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'Come for the weight loss, stay for the enjoyment'- exploring attributions for initiating and maintaining exercise

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The potential benefits from engaging in physical activity and exercise in terms of both physical and mental health are well established. Regular exercise has been demonstrated to have preventative effects for several chronic illnesses, and it is generally agreed that there is a strong relation between exercise and psychological health. Despite this, exercise levels in the community are generally low. Irish National Health Strategy targets are to increase exercising rates by 20 - 30%. Approximately 50% of adults who commence exercise programmes drop out within six months indicating that, if exercise promotion strategies are to be successful, it is necessary to know both how to get people to adopt exercise, and how to get people to maintain their exercise activity. With a view to informing health promotion practice at community level, this study aimed to identify why regular exercisers continue to exercise, and to determine whether important gender differences exist.

The potential benefits from engaging in physical activity and exercise in terms of both physical and mental health are well established.

Regular exercise has been demonstrated to have preventative effects for several chronic illnesses. It appears, for example, that the risk of coronary heart disease, non-insulin dependent diabetes mellitus, reproductive and colon cancers, and osteoporosis, declines with increased physical activity (Blair, Wells, Weathers & Paffenbarger, 1994; Marcus, Bock, Pinto & Clark, 1996).

Research evidence has accumulated in the past thirty years highlighting the psychological benefits of exercise. The majority of studies examining the relationship between exercise and self-esteem, anxiety, and depression, report a positive association (Hodgins, 1998), and it is generally agreed that there is a strong relation between exercise and psychological health (McAuley & Rudolf, 1995; Scully, Kremer, Meade, Graham & Dudgeon, 1998).

Despite the known benefits of exercise for physical health and the

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apparent benefits for psychological health, exercise or physical activity levels in the community are generally low. It is estimated that about 70% and 75% of the English and American population, respectively, do not take adequate physical activity (Pate et al., 1995; Sports Council and Health Education Authority, 1992). In Ireland, although estimates of participation in physical activity appear to be high (e.g., 74%: Dept of Education, 1996; 87%: Institute of European Food Studies, 1997), these surveys offer only very crude estimates, including as they do a very wide range of exercise and leisure activities. In addition they do not consistently differentiate between regular systematic exercise and sporadic exercise.

More detailed information was sought in the first Irish national lifestyle survey. From this it emerged that only 42% of the adult population engage in some form of regular exercise, and 21% do not exercise at all. More specifically, 24% did mild exercise four times per week, 31% engaged in moderate exercise three times per week, and only 9% exercised strenuously three times per week (Freil, NicGabhainn & Kelleher, 1999).

Irish National Health Strategy targets are to increase these exercising rates by 20 - 30%. Similar strategies are in place elsewhere as exercise plays an increasingly important role in public health programmes aimed at reducing levels of chronic disease (Marcus & Simpkin, 1993). The challenge for health promotion involves not just establishing the relationship between lifestyle factors and health, but also understanding the motivational factors which encourage people to engage in health promoting behaviours (Kelleher, Solan & MacKeown, 2000). If exercise promotion strategies are to be successful, it is necessary both to know how to get people to adopt exercise activity, and to get people to maintain their exercise activity.

Studies on determinants of exercise behaviour have revealed that certain non-modifiable determinants exist, for example, age, ethnicity, educational status, social class and gender (Hillsdon & Thorogood, 1996). It is also evident that a host of personal, social and environmental factors are influential in determining who undertakes exercise and who does not. Studies in this area have been largely cross-sectional or prospective. For example, exercise self-efficacy, positive self-image, and positive attitudes to exercise have been shown to differentiate between exercisers and non-exercisers (Ogden, 1996). One of the strongest determinants of exercise activity is prior exercise behaviour (Dishman, Sallis & Orenstein, 1985; Norman & Smith, 1995). Support from a spouse, access to facilities, availability of time, self motivation, behavioural skills and perception of good health, have all been shown to predict exercise, up to one year after initiation (Dishman et al. 1985).

A number of studies have addressed the question of why people

participate in physical activity. Reasons that pertain to health are the most frequently given (Department of Education, 1996; Institute of European Food Studies, 1997). Getting out of doors, reducing tension and increasing fitness are also important reasons for participation.

