

Women in Masters Rowing: Exploring Healthy Aging¹

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This exploratory study focused on the differences in ratings of subjective health, physical capacity, participation benefits, and barriers in relation to gender and age variables for Masters rowing participants. A model of subjective health derived from Labonté (1993) is adopted as a framework for this research. Health is represented as a set of subjective experiences, and illustrates the hidden potential of physical activity as a contributor to the overall perceptions of health. The results indicate that women's Masters rowing experiences are frequently more highly rated than men's, and that older participants scored rowing as more beneficial than younger participants. The results suggest that these benefits can be achieved, even for participants who begin rowing later in life at the Masters level rather than in their youth. The results also support the benefits to engaging in physical activities later in life. A modified model, incorporating the findings from this study, is proposed for understanding women's healthy aging in relation to physically active involvement later in life at the Masters level.

Over the past few decades, Masters Rowing has had a particular increase in interest and participation by both men and women, particularly so by older women rowers. Frequently asked questions in this new field are: What is a Masters rowing participant? Is there a difference in experience between male and female rowers? How does age play into the equation of rowing at the Masters level and the satisfaction garnered? What health benefits have been noted by gender and age? Are there barriers that women Masters rowers face but not men?

Labonté (1993) developed a model of health and wellbeing that offers opportunities to delve into exploring several specific questions. In attempting to understand possible differences philosophical principles that make activity more or less beneficial for women versus men must be explored. Will age and gender differences be noted in the findings? Will these differences reflect gendered health benefit differences? With the specific focus on aging, can we expect that older women will significantly differ from younger women in their experiences, than older men and

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younger women? In this research, the Labonté model is described, examined and applied in order to provide a framework for interpreting women's healthy aging. Ultimately a modified subjective health model is proposed as a means to continue researching gender, healthy aging, and physical activity. Further, the findings from this study are expected to explain why men's experiences in Masters rowing are narrowly focused on winning and success, while women's experiences are extended to include a holistic perspective on the "joys" of healthy participation.

LITERATURE REVIEW

What follows is a review of the research materials used to examine gender and age differences in physical capacity and subjective health. Also described is Labonté's (1993) subjective health model and the expectations for using this model to explain healthy aging for Masters rowing participants.

Gender

According to Vertinsky (1995; 2000) and McDermott (1996), the criteria generally associated with the benefits of the active living experience have traditionally been defined within the male constructs and the parameters of the male experiences. Similarly, Guilmette (1992) and Harrington, Dawson and Bolla (1992) point out that research into women's sport experiences have also been based on androcentric models. Unfortunately, women have not been encouraged to participate or gain competence in sport as men have, and often underestimate their own ability to participate (Hall et al., 1991; Vertinsky, 1995; 2000). The gender differences in participation in sport and aging athletes have not been studied extensively.

Stemming from the literature on leisure, Lenskyj (1988) distinguished between time-orientation (men's leisure time as clearly defined and separated from work time) versus task-orientation (women's leisure time as blurred with other duties required of a job, home and child care) making it difficult for women to schedule regular leisure or physical activities. Guilmette (1992) and Vertinsky (1995; 2000) emphasize the need to appreciate the hidden potential of vigorous physical activity to provide aging women with a sense of freedom, energy and pleasure in their activities and to help break the traditional expectations and stereotypes of what older women can do and be. To realize this potential there is a need to understand how aging women construct physical and sport experiences while examining both intrinsic (skills and abilities) and extrinsic (rewards and recognition) variables.

Indeed, Bennett et al. (1987) and Vertinsky (2000) call for the need to actually study women participants in the hope of redefining sport using interdisciplinary analyses. Research on gender differences in the experience of physical activities (Loland, 2000; Parry & Shaw, 1999; Shaw, 1994), and in sport participation and competition (Vertinsky, 2000) is necessary, as well as defining the experiences for older versus younger athletes.

Aging

Studies on gender differences and the sport experience have focused on younger age groups but seldom focus on aged participants. Much of the Canadian sport literature has examined attributes that attract and retain young athletes (Hall et al., 1991). One of the difficulties according to Wearing (1995) is that we live in an ageist society wherein aging means deficiency, and aged participants come to be expected to curtail their involvement in vigorous physical activity.

