercise grid for Mrs. B. who failed to complete the exercise programme.

accounts for 78.5 per cent of the variance again suggesting that, like Mrs A., most of her constructs are highly correlated. Mrs B. has a very wide range of quite diverse constructs which are highly correlated with physical fitness. 'Physical fitness' correlates with 'independent' ($r = .75$), 'underweight' ($r = .91$), 'feeling good about self' ($r = .81$), 'energetic' ($r = .92$), 'strong in character' ($r = .80$), 'lot happening in life' ($r = .88$), 'people treat with respect and interest' ($r = .74$), 'professional' ($r = .65$), and 'confident' ($r = .85$). The correlation between 'physically fit' and 'like me' is negative ($r = -.81$).

Mrs B.'s plot indicates that 'me now' is close to all the negative poles (with the exception of 'will always be unfit'). She clearly felt that there were some people who had always been unfit and would always be, but that she was not one of them. In three months she expects to move some way towards change towards the positive ends of the poles on all these variables and in one year she expects to have just about made it to being physically fit, strong in character, treated with respect, etc., as well as moving more towards her ideal. The distance between 'me now' and 'me in three months' time' = .85 and between 'me now' and 'me in a year' = 1.60. The distance between 'me now' and 'me as I would like to be' = 1.70 and 'me as I ought to be' = 1.54, however in a year's time she expected that those distances would be reduced to .21 and .19 respectively. Not only was Mrs B. expecting big changes overall but in the next three months she was expecting three point changes on the seven-point scales for the constructs 'people treat with respect and interest', 'confident' and 'lot happening in life', even though she seemed to take a realistic view that weight and fitness changes might be more gradual. The fitness programme was for this person associated with a highly optimistic plan to lose weight and change many aspects of her life. She gave up after only one or two sessions.

Case Study 3. Another non-completer: Mrs C. Mrs C. is a retired person, living alone, who is

rather isolated and depressed. She shows a system of constructs which illustrates a different lack of realism to Mrs B. Here principal components analysis shows a first component accounting for 42 per cent of the variance and a second component accounting for 40 per cent. The construct which loads most highly onto the first component is 'covering up problems', which for her is a positive trait associated with being 'happy', 'healthy', 'physically fit' and 'self-conscious'. The construct of 'physical fitness' only accounts for 5.2 per cent of the variance suggesting it is not particularly important to her, neither is overweight (6.2 per cent) compared with 'covering up problems' (14.4 per cent) or 'self-conscious' (9.6 per cent). Component 2 is primarily defined by variables such as 'not confident', 'embarrassed' and 'likes privacy'. Physical fitness correlates quite highly with: 'able to cope' ($r = .85$), 'healthy' ($r = .77$), 'covers up problems' ($r = .70$), 'happy' (.92), and 'not overweight' ($r = .91$). However, there is very little correlation with the variables which characterize Component 2, such as 'likes privacy' ($r = -.04$), 'shy' ($r = -.013$), and 'embarrassed' ($r = -.18$). Moderate correlations exist between physical fitness and 'self-conscious' ($r = .32$) and 'confident' ($r = -.31$) and 'like me' ($r = .54$). Mrs C. sees herself as closest to the poles for 'not confident', 'embarrassed' and 'shy'. Her expectations of change are not as extreme as Mrs B. She is fairly close to the mean for the non-completers on these element distances, with the distance between 'me now' and 'me in three months' time' = .70 and between 'me now' and 'me in a year' = .93. The distance between 'me now' and 'me as I would like to be' = 1.11. However, her main expectations of change (shown on Fig. 3) are on Component 2. She has expectations that in one year's time she will move two or more points on the seven-point scale towards being less embarrassed, more able to cope, less shy, less self-conscious and more confident. Few of these constructs are related to physical