Approximately 50% of adults who commence exercise programmes drop out within six months (Dishman, 1990). Similarly, exercise rates have been shown to decline with age (Institute of European Food Studies, 1997). For example, 53% of Irish school children report exercising four times per week, but that exercising rates decrease with age, and especially so for girls. Exercising four times per week decreases from 63% in 9 - 11 year olds to 40% in 15 - 17 year olds. For girls the rates drop from 59% of 9 - 11 years olds, through 49% for 12 - 14 year olds to 26% for 15 - 17 year olds (Freil, NicGabhainn & Kelleher, 1999). The challenges for health promotion are to increase levels of exercise in a population by finding ways of facilitating and supporting people adopting exercise, and maintaining their exercise activity. Prospective studies on the determinants of exercise activity and those that aim to identify reasons why people engage in exercise activity fail to differentiate between adoption and maintenance of exercise, and they typically do not explore gender differences. They are therefore limited in their usefulness in promoting exercise activity. In order to increase exercise activity within the population, it is also necessary to ascertain what factors determine maintenance of exercise.

This study aimed to identify why regular exercisers continue to exercise, and to determine whether or not there exist important gender differences. It was hoped that the results would inform health promotion practice at community level.

METHOD

A structured interview was carried out with 44 regular exercisers. Respondents were asked questions about their exercise behaviour and reasons for commencing and maintaining exercise. The interview schedule, exploratory in nature, was piloted with ten subjects and amended accordingly.

The sample was a 'snowball' sample, a method of non-probability sampling recommended when it is impossible to identify all possible subjects that fall into the category of interest (Fife-Schaw, 1995; Hall & Hall, 1996). The criteria for inclusion in the sample were: (a) engaging in regular exercise, i.e., 2 - 3 times per week, for 20 - 30 minutes per week, for at least one year (past year); (b) the exercise activity must not be primarily in the context of club sports.

A sample of 21 female participants and 23 male participants was recruited and interviewed. All participants were resident in County

Galway, Ireland. Informed consent was obtained by all participants in the study.

Interview Protocol

The elements of the structured interview were as follows;

- Frequency and duration and type of regular exercise
- Reasons for commencing and for maintaining exercise
- Enjoyable and unenjoyable aspects of regular exercise
- Perceived fitness change and perceived indicators of fitness change

Interviews were conducted, either face-to-face, or by telephone. Responses were recorded by hand, and subsequently subjected to a content analysis.

RESULTS

Means for demographic information are reported for the total sample and for the female and the male groups separately. A content analysis derived categories of reasons for commencing an exercise programme, maintaining an exercise programme, enjoyable and unenjoyable aspects of exercise, and perceived indicators of fitness gain. These categories were subsequently subjected to a statistical analysis. Chi squared tests were conducted on the distribution of reasons/aspects across categories and on proportions of reasons/aspects in each category for the male and female groups.

Demographic information: Age

The total sample was predominantly under 35 years of age and the male sample was significantly younger than the female sample ($t=4.02$, $p<.05$). Proportions within each age band are presented in Table 1.

Table 1: Age of respondents.

| Age band | Females | Males | Total sample |
|----------|-----------|-----------|--------------|
| 15-20 | 2 (9%) | 2 (9%) | 4 (9%) |
| 21-25 | 5 (24%) | 10 (43%) | 15 (34%) |
| 26-30 | 5 (24%) | 4 (17%) | 9 (20%) |
| 31-35 | 0 | 5 (22%) | 5 (11%) |
| 36-40 | 4 (19%) | 1 (4%) | 5 (11%) |
| 41-45 | 1 (5%) | 1 (4%) | 2 (4%) |
| other | 4 (19%) | 0 | 4 (9%) |
| TOTAL | 21 (100%) | 23 (100%) | 44 (100%) |

Table 2: Employment, occupation and education.

| Variable | Mean males- | Mean females- | t value males v's females | Level of sig. |
|-------------------|----------------|------------------|---------------------------------|------------------|
| Employment status | 1.39 | 1.33 | 0.06 | p>.05 |
| Occupation status | 1.82 | 1.66 | 0.36 | p>.05 |
| Education level | 2.57 | 2.73 | 0.73 | p>.05 |

Demographic information; employment, occupational and educational status

The majority of the sample (80%) were employed, had attained third level education and just over half (52%) were either classed as professional or self-employed with a further 20% classified as white collar workers. For employment status, occupation and education, there were no significant differences between male and female participants (Table 2).