Yet the literature on motivation and incentive in sport participation suggests that if an experience is positive and makes an individual feel good about themselves they are more likely to continue to participate (Gill & Overdorf, 1995). People are more likely to stay with an activity if they receive true personal satisfaction when participating, and believe that their participation and skills are optimally matched with the challenges of the activity (O'Brien & Burgess, 1992; Parry & Shaw, 1999). If continued participation also helps an individual function better in their life outside of the activity, then it may be a further motivation to continue in the exercise (Dishman, 1994; Parry & Shaw, 1999). Adult athletes tend to have a less urgent agenda than youth as they age and continue to be active in sport (O'Brien & Burgess, 1992). Wearing (1995) found that very little is known about the effects of increased skill or fitness on the self-esteem of older adults. The health benefits of aging sport participants have not been studied extensively, particularly in relation to subjective well-being.

When describing "successful aging", Novak (1995) refers to highly self-actualized older people who are engaged in the discovery of who they are becoming as they age, and not what they were or what has been in the past. Rather, as highly self-actualized people age they face challenges that aging presents leading them to further grow as they continue to age (Novak, 1995) and can lead them to select physical activities that promote their health. Masters rowing provides such opportunities to women and men eager to build and maintain healthy aging and reach promised health benefits, but a gender comparative provides even more information that remains understudied.

Subjective Health Issues & Labonté's Expectations

In 1995, the World Health Organization (WHO) launched a new program to respond to the challenges of population aging and health in a more dynamic, life-course oriented fashion (as reported in Kalache, 1996). An emphasis on physically active participation for healthy aging is a key part of this program. The WHO supports physical activity as an integral part of healthy aging (Kalache, 1996).

According to Labonté (1993), the subjective health experience that represents successful aging includes several components. One feels vital and full of energy, have good social relationships, experience a sense of control over one's life, be able to do things one enjoys, have a sense of purpose in life, experience a connectedness to community, and a connectedness to the environment. These components are organized into three well recognized dimensions of health: mental, physical and social. Labonté's (1993) framework of descriptive categories, under which people's subjective experience of health can be organized, has been adopted for this study to assess these subjective health experiences in the lives of Masters Rowers. He argues that the *experience* rather than the structure of the activity is what enables people to be active and enjoy the experience. Also, his model (Figure 1) below was used in an attempt to relate measures of the experiences of physical activity with the experiences of assessing subjective health.

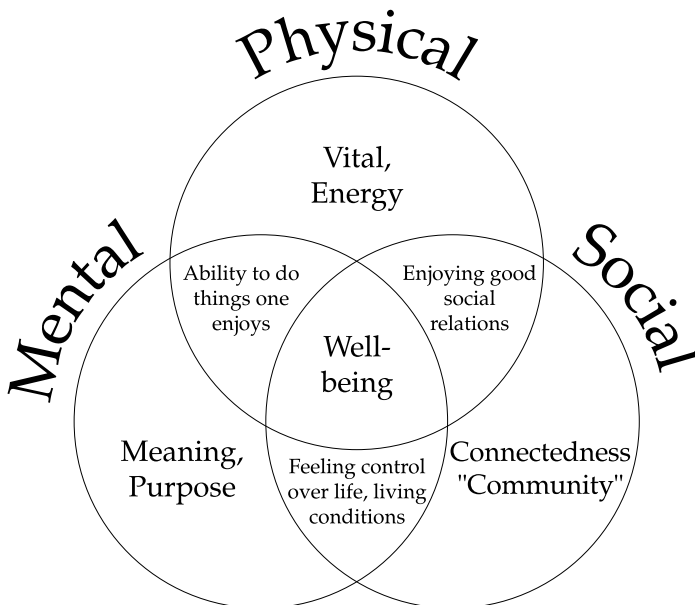


Figure 1: Dimensions of Health and Wellbeing (Labonté, 1993)

Stathi, Fox and McKenna (2002) examined physical activity and dimensions of subjective well-being among older adults. Three of the five main dimensions that emerged from their analysis included mental, physical and social well-being, as found in the Labonté model.

Studies on rowers have been centred primarily on the physical performance of developing and training young competitive athletes. As a distinctive Canadian outdoor activity which seems to hold very strong aesthetic and physical appeal for its participants, combined with its growth in adult participation, it is worthy of further investigation in order to determine how best rowing can contribute to meeting the WHO goal on healthy aging of attaining “the highest possible quality of life for as many people as possible for as long as possible” (Kalache, 1996).

Masters rowing provides aging adults the opportunity to be involved in a physically demanding and challenging activity even as they continue to age over the years. Therefore, the physical capacity, subjective feelings of health, self-esteem and well-being among aging female and male Masters rowing participants were investigated in this exploratory study. The interdisciplinary orientation to our research provides the best venue for exploring the healthy aging and benefits of Masters women’s rowing experiences, and permits us to use the findings to further promote the discussion concerning women, aging and subjective health measures.