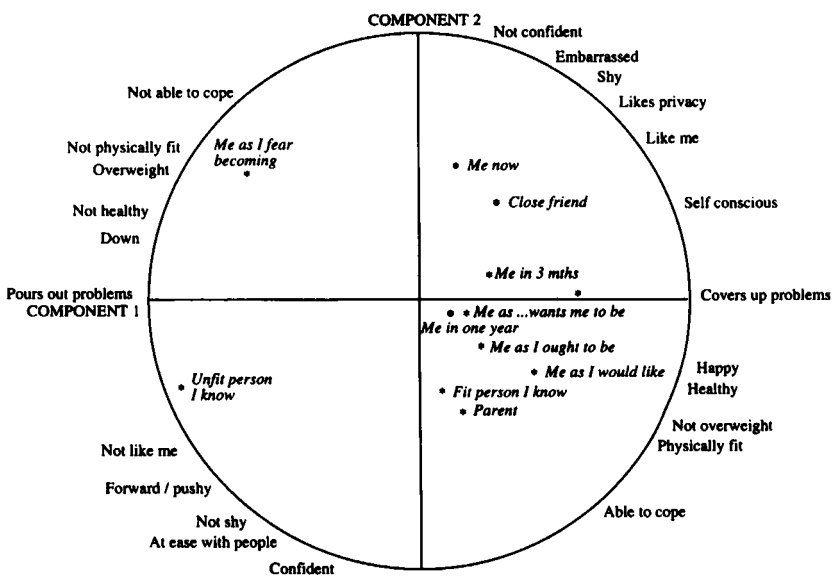

Figure 3. Plot of an exercise grid for Mrs C. who failed to complete the exercise programme. (This person was unable to provide ratings for 'a typical person with health problems like mine'.)

fitness and health on which her expectations of improvement were generally more modest. Mrs C. dropped out fairly early on due to aches and pains; arguably she was not helped by starting with expectations which were inappropriate. Some other kind of referral perhaps for a social activity would appear to be more in keeping with Mrs C.'s goals.

Aggregated results

Analysis of supplied constructs. The analysis of each individual grid yields the percentage of variance accounted for by each construct. This provides an indication of the usefulness of the construct in differentiating between elements for each person. These can then be compared across completers and non-completers. The construct of physical fitness accounts for significantly more of the variance for completers than for non-completers, suggesting that this construct was perceived as more useful for differentiating between elements (and by implication may be more important to them). The mean amount of variance accounted for by this construct for completers was 11.7 per cent (SD = 3.1), and for non-completers it was 8.8 per cent (SD = 1.8, $t(13) = -2.29, p < .05$). There was no difference between the two groups in the variance accounted for by the construct 'confidence' (mean percentage for completers = 6.5, SD = 2.7, non-completers = 6.6, SD = .54).

The third supplied construct 'like me' was not included in this analysis as some participants seemed confused by this construct and found it ambiguous. Other differences did not reach significance.

Analysis of relationship between elements

The distances between elements were compared for completers and non-completers (Table 1). There is a larger distance between the element 'me now' and 'me in one year', as well as between the element 'me now' and 'me as I would like to be', for those who failed to complete than those who succeeded. Non-completers also perceive greater distance between 'me now' and 'a fit person I know'.

Relationships between elements and constructs

The relationships between elements and constructs are expressed as cosines for each individual (equivalent to correlations) and also as degrees, which are inversely related to cosines (see Winter, 1992). Where elements and constructs are the same across grids (as is the case for the supplied constructs) then the relationship can be compared across participants. Table 2 shows the difference between completers and non-completers on the element relationships with the constructs of physical fitness and confidence. This shows that non-completers perceived a significantly greater distance than completers between 'me now' and the constructs 'physically fit' and 'confident'. There was also a greater difference between 'me in 3 months' time' and both 'physically fit' and 'confident' but no difference between 'me in one year' and both these constructs. (There does however tend to be greater variation in these element-construct distances for non-completers). There was no significant difference between the two groups in the distance between 'physically

Table 1. A comparison of the mean distance between elements for completers and non-completers (SD in parentheses)

Elements	Completers ($N = 6$)	Non-completers ($N = 9$)	t sig.
Me now—Me as I think I will be in three months' time	0.57 (0.20)	0.63 (0.28)	n.s.
Me now—Me in one year's time	0.68 (0.14)	1.04 (0.36)	2.7*
Me now—Me as I would like to be	0.94 (0.16)	1.25 (0.34)	2.1*
Me now—Me as I think I ought to be	0.96 (0.33)	1.22 (0.30)	n.s.
Me now—Me as I fear becoming	0.94 (0.29)	0.89 (0.41)	n.s.
Me now—Me as (someone close to me) wants me to be	0.87 (0.16)	1.07 (0.23)	n.s.
Me now—A typical person with health problems like mine	0.77 (0.17)	0.57 (0.21)	n.s.
Me now—An unfit person I know	1.07 (0.40)	0.76 (0.47)	n.s.
Me now—A fit person I know	0.83 (0.21)	1.20 (0.25)	2.98**
Me now—A close friend of the same sex	0.82 (0.26)	0.95 (0.40)	n.s.
Me now—A parent of the same sex	0.91 (0.12)	0.88 (0.30)	n.s.