Table 3: Main form of regular exercise.

| Female participants | Male participants |
|----------------------|---|
| Walking (11) | Gym (12) |
| Aerobics (3) | Running (6) |
| Squash (2) | Swimming (4) |
| Circuit training (2) | Aerobics (3) |
| Running (2) | Soccer (2) |
| Step aerobics | Basketball |
| Swimming | Circuit training |
| Gym | Walking |
| Horse riding | Cycling |
| Scottish dancing | Yoga |
| Hill walking | Dance |
| | Rock climbing |
| TOTAL = 26 | TOTAL = 34 (forms of exercise identified) |

NB figures in parentheses refer to the number of subjects who identified the exercise activity

Type, frequency and duration of regular exercise

Participants were requested to identify their main form of regular exercise (Table 3). For male participants, 'working out at the gym' was the type of exercise mentioned with greatest frequency. For female participants, 'walking' was the most frequent. Participants were asked to state how many times per week they engaged in regular exercise. There was no significant difference between males and females for frequency of exercise ($X^2 = 1.12$, $df = 1$, $p > .02$).

Participants also indicated how long they had been exercising regularly. The mean number of years exercising regularly for the total group was 5 and there was no significant difference between males and females on this variable ($t = 0.50$, $p > .05$).

Reasons for initiating and for maintaining exercise

In order to assess motives for becoming involved in exercise, participants were asked what prompted them to initiate an exercise programme and what they hoped to gain from exercising. They were also asked what kept them exercising. Responses were sorted into categories and frequencies in each category are presented in Tables 4a and 4b.

Table 4a: Response frequencies to different categories of response to aspects on initiation and maintenance of exercise activity.

| Initiation of exercise activity | | Maintenance of exercise activity | |
|---------------------------------|------------|----------------------------------|-----------|
| Fitness | 47 (31%) | Fitness | 15 (23%) |
| Appearance/Weight loss | 36 (23%) | Physical health | 6 (9%) |
| Physical health | 24 (16%) | Mental health | 12 (18%) |
| Mental health | 19 (12%) | Enjoyment | 14 (21%) |
| Enjoyment | 15 (9%) | Appearance | 10 (16%) |
| Specific person or event | 13 (8%) | Routine | 4 (6%) |
| | | Specific person or event | 4 (6%) |
| TOTAL | 141 (100%) | TOTAL | 65 (100%) |

Initiation exercise

Responses to questions "what prompted you start up exercising," and "what did you hope to get out of regular exercise?" fell into five categories: fitness, appearance or weight-loss, physical health, mental health and enjoyment, and specific events or people. Fitness reasons were given with greatest frequency. A small number of reasons referred specifically to a need for increased energy.

The second most frequently given type of reason referred to either weight loss or the desire to "improve body shape" or to tone up. Female subjects gave largely weight loss reasons, while male subjects gave more varied reasons including weight loss, shaping up and building muscle.

The third most frequently given reason (16%) for initiating exercise related to physical health. These responses referred mainly to general health and a few to specific aspects of physical health. A further 12% of reasons related to mental health. About two thirds of these were general in nature. The remaining third were specific, referring either to self confidence or to stress. Only a small number of reasons were given as being related to the enjoyment of exercise. These included the fact that initiating exercise was a "challenge", was "for fun", a "new interest", or offered possibilities for social interaction. Reasons in the specific events or persons category included references to parents, friends, a need to walk the dog or exercise as a college requirement.