Physical Capacity & Health

Participation in regular moderate to vigorous physical activity helps people feel good about themselves in a variety of ways. These benefits include enhanced self-efficacy, self-esteem, emotional well-being and body image, and enjoying the physical activity experience as a source of personal growth (Active Ontario, 2000; Edwards, 1993; Loland, 2000; McAuley, 1992; McAuley & Rudolph, 1995; O’Brien & Burgess, 1992). The strongest correlates of exercise as a physical activity include self-efficacy, perceived barriers (environmental, motivational, lack of facilities), modeling, support from friends, and age (Clark, 1999; Conn, 1998; Sallis et al., 1992; Vertinsky, 2000). Physical activity enhances health, and physical, emotional and psychological well-being (Driver, Brown & Peterson, 1991; Parry & Shaw, 1999). Further, research on physical activity and health has demonstrated two clear benefits to well-being. Physical activity has a positive effect on physical conditioning by decreasing the risk of cardiovascular disease and high blood pressure, and the percent of body fat and blood lipids. Participation can increase bone mass and help to maintain joint mobility, balance, co-ordination and endurance, aiding substantially in decreasing the functional declines associated with aging (Blair, Kohl & Gordon, 1992; Bouchard, Shephard, & Stephens, 1994; ParticipACTION, 1994; Shephard, 1997).

According to Wells (1991) the work on the physical dimensions of aging includes three facets that relate to the quality of life: physical condition, functional status and subjective health status. Physical condition and functional status relate to clearly measurable elements such as the presence or absence of diseases and conditions that affect an individual's ability to perform both their desired and required life's activities. Subjective health status, however, is the personal and individual evaluation that individuals make about their own health. An individual's feelings about his or her health are linked to their broader sense of personal well-being or satisfaction with quality of life (Pruitt & Stein, 1994). It would then appear appropriate to explore what aging adults feel about their subjective health as influenced by their physical activity experiences (Stathi, Fox & McKenna, 2002), and study the factors that adults report as influencing their subjective health (Kaplan & Baron-Epel, 2003).

MASTERS ROWING

Rowing is an ideal physical activity to study as rowers are categorized as "Masters" after they reach the age of 27 years, and initial entry into the sport at this level is possible at any age after 27. Rowing at the Masters level offers women and men a variety of categories and competition levels to perform. Also, this activity provides opportunities for rowers to benefit from physical, social and psychological wellbeing. In a series of descriptive narratives, Huntington (1997) identifies the gender and age benefits for women in their 40's, 50's, and 60's who are discovering an athletic ability thought to be hidden or non-existent for aging women.

Other Masters sports have attempted to study the health effects of aging participants: endurance exercise training (Shephard et al., 1995), running (Gill et al., 1996), aerobic exercise (Ransford & Palisi, 1996), and swimming (Weir et al., 2002). Gill et al., (1996) investigated the competitive orientation and participation motivation of aging runners using the Sport Orientation Questionnaire inventory and found runners have competitive orientations with an emphasis on personal standards and performance goals. Weir et al. (2002) examined the effects of aging on practice and performance patterns among swimmers. Vertinsky (2000) explored the barriers facing female marathon runners that have historically prevented older women from participating in this vigorous recreational activity. Masters sports competitions provide already organized venues to access participants who are categorically represented by age and gender.

Rowing is a sport that has grown tremendously in participation at all age and ability levels in Canada. With the international success of Canada's national rowing team in the 1990's, and especially for female rowers, the awareness of rowing has increased among the general population and has promoted increased numbers of youth and adult rowers to enter competitive and recreational programs. Statistics from Rowing Canada released in 2001 indicate that there are 5,735 recreational rowers in Canada of all ages, and 2,056 Masters Rowers (Rowing Canada, 2002). The number of female participants exceeded the number of male participants in 1995, and the trend continues to date. An annual international rowing regatta in Canada (The Royal Canadian Henley Regatta) provided the forum for researching this population, as one morning of Masters rowing competition is offered during the regatta.

METHODS

The Masters rowing event at The Royal Canadian Henley Regatta (St. Catharines, Ontario) was used as the venue to gather data for this exploratory study, and to investigate age and gender differences in Masters rowing perspectives and experiences. Using a questionnaire, participants were asked to determine subjective health benefits, motivations and physical capacity for rowing, self-esteem, and barriers to participation in Masters rowing. As well, Masters rowing was chosen to determine how the motivation for participating in physical activities may be changing for women, and especially for women whose first involvement may not occur until much later in life.

