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**Personal meanings, values and feelings relating to physical activity and exercise
participation in female undergraduates: a qualitative exploration**

CATHERINE BULLEY, MARIE DONAGHY & ANDREW PAYNE

Queen Margaret University, Edinburgh, EH21 6UU, UK

NANETTE MUTRIE

University of Strathclyde, Glasgow, G131PP, UK

Address for correspondence:

C. Bulley,
Queen Margaret University, Edinburgh
Queen Margaret University Drive
Musselburgh
East Lothian
EH21 6UU
Tel: 0131 474 0000
Fax: 0131 474 0001
cbulley@qmu.ac.uk

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Personal meanings, values and feelings relating to physical activity and exercise participation in female undergraduates: a qualitative exploration

Abstract

Understanding was sought of the ways that female students understand and feel about physical activity and exercise participation, to inform effective and ethical intervention. Sixteen women participated in semi-structured interviews which were analysed thematically, using QSR NUD*IST 4. Physical activity and exercise proved emotive topics and meant different things to different people. Some women associated physical activity and exercise with enjoyment, or achieving their goals. Others saw exercise in particular as a duty, associated with feelings of guilt and inadequacy. Findings supported the value of promoting realistic goals, and careful choice of activities according to individual preferences.

Key words: exercise; physical activity; participation; values; affect;

Competing interests: None declared

Introduction

The health benefits of physically active lifestyles are now universally accepted and promoted internationally (World Health Organisation: WHO, 2004). The emphasis has changed in recent years, from promotion of vigorous exercise for at least twenty minutes on three or more days of the week, to the accumulation of at least thirty minutes of moderate intensity physical activity on five or more days of the week (American College of Sports Medicine: ACSM, 1990; 1998). Physical activity is often defined as bodily movement generated through contraction of skeletal muscles, leading to energy expenditure; exercise is viewed as a sub-category that is “planned, structured, repetitive and purposive,” with the aim of increasing physical fitness (Caspersen *et al.*, 1985, p. 128). However, both physical activity and exercise are complex and time-consuming behaviours and it is clear that people find it difficult to participate at the recommended levels.

Information from several major epidemiological surveys in the US indicate that only 15% of adults participate in regular vigorous exercise, while 22% carry out regular moderate lifestyle physical activity (United States Department of Health and Human Services: USDHHS, 1996). Studies carried out in UK populations also suggest low participation levels, particularly in women; 12 per cent fewer women than men achieved the minimum activity levels recommended for health in 2006 – only 28 per cent in total (The Information Centre (National Health Service), 2008). There is also evidence that participation reduces with age (Mallam, 2005; Scottish Executive, 2003; Kearney *et al.*,

1999). The transition into higher education can introduce risk of decreasing physical activity participation. A large scale study investigated leisure time exercise in over 15,000 European students from 21 countries (Steptoe *et al.*, 1997). Although the measurement method was crude, estimates of exercise participation were low, with only 29.7% of female students participating in exercise five or more times in the previous two weeks, compared with 35.5% of male students. Consequently, higher education has been identified as a forum for promoting physical activity participation (Lowry *et al.*, 2000).

Promoting behaviour change is complex. Theories have been developed to try to explain and predict choices, in order to inform the design of evidence-based or theoretically-grounded interventions. These aim to effectively influence intention to participate, and ultimately the behaviour itself. Two prominent models focus on cognitive elements of behaviour choices, such as evaluation of costs and outcomes, influences of other people, and beliefs about personal abilities to overcome barriers and carry out the behaviour in question (Theory of Planned Behaviour: Ajzen, 2001; Social Cognitive Theory: Bandura, 1977). However, there are concerns that altered intention does not always lead to changed behaviour (Chatzisarantis *et al.*, 2005). This may relate to a further criticism – the neglect of affective influences on behaviour. More recent studies have begun to address this; in a review of recent research into attitudes relating to behaviour change, Ajzen (2001) found increasing evidence that evaluations are reactive, rapid and automatic, and affective processes may outweigh cognition in determining how we behave. Berger (1996) stated that personal meanings and values associated with physical activity and exercise are

poorly understood but crucial to understanding enjoyment and personal fulfilment associated with exercise.