Maintaining exercise

Respondents were also asked what had kept them exercising regularly. Content analysis of these responses yielded seven categories (Table 4a): fitness, enjoyment, gains in mental health, gains in physical health, changes in appearance, routine and specific events or people. Almost a quarter of the responses (23%) to this question pertained to fitness, and many of these described the process of becoming fitter. A similar proportion of reasons (21%) referred to the fact that it was "enjoyable" and "fun" or that they "love it". This included a few reasons referring to the social interaction involved. Eighteen per cent of reasons referred to mental health in a general sense. Only one reason referred to a specific aspect of mental health; a reduction in stress levels. The fourth largest category of reasons referred to changes in appearance, principally to do with how exercise keeps weight down or prevents weight gain. Six per cent of reasons for maintaining exercising referred to either the routine aspect or to the efforts of a specific person or event.

Enjoyable and unenjoyable aspects of regular exercise

Content analysis yielded ten categories of enjoyable aspects of exercising (Table 4b).

Enjoyable aspects

Almost one fifth of enjoyable aspects referred to the social interaction involved, typically meeting people or making friends. The same proportion of aspects referred to the immediate after-effects of exercise. These included references to generally "feeling good", or having a "sense of well-

Table 4b: Response frequencies to different categories of response to perceived fitness change and enjoyable/unenjoyable aspects of exercise activity.

| Perceived changes in fitness | | Enjoyable aspects of exercise | | Unenjoyable aspects of exercise | |
|------------------------------|-----------|-------------------------------|------------|---------------------------------|-----------|
| Endurance | 23 (35%) | The after effect | 24 (19%) | Pain | 13 (34%) |
| Physical health | 15 (23%) | Social interaction | 23 (19%) | Motivating self | 9 (24%) |
| Mental health | 9 (14%) | Fitness gain or physical gain | 20 (16%) | Weather | 8 (21%) |
| Appearance | 18 (28%) | Outdoor | 18 (15%) | Time | 5 (13%) |
| | | Buzz/adrenalin | 15 (12%) | Expense | 3 (8%) |
| | | Appearance | 10 (8%) | | |
| | | Music | 3 (2%) | | |
| | | Time for self/to think | 5 (4%) | | |
| | | Skills enhancement | 5 (4%) | | |
| TOTAL | 65 (100%) | TOTAL | 123 (100%) | TOTAL | 38 (100%) |

being", and more specific positive feelings, such as "relaxing in the steam room afterwards", and the "nice tiredness" after exercise. Feelings of virtuousness were also included in this category, for example, "feeling you've achieved something", or having "done something worthwhile". Those aspects that related to fitness gain constituted the third largest category (16%) and included both the process of becoming fitter, and the fact that the respondent had achieved this. Fifteen per cent of reasons referred to being out of doors, or being in the fresh air, while a further 12% were about the competitive aspect of exercise, "pushing yourself" or, as one respondent described it, "the enjoyment of pure physicality". A small number of aspects referred to changes in appearance, again largely to do with weight loss or having a "better shape". The opportunity to enhance skill, and to have time to think, each constituted 4% of enjoyable aspects.

Unenjoyable aspects

Pain, difficulties in motivating oneself, and unpleasant weather conditions were the main unenjoyable aspects, together comprising 79% of responses in this category. The unenjoyable aspect of exercise most frequently mentioned was 'pain', especially on the part of male respondents. The pains described were either muscle pain or back pain. Almost one quarter of unenjoyable aspects referred to difficulties associated with motivating oneself.

Perceived fitness change and perceived indicators of fitness

Participants were asked whether they felt that their level of fitness had changed since commencing regular exercise. Nineteen of the 21 female participants and 22 of the 23 male participants felt that their fitness level had increased. Participants were further asked to identify the sort of behaviours or indicators which suggested that their fitness had changed. Two female participants and one male participant mentioned specific fitness testing. All other "indicators" were sorted into four categories: changes in endurance, appearance, and physical and mental health.

Most interpretations of fitness increase were in terms of endurance (35%). Respondents referred mainly to endurance in the context of exercise activity, for example; "I'm not as tired when walking". For some, endurance was interpreted in the context of every day activities. One person stated for example: "I can run for the bus and can go for long walks". A further 28% of indicators of fitness gain referred to changes in appearance. These typically described changes in muscle definition or size, or weight loss. Twenty three per cent of indicators could be described as pertaining to physical health, including the 'protective' effects of exercise. The remaining 14% of indicators could be described as changes in mental health. Most of these referred to a general sense of well-being or feeling good, or to a reduction in stress levels.