Using input from a group of volunteer Masters rowers, a four page self-administered questionnaire was designed. Questions were answered using a 5-point Likert Scale, check box, rank ordering of items, or by providing a representative number (e.g., number of work-outs per week, etc.). Participants rated and ranked Labonté's seven dimensions of subjective well-being (feeling vital, good social relationships, does things one enjoys, has sense of purpose in life, and experiencing connectedness to the community and environment) that are organized into three dimensions of health (physical, mental, and social). Participants also rated and ranked how much their participation in Masters rowing contributed to 12 dimensions identified for enhancing physical capacity. The dimensions are: ability to perform physically demanding workouts, feel energetic, avoid injuries, exert strenuous muscular effort, feel physically co-ordinated, feel toned and fit, look toned and fit, move joints comfortably, be involved in other physical activities, handle stress, control the efforts of aging, and to sleep well.

In addition, measurements of physical capacity and benefits, self-confidence, training regimes, rationale for participation, and barriers to rowing were included in the survey. A scale developed by Rosenberg (1965; 1979) was modified (questions relating to youths were removed) and used to assess 10 dimensions of self-esteem of the aging sport participants. Demographic information (gender, age, marital status, occupation, income, education, number of years rowing, and number of years of Masters rowing) was also documented. A categorization of barriers, as developed by Raymore, Godbey & Crawford (1994), was used to design a system for rating 16 barriers to participants of Masters rowing.

The final version of the survey was distributed to Masters Rowers during the Royal Canadian Henley Competition. At this event all Masters Rowers compete on the same day. A booth was set up close to the dock where rowers entered and exited the water. Approximately 400 Masters Rowers competed that day and questionnaires were completed by 181 (71 females and 110 males) participants. To ensure a high return rate, and not to distract rowers from focusing on their competition, participants were only approached after finishing their heat and race. Upon completion of the questionnaire participants were given a token of thanks (choice of rowing poster or granola bar).

Using a Statsview software program the data were analyzed with the dimensions of subjective health, motivations, physical capacity, influence on self-esteem and barriers serving as dependent measures. Such variables as age and gender were treated as independent variables. Most studies in the literature compare subjective health for exercise participants versus non-participants by age and gender. Comparing a group of women and men who share a self-selected entry into a high level of activity is ambitious, but age and gender differences were explored using statistical tests. ANOVA was used to test for age and gender effects on the variables of subjective health, involvement and physical capacity in rowing, perceptions of self, and barriers to Masters rowing participation.

FINDINGS

Participants

The six age categories designated for Masters rowers were used initially to collect information on the age of the Master participants. On the basis of the sample who voluntarily participated in this study, only two age categories were used for the purposes of statistical analysis. According to the distribution of our sample, younger rowers were between 27 and 42 years of age, while older rowers were between 43 and 70+ years of age (see Table I below), and both age groups were compared by gender.

Table I: Age & Gender Distribution of Participants

Participant Type	Female N	Male N	Total
Younger (<42)	40	35	75
Older (>43+)	31	75	106
Total	71	110	181

The largest group of males (N=75) were older (between 43 and 70+ years of age), while the largest group of females (N=40) were younger (between 29 and 42 years of age). Interestingly, for males in our sample 92% (N=101) had begun rowing before becoming a Masters participant (at 27 years of age), and only 8% (N=9) of the males began rowing after the Masters age (after 27 years). By contrast, the reverse is true for women in our study. Only 6% (N=4) of the women in our sample had ever rowed before becoming Masters participants, while 94% (N=67) of the women had not even begun rowing until *after* becoming Masters participants. This information supports the claims that women (and especially older women) are less likely to have had early sport/physical activity experiences, whereas men (and older men) will usually have been encouraged to be involved in physically active sports.

The occupations of most participants could be classified as professionals, employed outside of rowing, with high incomes (46% above \$100,000 annual income, and an average income of \$80,000), and very high education levels (48% with Graduate University degrees, and an average educational level of university graduate) in comparison to the general population. The sample population was very well educated and had high social status, suggesting that any generalizations made from this explorative study can only be made to equally elite or privileged Masters athletes (e.g., golf, springboard diving, marathon running, etc.).

For purposes of analysis, the information and ratings collected on the questionnaire were totaled for each of the dependent measures. Table II summarizes the following reliability scores: total subjective health (with 7 dimensions rated), total rower involvement (with 5 dimensions rated), total enjoyment rowing scores (with 7 dimensions rated), and total competition scores (with 3 dimensions rated). Table III summarizes reliability scores concerning total training scores (with 3 dimensions rated), total physical capacity (with 12 dimensions rated), total self-esteem (with 10 dimensions rated), and total barriers encountered (with 16 dimensions rated). The reliability scores for each summary appear below in Tables II and III.