Inductive research is important to explore this area further, as personal meanings and values associated with a behaviour provide the background against which health messages are received, interpreted and assimilated into new understandings. This contextual information is likely to impact on the efficacy of health promotion strategies. Furthermore, without these insights, interventions may have unpredictable and potentially negative effects, raising ethical issues. Concerns have been expressed that interventions attempt to disrupt risk behaviour patterns without good understanding of the way behaviours become normative in different social contexts (Abel, Cockerham & Nieman, 2000). It is important to understand the influences on behaviour in context before attempts to alter it can be effective, and ethical.

This highlights the need to qualitatively explore ways that people understand physical activity and exercise and influences on their feelings about participating. Issues affecting women's thoughts and feelings on this issue are likely to differ from those affecting men; for example, research has identified gender differences in exercise motives (Lowry *et al.*, 2000) and perceptions of previous experiences (Woods, 2000). Due to the lower participation levels among women, this study focuses on female students, and aims to address the following question:

- how do female students describe personal meanings, values and feelings relating to physical activity and exercise participation?

Methodology

Study Design

The study aimed to set aside preconceptions and seek novel understanding from the accounts of participants. This was expected to vary due to the many personal and social influences on the way that people interpret information and experiences. The interaction between researcher and participant was also expected to influence the ongoing evolution of participants' views. These expectations were congruent with a constructivist epistemological approach (Grbich, 1999). Within this, a phenomenological framework was selected due to its viewpoint that it is possible to gain partial insights into the ways that people understand phenomena through their descriptions of it (Smith *et al.*, 1995). Therefore, data collection and analysis explored how individuals understood physical activity and exercise and feelings described in relation to them. Ethical approval for this study was granted by the Ethics Committee of the Higher Education Institution.

Participants

This study developed from questions raised during a previous survey of physical activity participation and psychological well-being (Bulley, 2002). 89 female students completed two questionnaires during semesters one and two of their first academic year and formed the pool of potential interviewees (14% of cohort). Resulting data enabled purposive sampling to ensure a range of participant views (Mays & Pope, 2000). Potential participants were stratified according to self-reported numerical representations of their

perceived physical activity level and pattern. Twenty students were invited to participate in an interview lasting no more than an hour, with the assurance that they could ask to leave any question unanswered, and terminate the interview at any time without giving a reason. They were informed that data would be anonymised, stored securely, and destroyed at the end of the study.

Of those invited, four women declined to participate without giving reasons. This provided a sample of 16 interviewees. Summarising their characteristics, Andrea and Marion were North American, while all other participants were British. Only seven had left school immediately before commencing their first year of university study, while Andrea, Christine, Claire, Jane, Lisa, Lucy, Marion, Natalie and Simone were classed as mature students. The oldest participants were Andrea, Christine, Claire, and Lucy, all in the age bracket 26-30 years. Lisa and Simone were between 21 and 25 years of age, while all other participants were aged 16-20 years. All were studying health-related courses.

Due to the use of stratification based on survey data, it is possible to describe participants' different self-perceived patterns of regular, irregular and low physical activity and exercise participation levels during their first academic year. These were based on ACSM (1990) and ACSM (1998) recommended levels of vigorous exercise and moderate physical activity, respectively. Several women participated regularly in both physical activity and exercise (Anna, Jane, Kerry and Natalie). Others chose to participate more in physical activity than exercise (Christine, Simone, Jennifer, Marion). One woman chose regular exercise over physical activity (Mary) while others

participated in irregular exercise and/or physical activity (Andrea, Hazel, Joanne). Lisa participated in irregular physical activity and low exercise, while Claire and Karen participated very little in either. The quantitative data used in stratification was not used in further qualitative analysis.

Protocol

A semi-structured topic guide was designed from the research questions and review of the literature (Grbich, 1999). Questions aimed to facilitate reflections on personal meanings, values and feelings associated with physical activity and exercise, and included:

- what does physical activity mean to you?
- what does exercise mean to you?
- how are you feeling about your physical activity or exercise at the moment?
- if nothing stood in your way, how active or energetic would you like to be? – why?