Comparisons were made between the number of reasons from each category given by male and female participants. Chi squared tests were used for all comparisons. No significant sex differences were found.

DISCUSSION

In this exploratory study, 44 regular exercisers completed a structured interview in which they gave information on why they commenced an exercise program, why they maintained it, what indicators they used to gauge fitness increase, and what was enjoyable and not enjoyable about exercising.

The majority of respondents were under 30 years of age (63%) with just one third of the sample between 21 and 25 years of age (Table 1). This concentration at the younger end of the spectrum is probably a reflection of the association between youth and exercise or sports participation in society. The majority of the sample (80%) were employed, had attained third level education and just over half (52%) were either classed as professional or self-employed with a further 20% classified as white collar workers. The sample included a disproportionate number of middle-income employed persons and was therefore quite typical of exercisers, i.e. generally young, middle class and attaining a reasonable high level of

education (Dishman, 1994; Duffy, 1986; Ryan 1987). Eighty four per cent of the sample reported exercising three or more times per week and exercising on average for five years.

Exercise information

Sixteen types of exercise were given as the main type of exercise undertaken, with a slightly greater range of activities in the male sample (Table 3). Walking and gym activities were the most frequent activities, together constituting 42% of all activities mentioned. Walking is also the most frequently mentioned exercise activity in nationally representative participation surveys (Dept. of Education, 1996; Institute of European Food Studies; 1997). Running, aerobics and swimming were also quite popular as forms of regular exercise. This is of interest in the context of the results of a recent review of physical activity promotion strategies, which concluded that walking from home was more successful than exercise which relied on attendance at structured exercise session (Hillsdon & Thorogood, 1996).

The role of fitness gain in maintaining regular exercise

The key research question in this study was why regular exercisers continue to exercise. The reasons respondents gave for maintaining exercise were more varied than those for initiating exercise, yielding seven categories in the content analysis. Fitness is clearly a very significant 'motivator'. Ninety-three per cent of respondents felt they had experienced an increase in fitness. The greatest proportion of reasons for both initiating and maintaining exercise pertained to fitness, especially for initiating exercise. While the responses to the questions about initiating exercise referred to fitness as a goal, in their responses to the question about maintaining exercise, respondents were more likely to describe the process of becoming fit. Additionally, respondents interpreted fitness gain principally in terms of increased endurance, mainly in the context of exercise activities. Altered physical appearance, in relation to weight loss and changes in muscle size or definition was also a common indicator of fitness gain.

Initiation vs maintenance

The data presented here strongly suggest that the process of maintaining a programme of regular exercise differs quite considerably from the decision to initiate an exercise programme. The relative importance of enjoyment, altered appearance and mental health gain appear to change in people's attribution of reasons in each case. This offers indirect support for the idea that adopting healthy behaviours is a dynamic process (Prochaska & DiClemente, 1983). Enjoyment was a significant factor in exercisers'

perceptions of why they kept exercising, accounting for 21% of reasons, the second largest category of reasons given in response to this question. It is interesting to observe, by contrast, that only 9% of the reasons given for initiating exercise referred to enjoyment. The reasons in both cases were quite general i.e. "enjoyable", "fun" and "just love it", with a few referring to social interaction opportunities. When asked what was enjoyable about regular exercise, respondents gave a variety of answers, with social interaction and the positive feelings after an exercise activity both being the most frequently given aspects. Fitness gain was also noted as enjoyable, reinforcing the importance of this aspect of the exercise experience. Being out of doors and the experience of 'pushing' oneself were also enjoyable, constituting 15% and 12% of aspects, respectively.

Conversely, while the potential to alter one's appearance, in terms of weight loss and muscle definition feature considerably in reasons for initiating exercise, they are not as relevant in maintaining exercise, constituting only 16% of reasons, compared to 23% of reasons for initiation. Additionally, very few enjoyable aspects of exercise referred to altered appearance.