Table II: Reliability Scores for Subjective Health, Rowing Involvement, Rower Enjoyment & Ceompeting Scales

SUBJECTIVE HEALTH		ROWING INVOLVEMENT	
Item	Alpha	Item	Alpha
Feeling vital, full of energy	.50	Recreation	.06
Having good social relationships	.59	Competition	.58
Experiencing control over one's life	.68	Competent	.67
Being able to do things one enjoys	.47	Highly skilled	.74
Having a sense of purpose in life	.64	Elite	.66
Experiencing a connectedness to community	.70		
Experiencing a connectedness to environment	.67		
ROWER ENJOYMENT		COMPETING SCALES	
Item	Alpha	Item	Alpha
Teamwork	.69	Winning	.63
Camaraderie	.65	Having a good race	.67
Socializing	.59	Participating in a race	.74
Recognition as a Masters Rower	.80		
Respect as a Masters Rower	.82		
Participation in regular regattas	.63		
Participating in Masters only regattas	.64		

Table III: Reliability Scores for Training, Physical Capacity, Barriers & Self-Esteem

TRAINING		PHYSICAL CAPACITY	
Item	Alpha	Item	Alpha
Demanding workout	.75	Demanding Exercise	.49
Skill development	.81	Feel Energetic	.64
Intellectual challenge	.83	Avoid Injuries	.50
		Strenuous muscular effort	.55
BARRIERS	Alpha	Physical co-ordination	.69
Lack of transportation	.33	Feel toned and fit	.62
Time required	.57	Look toned and fit	.61
Depending on others to row	.53	Move joints comfortably	.70
Not having a coach	.61	Be involved in physical activity	.62
Limited rowing skills	.60	Handle Stress	.61
Cost/expense	.46	Control effects of aging	.65
Physical demands of rowing	.58	To sleep well	.59
Fitness level	.60	SELF-ESTEEM	Alpha
Family responsibilities	.50	Feeling good about abilities	.69
Work responsibilities	.52	Appreciate the way I look	.66
Social responsibilities	.56	Getting along well with others	.74
Lack of equipment	.55	Respect for myself	.73
Lack of rowing facilities	.59	Satisfaction w/ physical appear.	.67
Lack of support from rowing club	.71	Confidence in myself	.82
Lack of regatta events for Masters	.59	Sure of myself in new situations	.82
Getting older (aging)	.52	Ability to do well	.86
		Make changes easily	.77
		Capable of getting results	.76

Subjective Health

A Likert Scale was used to gather scores for “subjective health” items (Labonté, 1993). The seven dimensions of subjective ratings of health were tested for age and gender differences. While not statistically significant, women and older participants rated the subjective health components higher than men and young participants (see Table IV).

Table IV: ANOVA for Age, Gender & Total Subjective Health

Total subjective health	MS	F	P	SIG.
Age	3.94	.152	.69	n.s.
Gender	71.26	2.74	.09	n.s.
Age X Gender	26.95	1.04	.31	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

Several of the subjective health dimensions were rated higher for women than for men. Feeling vital and full of energy was rated higher for women than men. In fact, this dimension also was ranked the least important to rowing by men. Having good social relationships was more important for women over men irrespective of age and no matter when they started rowing. Control over one’s life was more important to younger women and older men. Feeling connected to the community was more important to women than men, in particular older women who started rowing later in life; and feeling connected to the environment was appreciated by women over men, and even more so for older rowers versus younger ones. The directions of findings on subjective health ratings were identical for all items tested, i.e., women scored higher than men, and older rowers scored higher than younger ones.

Women rated overall the Labonté subjective health dimensions higher than did men, with the highest ratings for older women. These findings were approaching statistical significance for items including being able to do things one enjoys, feeling in control of their life, and having a sense of purpose. Inquiring about subjective health was a preferable model to follow, as other studies have used medical models to assess functional and physiological outcomes rather than subjective feelings of well-being. Further, medical models used are typically restrictive and exclusionary to women and aging people.

Motivations

When examining the total scores of “enjoyment” of rowing, women

rated the experience higher than men irrespective of age or when they started rowing. The importance of the three dimensions of training and the three dimensions of competing were also rated higher for women than men. Age was only a factor in relation to participating in Masters only regattas. See Tables V through VIII:

Table V: ANOVA for Age, Gender & Total Rower Involvement

Total ROWER INVOLVEMENT	MS	F	P	SIG.
Age	12.9	.833	.36	n.s.
Gender	21.9	1.412	.23	n.s.
Age X Gender	31.77	2.05	.15	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

Table VI: ANOVA for Age, Gender & Total Rower Enjoyment

Total ROWER ENJOYMENT	MS	F TEST	PVALUE	SIGNIF.
Age	44.6	1.6	.21	n.s.
Gender	167.5	6.0	.02*	*
Age X Gender	5.5	.197	.66	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