Pilot interviews were carried out with two women who were not first year students (recent graduates; aged 26 and 32 years). These were video-recorded and scrutinised by a reference panel of three qualitative researchers to evaluate the topic guide and to expose potential influences of the researcher during interactions. Discussion about the potential influence of body language and questions that were unclear or ‘leading’ enabled the researcher to enhance her interview technique.

Interviews were conducted at a time and place most convenient to the participant. The topic guide was followed flexibly, using probing questions to obtain further information,

to clarify, summarise, and check time-sequencing as appropriate (Grbich, 1999). Non-obtrusive audio-recording equipment was used to record the interviews which lasted between 25 and 45 minutes.

It is important to reflect on the interviewer/analyst's perspectives and possible influences on the interview and analysis processes. She (CB) had training in physiotherapy and psychological theory through undergraduate and postgraduate studies and had been influenced by research team members with further experience in sociology and psychology. This led consideration of physical, cognitive and emotional aspects of individuals within different social, cultural and environmental contexts. While CB identified with participants who found it difficult to maintain regular physical activity and exercise, she aimed to bracket her personal understanding and feelings relating to physical activity and exercise. Reflexive diary-writing was used throughout the research process to increase self-transparency.

Data processing and analysis

Interviewees consented to be involved in a participant verification process (Grbich, 1999) that involved reading and clarifying a summary of their interview. This was important to ensure that early interpretations of interviews were appropriate. After minor alterations were made to three summaries, all interviewees confirmed that they felt these initial interpretations were accurate representations of their views.

Audio-recordings were transcribed verbatim and each participant was assigned a pseudonym to ensure confidentiality. Amendments resulting from participant verification were applied to transcripts. A thematic analysis procedure was used (Grbich, 1999) and data management was facilitated using the QSR NUD*IST 4 computer package. Transcripts were read and annotated to develop first-level themes, which were defined and allocated individual codes. Theme labels and definitions reflected the meaning of a group of text units that described a concept in similar ways. As new themes developed, transcripts were re-read to ensure the final thematic structure was applied to all transcripts.

At this stage two members of a reference panel scrutinised two coded transcripts in order to improve trustworthiness of interpretation; once consensus was reached in relation to theme definitions and contributing text, alterations were applied to all transcripts. Following first level theme development, grouping of themes on a conceptual level was carried out (second level themes). Themes are presented under the headings: personal meanings and values relating to physical activity and exercise, and ideals and challenges to participation in physical activity and exercise. In the final section, relationships between themes are interpreted using interview text. These are formulated into a suggestion of positive and negative cycles of integrated thoughts, feelings and behaviours relating to physical activity and exercise.

Results

The results section is structured to reflect a progression of concepts, with initial description and leading to interpretation and theoretical suggestions. Quotations are used to illustrate ideas and relationships.

1. Personal meanings and values relating to physical activity and exercise

There were differences in the meanings that female students associated with physical activity and exercise participation. Several participants associated exercise with pain or discomfort, and a sense of duty or obligation. These perceptions were often influenced by past experiences of exercise, especially during school years. In contrast, physical activity was viewed as less onerous. Several women made comments along the lines of:

'Exercise seems to have this stigma attached to it, where you make yourself do it... it isn't an enjoyment type word, exercise...' (Karen)

Several interviewees perceived activity as being important for health and fitness, however, they associated these outcomes with vigorous exercise rather than moderate physical activity. One woman explained that people do not give credit to the activity they do during daily tasks; therefore it does not appear to be perceived as meeting the exercise obligation.

'...physical activity obviously is anything, and so is exercise, in a sense, but I think the words have different connotations... Because you're enjoying it [physical activity], you don't think it's actually benefiting you.' (Karen)

Participants also differed in their reasons for valuing physical activity and exercise participation. Some associated participation with enjoyment of the activity itself and related social interactions.

'I actually really just enjoy physical activity... once you find an activity that you find fun, then it's not a chore.' (Lucy)

'It's more fun as well... people playing volleyball and swimming... you don't really realise you're doing exercise. I like doing things with other people rather than by myself.' (Lisa)

Others valued the potential to achieve other goals through participation, predominantly weight-loss, and sometimes fitness or health.