Opportunities for health gain generally made up a large proportion of the reasons both for commencing an exercise programme and for maintaining it; 27% in each case. However, while almost half of the 'health' reasons for commencing exercise describe gains in physical health, only one third of the 'health' reasons for maintaining exercise could be so described and two thirds refer to mental health gain. Thus it can be suggested that the mental health benefits from exercise are more apparent as one manages to maintain an exercise programme.

Recommendations for exercise promotion

The findings of this study, albeit exploratory in nature, suggest that people need to feel and to see that they are gaining in fitness in order to maintain their exercise activities. If this is the case, structuring exercise programmes with fitness gain feedback that focuses on increased endurance, weight loss and changes in muscle size, 'built-in' along the way might facilitate adherence to exercise activity.

The data also suggest that the enjoyable aspects of exercise may only 'kick in' when one maintains an exercise programme, or at the least do not feature much in people's decision to commence an exercise programme. Similarly, altered appearance, which does feature in reasons for initiation, may become less important as one adheres to a programme of regular exercise. Thus, exercise promotion interventions that emphasise or focus on how exercise becomes increasingly enjoyable may be more likely to foster adherence. In recent years, some successful interventions to promote exercise have included this feature, but it is not clear how or

whether it contributes to the overall effectiveness of interventions, in relation to other features (Dishman, 1994).

Finally, given the indication that the benefits and reinforcements from engaging in exercise change as one moves through an exercise programme, and the potential usefulness of this for health promotion practice, important future direction for research in this area include:

- in-depth, probing interviews with regular exercisers to explore further how and why people maintain exercise;
- in-depth interview with those who initiate but do not maintain exercise programmes;
- studies which use both interview data and perhaps repeated standardised measures over time, to track possible changes in the cognitive mechanisms that promote adherence.

NOTE

It was considered that the effects of, or experience of, club membership might well confound the effects of exercise per se for regular players of such sports. For example, in Ireland, membership and involvement in the Gaelic Athletic Association, in addition to allowing one to engage in physical exercise, can be central to a person's local standing in the community and can form part of one's national and even political identity. The focus, therefore, was particularly those regular exercisers that engage in work-outs in a gym, walking, swimming, and aerobic classes, exercise activities that are more likely to be pursued primarily for their exercise value, as opposed to reasons of social status, prestige, or sense of national identity.

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A brief survey of khat use among juvenile delinquents in Addis Ababa, Ethiopia

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Khat is an addictive drug used by huge numbers of people in Ethiopia and surrounding nations. It has amphetamine-like qualities, a range of adverse side-effects, and is considered a controlled substance by the World Health Organisation. Despite this, the drug is freely available in Ethiopia and is the fifth ranked export commodity in that country. Prevalence of khat use in the population has never been measured nationally. Provincial studies suggest a prevalence rate among males of between 50% and 75%, with some authors suggesting higher rates based on those of neighbouring countries. The present study surveyed the khat usage patterns among a sample of juvenile delinquents (n = 25) drawn from the national Remand Home in Addis Ababa. As the only such institution in the country, it provides a sample of respondents from all over Ethiopia. A relatively low prevalence of khat chewing was found (44%), suggesting that khat may not be as associated with crime as previously thought. Low levels of other socially unacceptable habits were also discovered. As expected, the sample yielded high levels of social deprivation, with low parental education and widespread family separation. The study highlights some of the complexities of khat use, and raises some specific questions. It should provide the basis for more elaborate longitudinal studies in the future.

Khat is an addictive psychoactive substance contained in the leaves of the khat tree (*catha edulis* forsk), which is used by huge numbers of people in Ethiopia and surrounding nations. The khat tree grows at altitude in areas extending from east to southern Africa, as well as in Afghanistan, Yemen and Madagascar (Krikorian, 1984). The leaves are chewed both in social settings and in isolation, and by all strata of society. Some users spend up to three hours every day chewing khat (Gebreselassie & Gebre, 1995), and with it consume large quantities of tea or alcohol to rehydrate the body and to 'come down' from the khat high (Awas, Kebede & Alem, 1999; Elmi, 1983). Available evidence suggests that, in populations where it is used at

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