

# Anticipated Exertion, or Exercise Activities Among Women Over 70

by Sandy O'Brien Cousins

*Cet article présente les résultats d'une étude qui tente de déterminer si les croyances concernant la fatigue physique varient selon les niveaux d'activité.*

*Cette étude examine également les attributs sociaux, psychologiques et biologiques des femmes âgées afin d'expliquer les différentes croyances concernant la fatigue physique.*

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Elderly women's antipathy for physical exercise and sport has sobering health implications now that sedentary living is considered to be a major health risk akin to smoking, hypertension, and obesity (President's Council of Physical Fitness & Sports). Older women are considered to be the one social group most likely to receive significant health benefits from increased participation in physical activity (Drinkwater; O'Brien & Vertinsky), yet at present are falling far short of health-promoting levels of regular exercise (Stephens & Craig).

Compared to men, women are doing far less vigorous activities as they get older (Stephens, *et al.*) *The Campbell's Survey on the Well-Being of Canadians* reports that only 30 per cent of women over the age of 65 are participating in any aerobic activity for at least 30 minutes every other day (Stephens & Craig) The almost universal withdrawal of North American women over their life-course from the more vigorous, challenging, and health-promoting physical activities available to them requires explanation. Without this understanding, health educators, recreation planners, and fitness leaders are unable to provide their skills

to those who need them most.

Knowledge about the motivational barriers among older adults is scanty. Recent research suggests that active older people hold stronger, more positive beliefs about exercise than sedentary adults, but generally, most people will agree that "exercise is good for you." Elderly women who are highly active perceive that they are encouraged to exercise, they feel that they are efficacious for vigorous forms of physical activity, and they perceive the benefits of exercise to be high and the risks to be low (O'Brien Cousins). Even though the health benefits of physical activity are widely accepted, several researchers claim that older women may feel particularly vulnerable to injury or exaggerate the personal risks to health in physical activity settings (Calnan and Johnson; Heitman; Siscovick, *et al.*). One of these beliefs may be the negative expectancy that exercise is overly strenuous and uncomfortable.

Social cognitive theory (Bandura) acted as a conceptual guide for this study. Beliefs about exertion were viewed as a type of *outcome expectation*, or a belief that a specific behaviour would lead to certain consequences. Exercise behaviour, in this perspective, is predicted to occur when an individual believes that: s/he is capable of doing the activity; exercise participation would lead to significant benefits; and negative outcomes would be unlikely. Conversely, an individual would not take up activity if they believed that they were hardly competent to do it, and/or if they felt the effort needed to succeed was too great.

Since the 1960s, exercise scientists have devoted considerable attention to a self-rated cue of effort called perceived *exertion* (Borg 1970, 1961; Mihevic). However, only recently have prospective beliefs about exertion been applied to exercise as a

psychological barrier. Steinhardt and Carrier have reported that both college students and employed adults claimed that "effort" in physical activity was a significant barrier to their participation. Indeed, "the major defining property of motivation is the level of effort mobilized and sustained in a pursuit" (Bandura and Cervone 96), and individuals who are self-dissatisfied with their level of performance are known to heighten their efforts. Such efforts may be lacking in older people in part because 70 per cent of adults aged 80 and over are satisfied that they are already doing the right amount of physical activity for their age (Statistics Canada). Planned exercise may be perceived to be unnecessary and excessive, if not dangerous, and thus the motivation to participate is undetermined.

Godin, *et al.* have also suggested that beliefs about physical exertion may act as a participation barrier since people may remember the discomfort associated with running in a physical education class, or have seen the painful face of an athlete struggling toward a finish line. The media has perhaps over-focused on the superior conditioned athlete with the outcome being that few observers can conceive of obtaining these same performance levels (Kasper).

Early research indicated that coronary patients (aged 35-65) and untrained healthy subjects (aged 22-56) tended to overvalue exercise exertion relative to actual heart rate response, while sportsmen undervalued it (Turkulin, *et al.*). More recent research has found that exertion ratings increase with advancing age (Monahan 1988) and decrease with positive affect and self-efficacy for exercise (McAuley and Courneya). Older women may view the more athletic forms of physical activity not only as socially inappropriate for

them, but biologically dangerous in view of their life experience, age, and social learning. Even in contemporary times, Monahan (1986) notes that medical debates on women and exercise (i.e. aerobic dance injury) can be used by females to justify their sedentary behavior.

Moreover, female forecasts about the amount of effort or task difficulty required to be a participant of regular exercise may be significantly affected by a host of unalterable socio-demographic, personal, and biological attributes such as age, body mass, education, health status, social class, and past experience with sport or vigorous exercise. On the other hand, feelings about exertion may be linked to intrinsic beliefs which are psychologically or physically formative and which are more amenable to change.

The purpose of this study on women over age 70 was three-fold: to examine how anticipated exertion ratings may vary according to current

activity level; to assess which types of exercise modalities are perceived to be highly exerting among elderly women; and to examine social, psychological, and biological associations with subjective forecasts of exertion with a view to understanding the possible origins of these beliefs.