'In first year, you come and you put on a bit of weight, so that's an incentive to go to the gym, or swimming, or something, that's my incentive, anyway!' (Karen)

'It's all about fitness and health... well, the reasons I do it [exercise] are... to keep fit, to keep in shape, and obviously for... the systems in your body, just to keep them in working order.' (Jane)

It became evident that interviewees had developed ideal levels of participation that they found difficult to achieve.

2. Ideals and challenges to participation in physical activity and exercise

When describing ideal or preferred levels of participation in relation to current levels, it was apparent that aspirations exceeded current participation for all interviewees. The degree to which these ideals were achievable varied.

'I would like to have one session a week... two hours set aside once a week.' (Hazel) *'I'd like to be Olympics kind of standard...'* (Joanne)

It became apparent that most compared their participation levels with others – either positively or negatively - while a minority were self-referential.

'I compare myself to everybody else, what they're doing, it's so much less...' (Anna)

'I don't compare myself to the rest of them... I don't ever really think about it.' (Joanne)

As stated, women did not feel that they achieved their ideals, and described various challenges to participation. These included feelings of tiredness, lack of time, resource issues, negative impacts of increased workload, and inconvenient schedules. The impact of transition periods such as moving schools, or entering higher education was noted, along with changes to routines during examination and vacation periods.

'I think you become lethargic, and you just can't be bothered to do anything.' (Natalie)

'Going to the gym for a student – it's expensive... time and money I'd say are the two main things, I think...' (Simone)

'it started off that I didn't do any at all, because I was just getting used to university life.'
(Anna)

'I let it slip over the holiday period and then I didn't really get back into it much.'
(Simone)

Participants described reactions to these behavioural choices and evidence for linkages between meanings, choices, and feelings was identified.

4. Positive and negative cycles of integrated thoughts, feelings and behaviours

This section includes quotations that enable interpretations of relationships between concepts, leading to a suggestion that meanings, personal comparisons, behavioural choices and related feelings are integrated in complex, iterative cycles. It is suggested that these are broadly divided into positive and negative cycles, illustrated in Figure 1. The progression of interpretation is outlined next, first for positive and then for negative cycles. It is acknowledged that a single woman did not describe the complete picture of a positive cycle or a negative cycle. This is an interpretation of the ways that the different themes, derived from all interviews, may interact. This is necessarily a simplified suggestion of how thoughts and feelings relating to physical activity and exercise may evolve over time, with ongoing input of information from experiences.

On the positive side, individuals described participation in exercise or physical activity alongside feelings of relaxation, distraction from other parts of their lives, greater alertness and confidence, better physical self-perception, and improved perceptions of coping with life. Andrea and Lisa linked their positive feelings of achievement with recent increases in participation and positive comparisons with peers.

'This summer when I went home I bought running shoes and I've been running ever since... I'm feeling pretty good about it... I'm keeping to a schedule. I feel, look at me, I can somehow handle school and keep this exercise regimen...' (Andrea)

'I feel quite good... because I'm sort of the same as my friends... you feel you're fitting into a certain pattern, or the norm. I've been going quite regularly and I definitely feel better about myself; I feel that I've achieved something...' (Lisa)

The achievement of goals associated with participation, such as weight-loss, was described alongside positive or negative feelings, depending on the achievement of related goals. For example, several women described weight-loss as a goal and ascribed positive feelings to increased body satisfaction, with increased motivation to participate.

'I guess the motivation of... being able to see results... if my clothes start to feel looser, that's a major incentive to carry on [participating].' (Lisa)

'I'm feeling pretty good about it [participation]... as I gained a bit of weight over the summer and now I'm down to my regular weight through exercising.' (Andrea)

Positive feelings of achievement and improved psychological well-being were described by several individuals as feeding their reasons for participating, illustrating an integration of experiences, feelings, value placed on the behaviour, and behavioural choices.

'I suppose at the moment I'm quite motivated to go because I have kept it up for the last month... I would feel bad if I let it go now, so I've got high motivation to go at the moment... and I enjoy it.' (Natalie)

However, other interviewees expressed feelings of guilt, inadequacy, and lack of self-respect and related these in the context of perceived inadequacies in physical activity and exercise participation, or negative comparisons with peers.