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

fit' and 'confident' and any of the other elements. Overall, this analysis indicates that those who fail to complete perceive themselves to be further from their ideal than those who complete and have bigger expectations of change.

Discussion

The case studies highlight the diversity of approaches and expectations that people bring to an exercise scheme. Mrs A. had quite clearly focused and modest aims for changes which were relevant to the scheme and she completed the 10 weeks of exercise. In contrast, Mrs B. seemed to see her next few months as leading to major changes in her life. While it may have been the case that Mrs B. did not expect all of these changes to result from exercise alone, the close association of diverse constructs with physical fitness indicated that a change in weight and fitness would be associated with major life changes for her. She failed to attend after the first week or two. For Mrs C., much of her expectation of change was to do with becoming less self-conscious, shy and embarrassed, constructs she did not strongly associate with physical fitness. Her expectations were clearly at odds with the aims of the scheme and she soon stopped attending.

These results are thus consistent with other findings which show that high outcome expectancies are associated with failure (e.g. Desharnais *et al.*, 1986) and they shed some light on the type of expectations held by those who drop out of exercise schemes.

In focusing on a vision of themselves as, for example, much slimmer, fitter and more confident, people may not be psychologically prepared for the reality of hard work, discomfort and often slow improvement towards that goal. This would appear to be an example of circumstances in which optimistic expectations may not be an asset. In studies

Table 2. Mean angular distances in degrees between the supplied constructs 'physically fit' and 'confident' and elements relating to time (SD in parentheses)

	Physically fit			Confident		
Elements	Completers ($N = 6$)	Non-completers ($N = 6$)	t sig.	Completers ($N = 6$)	Non-completers ($N = 6$)	t sig.
Me now	104.4 (7.3)	136.6 (23.5)	3.84**	112.9 (15.4)	137.0 (19.3)	2.6*
Me as I think I will be in three months' time	52.1 (22.7)	90.9 (39.1)	2.18*	58.4 (23.0)	98.5 (36.4)	2.4*
Me in one year's time	35.5 (19.1)	42.4 (24.9)	n.s.	39.5 (15.1)	49.2 (24.3)	n.s.

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

looking at dieting, Oettingen & Wadden (1991) found that while positive expectations were associated with success, positive fantasies predicted failure. In the present study, it may also be the case that participants' views of how they would be in one year's time were little more than fantasies. The presence of unrealistic expectations may be one indication of lack of readiness for the exercise scheme.

Recent, more dynamic approaches to predicting health behaviours have placed a greater emphasis on the need for preparation (e.g. Prochaska & Marcus, 1994) or planning (e.g. Gollwitzer, 1993; Schwarzer, 1992). The present study would suggest that an important aspect of such preparation would be to focus on people's understanding of or expectations of exercise. In some cases (e.g. Mrs C.), this could help determine whether some other type of intervention may be more in keeping with their own goals, in others (e.g. Mrs B.) such preparation should help them to make more realistic steps towards meeting their goals.

The use of repertory grids as an exploratory technique has been useful in suggesting the kind of expectations people have of exercise schemes. Measures of expectations on the most popular constructs derived from this study are currently being incorporated in a longitudinal questionnaire study predicting adherence in a large sample. However, in addition to their use as a research tool there may be scope for use of the technique in interventions. While the type of grid analysis employed in this study is clearly time consuming and not practical for interventions, people could be asked to rate where they are now, where they think they will be at times in the future on a range of constructs. Discussion could then centre around how they intend to achieve these goals and what the contribution of exercise is likely to be, whether this is realistic and what concrete plans need to be put in place. This type of approach could also be presented in leaflets for people to complete at home and integrated with stage-matched approaches.

Repertory grids are time consuming and make considerable demands on participants, however their strength lies in facilitating a deeper exploration of the participants' own individual approach to an issue which can suggest hypotheses for further research. In this case the analysis suggests that perhaps traditional approaches to adherence fail to take into account the wide range of outcome expectancies and goals of participants. The analyses based on aggregated data are clearly limited in having a very small sample with very little power to detect significant differences (hence there is a high likelihood of Type 2 errors). The number of multiple comparisons conducted however increases the likelihood of Type 1 errors. Adopting a more stringent level of significance to correct for multiple comparisons would seem to be reducing the risk of Type 1 errors at the expense of exacerbating the problem of lack of power. A further issue is that there may have been other differences between completers and non-completers which influenced results. For example, it is known that people who succeed in these programmes tend to be more active at the outset and the smaller perceived distance between 'me now' and 'a physically fit person' indicates that this may be the case.