Table VII: ANOVA for Age, Gender & Total Rower Competitiveness

Total ROWER COMPETITIVE.	MS	F	P	SIG.
Age	2.5	.77	.38	n.s.
Gender	12.7	3.8	.05*	*
Age X Gender	11.2	3.4	.06	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

Table VIII: ANOVA for Age, Gender & Total Rower Training

Total ROWER TRAINING	MS	F	P	SIG.
Age	4.01	1.05	.31	n.s.
Gender	59.70	15.67	.0001*	**
Age X Gender	.139	.04	.85	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

The importance of having demanding physical workouts in order to enjoy rowing was higher for women than men, as were skill development and intellectual challenge. When examining the role of whether winning a race, having a good race, or participating in a race was more important, it was noted that women over men appreciated participating in a race irrespective of age group or at what age they started with the activity. Again, women over men felt it important to be recognized as a Masters Rower and respected as a Masters Rower. Finally, age was the influencing factor as more older rowers over younger ones felt that rowing in Masters-only regattas was important for their enjoyment of the sport. As well, older women who started rowing late, ranked skill development, demanding physical workouts, and recognition/respect as a Masters Rower as higher in importance than any other participant group. The next highest ratings came from younger men who started rowing later in life. Ironically, these younger men rated similarly these physical training benefits as highly important to their involvement in Masters rowing as did older women who started rowing late. Men and women both ranked the benefits of training as number one in importance, with competition ranked as number two for men, while camaraderie/teamwork was ranked as number two for women. The directions of findings on motivations ratings were identical for all items tested, i.e., women scored higher than men, and older rowers scored higher than younger ones. Statistically significant differences based on gender were found when testing for enjoyment (Table VI), competitiveness (Table VII), and rower training (Table VIII).

Physical Capacity

Using a Likert Scale, participants rated how much various attributes enhance their “physical capacity” at Masters rowing (see Table IX). The total scores were interesting for gender as, again, women related physical capacity higher than did men.

Table IX: ANOVA for Age, Gender & Total Rower Physical Capacity

Total PHYSICAL CAPACITY	MS	F	P	SIG.
Age	28.7	.42	.52	n.s.
Gender	185.2	3.3	.07	n.s.
Age X Gender	125.6	2.2	.14	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

Five dimensions of physical capacity (feel toned and fit, look toned and fit, capacity to do other physical activities, handle stress, and control the effects of aging) demonstrated some interesting findings. Further analyses on these dimensions showed that older women who started rowing later in life rated higher than any other group in several physical capacity categories. These women had the highest ratings for the categories of feeling good about their abilities, appreciating the way they look, satisfaction with appearance, ability to get along with others, respect for self, and confidence in self. Once again, younger men who also started rowing late scored highly in these same capacity categories. Further, the results demonstrate that women in this study use Masters rowing more so than do men to handle stress and control the effects of aging. The directions of findings on physical capacity ratings were identical for all 13 items tested, i.e., women scored higher than men, and older rowers scored higher than younger ones. Although a significant difference in scores between genders was not found, the consistent and repetitive pattern of direction is interesting to note.

Rowing Influences on Self-esteem

The participants were also asked to rate the extent to which participation in rowing influences each of the following components of self-esteem, including feeling good about their abilities, appreciating the way they look, getting along well with others, respecting themselves, satisfaction with their physical appearance, confidence, and sure of themselves in new situations. As noted in Table X, the total score for these rowing influences were more important to women than men.

Table X: ANOVA for Age, Gender & Total Self-Esteem

Total self-Esteem	MS	F	P	SIG.
Age	15.1	.29	.54	n.s.
Gender	299.5	5.7	.02*	*
Age X Gender	1.6	.03	.86	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

Rowing contributed considerably and significantly more to women's ratings of self-esteem than to men's. Again, older participants felt better about their abilities derived from Masters rowing than did younger participants, and the directions of findings on ratings for self-esteem were identical for all items (11) tested, i.e., older women's self-esteem benefited

more from their involvement in rowing, than did younger men.

Barriers to Masters Rowing

There were few statistically significant differences found in “barriers” to rowing participation with the exception of “gender”. This lack of significance may be attributable to the high income, education, and professional occupational status of this sample of Masters Rowers. Nevertheless, older women who started rowing late had higher scores than any other group for the barriers associated with access to a coach, lack of equipment, lack of facilities, lack of support from their rowing club, and not enough opportunities to row in regattas for Masters participants. Table XI presents the data concerning barriers:

Table XI: ANOVA for Age, Gender & Total Barriers to Masters Rowing

Total Barriers	MS	F	P	SIG.
Age	82.1	.77	.38	n.s.
Gender	530	4.95	.03*	*
Age X Gender	139	1.3	.26	n.s.