'I haven't been doing enough, it's a big come-down from what I used to be doing... I feel guilty about not keeping up with what I've been doing.... and I compare myself to everybody else, what they're doing, it's so much less' (Anna)

'I feel stronger and more confident when I'm out doing something instead of lacking respect for myself when I'm not.' (Kerry)

Individuals who were participating in physical activity or exercise in order to achieve specific goals or ideals, but who had failed to achieve these, described these alongside negative feelings of guilt, inadequacy and failure.

'You feel guilty if you've not done something. I mean, if I've managed my salsa class twice a week, and I've done a hill-walk or something at the weekend... I've had a good week' (Claire)

It was interesting that the meaning placed on physical activity or exercise was also linked with activity preferences and descriptions of motivation, demonstrating the importance of individual understanding.

'Exercise sounds harder to do, like it's a task, an onerous task... because you perceive the aerobics class to be an exercise... it's like something I've got to kind of force myself to go to... I go to a salsa dancing class... it's a fun thing... it is tiring, you sweat a lot, but it's more enjoyable than going to an aerobics class, which I used to do.' (Claire)

To summarise, discussing their physical activity and exercise choices proved an emotive topic for women in this study. Women described strongly positive and negative feelings about the topic, and their accounts supported interactions between their understanding, their feelings, and their choices relating to participation. Descriptions also suggested that meanings associated with physical activity and exercise participation differ. Contrasting values, meanings and comparisons were expressed that were linked textually with positive or negative feelings, as illustrated in Figure 1. These results are now discussed in relation to existing literature, and their implications explored.

Discussion

As previously stated, discussion of physical activity and exercise experiences proved emotive. All participants mentioned reactions and feelings, with quite polar combinations of words; women either described feeling better about both their bodies and selves, or feeling guilty and inadequate. These descriptions correspond well with descriptions by Frederick *et al.* (1996, p. 693) of exercise-related positive affect as ‘positive feelings about self, contentment, relaxation, feelings of invigoration, well-being and increased energy.’ Negative affect includes: ‘depression, anxiety, guilt, tension, uneasiness.’ It must be noted that this affective state is in constant flux, and the involvement of participants in the interview process is also likely to have influenced their feelings relating to activity participation. For example, Anna became visibly more uncomfortable throughout the interview (recorded in field notes) as she contemplated an issue that was sensitive for her.

It is unlikely that the physical appearance of the interviewer influenced her discomfort, and every attempt was made to avoid implication of values during the interview.

Although feelings represented a cross-section of descriptions at the time of the interview, they included reflections on both current and past experiences. The themes describing feelings seemed to be connected to other themes, rather than representing isolated reactions. Causality is not determined effectively within this study design. Instead, the language used aims to describe where concepts were linked within text units. Precise relationships cannot be interpreted.

Feelings described in relation to participation appeared to be linked with associated meanings. Participants placed value on participation for different reasons, often believing it to be important for health, fitness and weight-loss. For several women, the value placed on exercise appeared to be greater than that placed on more general physical activity. The most frequently mentioned reason for exercising was the goal of weight-loss, also found to be predominant in several large epidemiological studies of North American, European and Australian female college students (Lowry *et al.*, 2000; Haberman & Luffey, 1998; Steptoe *et al.*, 1997; Leslie, *et al.*, 1999). Payne and colleagues (2004) also found that in a survey of perceived need to exercise (n=253), the most frequently reported reasons were for physical health and weight control.

However, weight-loss is not necessarily a positive goal. In a narrative analysis of Swedish women, Thomssen (1999) found a focus on mastering and shaping the body into a

modern female ideal, rather than on self-acceptance. An attitude towards exercise as a health-related obligation was found, and where this motive did not result in exercise behaviour, individuals described having a 'bad conscience.' In the current study descriptions of enjoyment and satisfaction from participation in exercise or physical activity tended to co-exist with descriptions of greater success in overcoming challenges to participation.

Despite giving different reasons for valuing physical activity and exercise participation as necessary and useful, not many of the women described strong beliefs in their ability to control exercise in particular. It was often associated with unpleasantness and a sense of obligation or duty. In a qualitative study, Thomssen (1999, p. 43) also found that many women associated exercise with a lack of enjoyment and words such as 'horrible, sweaty, ugly, red and panting.'