To conclude, the key issues emerging from this study were the high expectations of change of some participants and the diversity of constructs which they associated with physical fitness. In some cases their expectations of change in fitness went hand-in-hand with expectations of a wide range of other changes (which it was unlikely that

they would be able to fulfill within three months or even a year). Other participants expected change over a much smaller range of more specifically fitness-related variables. By pooling the data across completers and non-completers this study suggested that those who failed to complete the scheme were less realistic in the extent of changes they expected to make.

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References

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behavior and Human Decision Processes*, 50, 179–211.

Clarke, P. & Eves, F. (1997). Applying the transtheoretical model to the study of exercise on prescription. *Journal of Health Psychology*, 2, 195–197.

Desharnais, R., Bouillon, J. & Godin, G. (1986). Self-efficacy and outcome expectations as determinants of exercise adherence. *Psychological Reports*, 59, 1155–1159.

Feixas, G., Marti, J. & Villagas, M. (1986). Personal construct assessment of sport teams. *International Journal of Personal Construct Psychology*, 2, 49–54.

Fishbein, M. & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior*. New York: Wiley.

Fransella, F. & Bannister, D. (1977). *A Manual for Repertory Grid Technique*. London: Academic Press.

Furnham, A., Titman, P. & Sleeman, E. (1994). Perception of female body shapes as a function of exercise. *Journal of Social Behaviour and Personality*, 9, 335–352.

Godin, G. (1993). The theories of reasoned action and planned behaviour: Overview of findings, emerging research problems and usefulness for exercise promotion. *Journal of Applied Sport Psychology*, 5, 141–157.

Godin, G., Valois, P., Jobin, J. & Ross, A. (1991). Prediction of intention to exercise in individuals who have suffered from coronary heart disease. *Journal of Clinical Psychology*, 47, 762–772.

Godin, G., Vezina, L. & LeClerc, O. (1989). Factors influencing the intention of pregnant women to exercise after giving birth. *Public Health Reports*, 104, 188–195.

Gollwitzer, P. M. (1993). Goal achievement, the role of intentions. In W. Stroebe & M. Hewstone (Eds), *European Review of Social Psychology*, vol. 4. Chichester, Sussex: Wiley.

Hammond, J. M., Brodie, D. A., Bundred, P. E. & Cummins, A. (1995). *Exercise on Prescription: An Evaluation. A Guide for Similar Schemes Based upon the Work of the Life Project and the University of Liverpool*. Liverpool: University of Liverpool.

Jones, F. & Harris, P. (1995*a*). Exercise prescription: The psychological predictors and benefits of compliance. Paper presented at the 9th Conference of the European Health Psychology Society. Bergen, August.

Jones, F. & Harris, P. (1995*b*). The use of repertory grid technique in exercise psychology. In C. Robson, B. Cripps & H. Steinberg (Eds), *Quality and Quantity: Research Methods in Sport and Exercise Psychology. An Occasional Publication for the Sport and Exercise Psychology Section of the British Psychological Society*. Leicester: BPS.

Jones, F. & Harris, P. (1998). Adherence to prescribed exercise. In L. B. Myers & K. Midence (Eds), *Adherence to Treatment in Medical Conditions*. Reading: Harwood Academic Press.

Kelly, G. A. (1955). *The Psychology of Personal Constructs*. New York: Norton.

Lord, J. (1994). *Exercise on Prescription: Does it Work*. Stockport: Stockport Health Commission.

Oettingen, G. & Wadden, T. A. (1991). Expectation, fantasy and weight loss: Is the impact of positive thinking always positive? *Cognitive Therapy and Research*, 15, 167–85.

Prochaska, J. O. & Marcus, B. H. (1994). The transtheoretical model: Applications to exercise. Advances in exercise adherence. In R. K. Dishman (Ed.), *Exercise Adherence*. Champaign, IL: Human Kinetics.

Schwarzer, R. (1992). Self-efficacy in the adoption and maintenance of health behaviour: Theoretical approaches and a new model. In R. Schwarzer (Ed.), *Self-Efficacy: Thought Control of Action*. London: Hemisphere.

Secretary of State for Health (1992). *The Health of the Nation: A Strategy for England*. London: HMSO.

Taylor, A. H. (1996). *Evaluating GP Exercise Prescription Schemes: Findings from a Randomised Control Trial*. Brighton: Chelsea School Research Centre, University of Brighton.

Winter, D (1992). *Personal Construct Psychology in Clinical Practice*. London: Routledge.

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