*=p. <.05; **=p. <.01; n.s.=not significant

Although women identified more barriers to rowing than did men, it was older women who started rowing later in life (the largest subgroup among females) who reported the greatest barriers. The group that experienced the fewest barriers were older men who had been rowing the longest (started rowing before age 27). The direction of the findings for rating barriers is consistent with previous analysis, i.e., women scored higher than men on all 16 items, and older adults scored higher than younger ones.

Poverty, social class, and educational level are critically linked to lifestyle choices and health outcomes for all ages. The paradox of women not choosing to take part in regular physical activity although they understand the health benefits is often explained by personal and social barriers (Gill & Overdorf, 1995; Gill et al., 1996; McDermott, 1996; O'Brien & Vertinsky, 1991; O'Brien & Burgess, 1992; Vertinsky, 1995). For example, women may feel guilty or selfish for taking time out for themselves whether to exercise or to participate in a leisure activity (Parry & Shaw, 1999). The present exploratory study has demonstrated that women can overcome these barriers through involvement in Masters rowing. Although most of the participants in this study were well educated and

financially able to participate, older women who started rowing later in life were less well off in employment and income status and reported more barriers in their participation in Masters rowing than did any other participant group.

DISCUSSION

The data analysis focused on the differences in ratings of physical capacity, subjective health, and participation benefits in relation to gender and age. The results indicate that women's experiences are frequently more positively rated than men's, and that older participants scored rowing as more beneficial than younger participants.

This exploratory study contributes some new insight into the study of aging women, physical activity and health, and the benefits accrued from Masters rowing. The literature concerning women's experiences is expanded and helps to appreciate the gender differences of those attributes. Health is represented as a set of experiences and illustrates the hidden potential of physical and sport activity as contributors to the perception of health benefits. However, considering the nature of the accessed sample in this study, one needs caution in generalizing its findings to aging women outside of Masters rowing.

In this study, how women viewed health benefits from being physically active differed strikingly than the views held by men. The subjective health scores were higher for women than their male counterparts, particularly among older women. Women appreciated feeling vital, having energy more so than men. In fact, these two components to subjective health were ranked as least important by men. Having good social relationships and control over one's life through rowing was also rated higher for women than men. Due to the aging process, older women may be especially sensitized to health benefits of rowing and thus, may have scored this variable as the highest amongst all subgroups. Women also rated feeling connected to the community and environment higher than men. Despite the fact that women made up only 39% of the sample population, they scored higher than men on **all** scores across the reported dimensions of the survey. This pattern suggests that women in this study enjoy their participation in rowing more than men do.

As Labonté (1993) argues, it is the experience of healthy aging that enables people to be active, rather than the structural perspective. The conventional paradigm (medical disease model) is structured from a male dominated perspective and one in which younger males participate. Therefore, women generally rate "lack of support" higher than males. However, consistent with Labonté's model, it is the enjoyment of the

activity and feeling good about one's self that are rated high (due to the experience) despite rating high on lack of support or other barriers. Figure 2 (below) provides a Labonté-like model for understanding how aging women who develop these subjective health perspectives are afforded the opportunities to engage in a physical activity such as Masters rowing to achieve healthy aging.

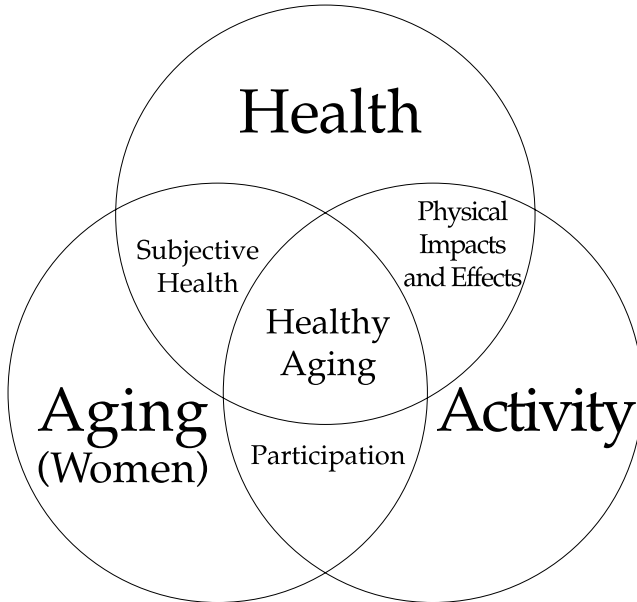


Figure 2: Revised Model for Healthy Aging for Women

A revised Labonté model (1993) concerning dimensions of health and wellbeing is presented to promote further discussion and exchange of ideas concerning aging women, physical activity and healthy aging.