Individuals with more positive feelings about their current activity tended either to compare themselves positively with their peers, or to concentrate on internal references for comparison. Similar themes were found in focus groups of second-year students in Scotland (Woods, 2000). A theme named 'competence' was primarily judged by normative references and was influenced by previous ego-oriented school experiences of activity. Another theme named 'social influence' emphasised the influence of comparisons with others. On entry to higher education, students gain a new reference group for comparison with their own characteristics, and social interaction and acceptance has been found to be very important to self-esteem (Harter, 1990). However,

relying on achieving external standards or meeting the expectations of others can be an unstable source of self-esteem if goals are unrealistic (Deci & Ryan, 1996). Franzoi (1995) explains that the feminine ideal, or standard, is salient but almost impossible to attain. Following a study of 102 undergraduates, Furnham and Greaves (1994) explained that the thin physique is not simply desired for its aesthetic value, but is also associated with personality correlates such as power, confidence, self-esteem and self-control. One woman in the current study explained that she associated being active with an image of being more independent, in control, and imaginative.

Interpretation of resulting themes led to the proposed cycles of integrated meanings, personal comparisons, behavioural choices and related feelings. The idea that interventions could seek to facilitate movement from negative to positive cycles is now explored.

Clinical implications

Figure 1 is a simplified map of concepts identified through thematic analysis. The broad division of concepts into positive and negative cycles may be able to inform strategies for facilitating increased participation, as well as more positive reactions to participation.

In the ideal world, everyone would enjoy healthy behaviours, but that is evidently not the case. Not everyone will find physical activity and exercise participation more enjoyable than other pastimes. Many interventions target the beliefs and aspirations of individuals, to increase their motivation; they may emphasise the weight-loss benefits of activity, or

the positive impacts on health (Jones *et al.*, 2004). It is likely that for many, these will feed the predominant values associated with physical activity and exercise participation - the desire to lose weight and/or improve health and fitness. However, individuals may lack sufficient internal resources to overcome the discouragement of slow progress, or may experience unpleasant sensations because they have tried too much, too soon. Based on these results, it seems likely that this will be experienced alongside negative emotions of guilt and failure. Overcoming unhelpful meanings, values and feelings associated with the behaviour might help people to address internal barriers to participation.

The goals of achieving health, fitness and weight-loss need not link into a negative cycle unless goals are unrealistic and failure results – either failure to lose weight, or to achieve an unrealistic participation ideal. It is important to help women focus on what is healthy and possible in their lives, rather than comparing their current participation with that of previous stages in their lives, or that of peers. It would be helpful to identify activities that are perceived to be enjoyable, and help women to value these activities. If women are facilitated into activity choices that increase the likelihood of success, and of enjoyment, a positive cycle of meanings, values and feelings is more likely.

Conclusion

This study aimed to explore the meanings, values and feelings that sixteen female students associated with physical activity and exercise participation. The results suggested that these evolve over time; information received through health promotion activities is likely to be integrated with current understandings, values and feelings

associated with participation. Following exploration of these relationships, suggestions have been made for health promotion. These include facilitating reduced comparisons with previous participation levels, or with the behaviours of peers; and enabling selection of enjoyable activities and realistic goals. Further research is required to explore these ideas in other groups of women, and in relation to intervention strategies.

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Author Biographies

CATHY BULLEY is a lecturer in Physiotherapy at Queen Margaret University, Edinburgh. She is currently involved in research that uses exercise and other strategies to facilitate self-care and self-management in people with long-term conditions.

MARIE DONAGHY is Professor and Dean of the School of Health Sciences at Queen Margaret University. Her research interests focus on exercise and mental health issues.

ANDREW PAYNE has retired from lecturing in physiology at Queen Margaret University, where he was involved in research that looked at physical activity and exercise in children.

NANETTE MUTRIE is a Professor of Exercise and Sport Psychology at Strathclyde University in Glasgow. Her research focuses on strategies to promote active living in both community and clinical populations.

Figure 1: Positive and negative cycles of integrated thoughts, feelings and behaviours relating to physical activity and exercise

