Health-related benefits: their influence on loyalty and physical activity participation in Australian public aquatic centres

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Abstract: The present study aimed to examine health-related benefits and their potential role in encouraging more people to undertake regular physical activity at public aquatic centres. The study used the service quality – overall satisfaction – loyalty model to examine outcome service quality, especially health-related benefits, and their influence on loyalty (WOM recommendation), mediated by overall customer satisfaction. Based on a sample of 7,133 customers of 27 multi-purpose public aquatic centres in Australia, regression analyses indicated that health-related benefits dimensions, improved health and fitness and relaxation and stress release, had the greatest influence on overall customer satisfaction, which in turn significantly influenced word-of-mouth recommendation. Improved health and fitness was also rated highest for benefit importance as well as benefit attainment, with success in competition the lowest rated benefit dimension. Further research is recommended to clarify the role of health-related benefits in facilitating physical activity, thus reducing the prevalence of chronic health disease.

Keywords: physical activity; health-related benefits; well-being; service quality; overall customer satisfaction; word-of-mouth recommendation; Australia.

1 Introduction

Continued increases in physical inactivity are contributing to an obesity epidemic and related chronic disease (ABS, 2007), which is exacerbated by Australia’s ageing population. In 2002, 13% of the population was aged 65 years and over, and it is estimated this figure will grow to 25% by 2042 (Australian Government, The Treasury, 2011). In Australia over $Aust 21 billion is spent per year on medical treatment for obesity and associated illnesses (ABS, 2007). The salient challenge faced by individuals, communities, and governments is to identify strategies to facilitate more people to increase their physical activity levels (Lee et al., 2011; Prochaska et al., 2008) thus providing health benefits to decrease the incidence of chronic disease.

One approach is to capitalise on the generally widely dispersed public aquatic centres within most communities throughout Australia providing health promoting activities such as aerobics, fitness or gym activities and water-based activities such as lap swimming. Previous research indicates that participating in activities at public aquatic centres results in outcome service quality dimensions including health-related benefits, which influence overall customer satisfaction, which, in turn, influences loyalty such as word-of-mouth
(WOM) recommendation (Howat et al., 2008). Similar results have been reported for private health clubs (Alexandris et al., 2004). Therefore, the focus of the present study is to examine the influence of service quality outcome dimensions and in particular, health-related benefits on overall customer satisfaction and WOM recommendation.

The next section of this article explains the contextual setting for the research, followed by the theoretical context outlining the key research constructs (service quality, overall satisfaction, and WOM recommendation). Following the methodology, the discussion provides some managerial implications for the research, while the final sections discuss future research and limitations, and conclusions.

2 Contextual setting

2.1 Physical inactivity trends

Between 2001 and 2008, there was an increase in physical inactivity among the adult population in Australia, highlighted by an increase of almost 4% in the proportion of people who did not meet the minimum “guidelines of 30 minutes moderate exercise on most days of the week” (ABS, 2011). The Australian Bureau of Statistics (ABS) data show the majority of Australians, 18 years and over (72%) did not meet the recommended guidelines for regular physical activity in 2008 compared to 69% in 2001 (ABS, 2011). Physical inactivity is now recognised as the fourth largest preventable cause of disease, behind high blood pressure, overweight/obesity and smoking (Flegal et al., 2010; World Health Organization, 2010). Reducing physical inactivity can help prevent obesity and chronic health ailments such as type II diabetes (Jonker et al., 2006), cardiovascular disease, osteoporosis, arthritis, mental illness including depression, and some cancers as well as injury; and can help contain growing healthcare costs (ABS, 2011; Centers for Disease Control and Prevention, 2010).

2.2 Public aquatic centres and physical activity opportunities

Public aquatic centres provide physical activity opportunities that provide health-related benefits for many Australians. The already high number of total visits to aquatic centres is indicated by statistics that show an average of five visits per person per year to public aquatic centres in South Australia (Service Skills SA, 2011) and Western Australia (Leaversuch, 2010) equating to over 113 million annual visits to public aquatic centres across Australia.

Based on ABS data collected in 2009–2010 for people aged 15 years and over, 30% were found to participate in regular physical activity, twice a week on average each month over the previous 12 months (ABS, 2011). Walking for exercise was the most popular regular physical activity (23%) for all age groups, because it is relatively convenient, inexpensive, and accessible for the wider population (Sugiyama and Thompson, 2008). The next most popular activities included aerobics, fitness or gym (14%) and swimming (7.4%), followed by cycling (6.5%) and jogging or running (6.5%), with other sports activities registering lower rates of regular participation (ABS, 2011).