While training is important to both male and female rowers, women's scores for enjoyment were higher than men's. Women also enjoyed more the physically demanding workout that rowing offers, skill development and intellectual challenge than did men. Considering that women do not generally fit the male dominant models of assessing sport activities, it is understandable that they would score higher on the attributes that are not generally described in traditional models. Moreover, for women it was more important to participate in rowing than to win a race, as it was also important to be recognized and respected as a Masters Rower. Males may be much more focused on the goal of the game – to win, while women rowers enjoy the process of being a rower and racing. This difference is further illustrated when rowers ranked attributes to rowing, as both

genders ranked “benefit of training” as number one, followed by “racing” for men and “camaraderie/teamwork” for women as number two.

Older women who started rowing later in life provided an interesting perspective. For this group, skill development, demanding physical workout, and recognition/respect as a Masters Rower were ranked higher than for any other group. Further, this group of older women and younger men who started rowing at a young age (prior to age 27) both rated physical training and winning a race as highly important. Young males appear to enter the field of rowing for reasons identified in the male scripted sports model, not much different from the older women who yearn for the same goal-oriented outcome and competition.

Parry & Shaw (1999) studied sport experiences among menopausal women and found that two aspects of sport that influence their experience are 1) a “sense of familiarity” that an activity provides women with a “continuity of structure and responsibility” (p.212); and 2) a positive self-attitude outcome as a result of participating in the activity. Rowing offers men and women in this study a sense of familiarity, however it was women who demonstrated the highest levels of self-esteem due to their involvement in this physical activity.

Older women who started rowing later in life felt their physical capacity was enhanced (the most over any other group) due to their involvement with rowing. This link reflects a sense of control, confidence and accomplishment that may not have been otherwise experienced were it not for the opportunity of Masters rowing, and may suggest a causal relationship. Women have not been encouraged to participate or become competent at vigorous sport, so they may underestimate their ability (Vertinsky, 2000). Rowing contributes substantially more to women’s self-esteem than it does to men’s in a number of categories, in particular to older women. The experience of *being* a rower is just as beneficial as working within the rowing structure (male defined) and gaining accomplishment, as it is to participate despite the obstacles and barriers that older women face.

CONCLUSION

Regular exercise is characterized as a desirable part of life no matter what a person’s age (Wells, 1991). The attitude often encountered is that waiting until the advanced years to become physically active is too late to reap any of the health and psychosocial benefits. Yet, according to Kalache (1996) and the WHO, a lifetime of regular physical activity enhances one’s health and fitness tremendously during the senior years. In the present exploratory study, Masters rowing served as an effective physically active

venue for the encouragement and support of aging women in pursuing satisfying, healthy and physically active lifestyles.

Adult women have more of a tendency to greatly underestimate their ability and even the appropriateness of their participation in vigorous physical activity (Parry & Shaw, 1999; Vertinsky, 1995; 2000). According to Vertinsky (1995; 2000) and McDermott (1996), the criteria typically associated with the benefits of the physically vigorous experiences have traditionally been defined within the parameters of the male experience, and women's experiences remain under-studied and under-appreciated.

The women who participated in this exploratory study demonstrated that their involvement in Masters rowing has provided them with the means to escape these gendered expectations for involvement in healthy activities. Their experiences represent more of an androgynous motivation where competitive success and fitness have come to represent only two dimensions of subjective health and successful aging. By redefining their experiences, these aging female Masters rowing participants are achieving what might be labeled as "healthstyles", the ability to transform this vigorous physical activity into a means of living well and achieving an enhanced quality of life. Ideally, one would examine the same issues among elite and privileged Masters participants in compatible activities or sports for comparative purposes.

To answer the question as to why women would participate in physically active experiences, even for women who are considered as "past their prime", would be to understand the potential for enhanced physical capacity and achieved subjective health as viewed from interdisciplinary perspectives. Women are able to enhance their quality of life, and succeed at an activity that typically is structured based on male constructs and goals. At the very least, the discussion concerning women and healthy aging can continue and further examinations will be promoted.

There is no longer doubt that women can reap the benefits of increased physical activity at any age, and that a lifetime of regular physical activity would enhance their fitness levels and health, especially during their senior years. Older women in this exploratory study clearly viewed themselves as having positive experiences as a result of participation in Masters rowing. Nevertheless, further research would be necessary to more clearly understand the aging female experience not just in Masters rowing but also for the health benefits to be gained from involvement in other equally vigorous sport and physical activity experiences.

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