## Methods

The study of beliefs about exercise exertion arises out of a larger study on the physical activity patterns of 550 Vancouver women over the age of 70 (O'Brien Cousins 1993). Community centres, social clubs, and recreation programs were visited to obtain volunteers who would be willing to fill out a 30-minute survey questionnaire. The questionnaire requested standard information about the individual, along with a self-report of the previous week's physical activities.

Cognitive beliefs about self-efficacy (SE) and perceived risk (PR) were

assessed with regard to the prospects of doing six fitness-enhancing activities: brisk walking for 20 minutes, doing five pushups from the knees, doing ten sit-ups, and doing a slow hip flexion stretch while sitting. Each activity was accompanied by a picture of an older women performing the activity to standardize the prospective level of performance. SE was assessed using a four point Likert scale (4 = "very sure") answering the question "How sure are you that you can do ... (20 minutes of brisk walking)?" Similarly, PR was measured on a four point scale (4 = "not

at all risky") to the six questions "Is this activity risky or potentially harmful to you?"

Anticipated exertion (AE) was assessed using the Rating of Perceived Exertion Scale (RPE), a 15-point scale ranging from six to 20 points (Borg 1970; Borg and Linderholm). The progressive exertion ratings of "very, very high" (6) to "very, very hard" (20) are considered to be equatable to objective physiological measures such as heart rate and energy expenditure (Borg, *et al.* 1982). AE was a reliable subjective measure; when retested four weeks later, 86 per cent of older women duplicated their responses.

## Findings

First, this study found that, among women over age 70, sedentary patterns of daily living are associated with heightened perceptions about the effort required to engage in the six fitness activities. The evidence presented here suggests that the more inactive a woman is, the more she is likely to anticipate high exertion in physical activity settings, and the less likely is her eventual participation.

Second, of the six contemplated fitness activities, women rated curlups, pushups, and aquatic exercise to be the most exerting. Since brisk walking for 15 minutes was rated the lowest in exertion, walking at a comfortable pace may be the most promising approach for mobilizing large numbers of sedentary older women.

Third, this study found that expectations regarding physical exertion are linked significantly to one's self-efficacy for fitness activity and to beliefs about risk outcomes arising from exercise. Since little is known about all the possible negative outcomes older women might hold for exercise involvement, further research is needed to determine if worry about over-exertion is acting as the biggest barrier to late life exercise, or if other negative beliefs are operating. One cognitive barrier may be that people might perceive that some exercise is not very enjoyable. When beliefs are



Deidre Scherer, "Resting Place", Nov. 1991, fabric and thread, 8" x 7"

Photo: Jeff Baird

formed that the probable exertion needed is very high, feelings about the enjoyment to be obtained would be compromised. Indeed, Sallis reports that "one of the main influences on enjoyment is the amount of exertion required by the activity" (3).

This study suggests that perceptions about exertion are strongly connected to feelings of capability to succeed in fitness exercise. McAuley and Courneya have recently reported a similar finding. In middle-aged adults, they found that those individuals who had lower ratings of perceived exertion while engaging in stationary cycling exercise were mainly the same adults who subjectively rated their efficacy for cycling to be very high. What does this mean?

The significance of this finding is that the older adults who most need to change their sedentary lifestyle behavior may be encountering a cognitive barrier that is more obstructive than their very old age and a bigger barrier than their actual health difficulties. Rather than viewing fitness activity as a resource in which they might moderate the age decline, negotiate better strength, improve joint mobility, and increase aerobic fitness, many older women conceive of their involvement as exerting enough to be a possible threat to their enjoyment and well-being. Elderly women's involvement in more active living, and ultimately their access to the many positive health outcomes is apparently being thwarted by exaggerated perceptions regarding the amount of effort that is required. Such misperceptions are formed in conjunction with one's assessment of personal ability in the exercise setting, and also in concert with beliefs about experiencing negative outcomes while exercising. A vicious cycle forms whereby inactivity breeds low confidence and exaggerated risk; risk perceptions and low efficacy beliefs reinforce sedentary patterns.

In the applied setting, this means that exercise programs geared at the sedentary adult must be initially low skill and low intensity so that women contemplating their involvement will

perceive a low-risk and low-exertion format. At the same time, health educators must inform elderly adults about the very low risk of progressive physical exercise, and about the very high benefits of engaging in regular exercise such as daily walking and gently moving stiff joints. The time has come to talk about the risks of being sedentary, instead of the risks of being active.

Beliefs about negative outcomes as a consequence of late life exercise involvement need to be studied further. Exaggerated perceptions about exertion is only one of the negative beliefs held by inactive older women. The irony is that the easiest way for sedentary women to overcome these concerns is to engage in a more active lifestyle, and this is not likely to happen as long as they feel inadequate to meet the challenge.

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