Aerobics, fitness or gym and swimming are among the more relatively popular opportunities currently offered by multi-purpose Australian public aquatic centres (Howat and Crilley, 2007), and during the last decade there has been a growth in
aerobics, fitness or gym activities particularly in the larger centres. These trends are supported by Australian Sports Commission (ASC) data showing that between 2001 and 2007, aerobics/fitness was the physical activity area enjoying the largest increase in total participation (68%) (ASC, 2008). The ASC data also indicated that aerobics/fitness was the most popular partly or fully organised type of physical activity for Australians 15 years and over in 2007.

3 Theoretical context

The main constructs discussed in the present study (service quality, satisfaction, and WOM recommendation) will be summarised in the following sections. More in-depth explanations for each construct are well documented elsewhere (e.g., Alexandris et al., 2004; Clemes et al., 2011; Howat et al., 2008).

3.1 Service quality

As an antecedent to overall satisfaction, service quality is often conceptualised as the customer’s cognitive evaluation of a service provider’s performance (Brady and Cronin, 2001) across a range of service attributes. Popular service quality models include SERVQUAL (Parasuraman et al., 1988; Zeithaml et al., 2006), the three dimension model proposed by Brady and Cronin (2001), and the Grönroos (2005) model with two major dimensions of technical quality and functional quality.

Four of the five SERVQUAL dimensions are process dimensions, three of which focus on service delivery staff (responsiveness, assurance, and empathy), while ‘tangibles’, include physical quality such as the quality of facilities and equipment. Only one SERVQUAL dimension (reliability) relates to outcome service quality such as the accuracy of the diagnosis from a medical examination (Parasuraman et al., 1988). The relatively low proportion of attention given to outcome dimensions was seen as a shortcoming of the SERVQUAL instrument (Alexandris et al., 2004; Brady and Cronin, 2001; Kang and James, 2005).

In the Grönroos (2005) model outcome service quality or ‘technical’ quality describes the outcomes or what the customer obtains from the service or what is accomplished as a result of the service (Dagger and Sweeney, 2007), such as improved physical fitness. Functional quality relates to the process of service delivery and includes two sub-dimensions, physical quality and relational quality. Physical quality includes facilities and equipment important to facilitate the delivery of the service, while relational quality embraces the interactions between the service provider and the customer.

The Brady and Cronin (2001) model includes two process dimensions, functional or interaction quality which focuses on customer-staff relationships, and the physical environment quality. The third dimension, technical or outcome quality refers to what is ‘produced’.

In the present study, outcome service quality focuses on benefits as outcomes, which is consistent with the attainment of a “…desired condition or an improved condition” (Manfredo et al., 1996; Beh and Bruyere, 2007) where benefits are desired “…goals or positive outcomes” [Driver et al., (2000), p.259].
Benefits of regular participation in physical activity include enjoyment (ABS, 2011), and remaining physically active helps improve physical fitness and mental health. Cadilhac et al. (2011) found that reducing physical inactivity led to improved health and well-being for individuals. Participating with others strengthens social networks, increasing opportunities to develop social capital and community interdependence, and can reduce social isolation (Howat et al., 2004). Participating in physical activity improves mental health, such as improvements in self-esteem and reduced depression (Paluska and Schwenk, 2000).

As a key component of service quality models relevant to aquatic centres and health clubs, outcome service quality or benefits attained directly influence overall customer satisfaction (Alexandris et al., 2004; Howat et al., 2008). Participation in a fitness club’s programmes include one outcome quality dimension comprising five health-related outcomes: increased energy, improved health, improved mood, improved psychological well-being, and improved fitness (Alexandris et al., 2004). Complementing the study by Alexandris et al. (2004) is the research of Theodorakis et al. (2004) and their Customer Satisfaction Scale for health clubs that includes need-satisfaction dimensions for: relaxation, health and fitness, social and intellectual. Research on two public aquatic centres identified key outcome service quality dimensions to include relaxation and personal accomplishment benefits (Howat et al., 2008).

3.2 Overall customer satisfaction

There are similarities between overall customer satisfaction and the overall customer experience when viewed as a global attitude towards a service (Palmer, 2010). For example, Baker and Crompton (2000) describe customer satisfaction as an emotional state of mind or the outcome of an experience. In a similar vein, Wong (2004) refers to consumer satisfaction as emotional satisfaction, while Oliver (1997) describes satisfaction as an affective state involving fulfilment of customer needs. Considering the overall customer experience in terms of the ‘lifecycle of the customer relationship’ has implications for phases of single encounters additional to the cumulative impact of repeat encounters with the same service provider (Frow and Payne, 2007). Therefore, as a global construct, overall customer satisfaction tends to reflect a combination of both the process and outcome elements of a customer’s overall experience (Homburg et al., 2005; Seiders et al., 2005), resulting in an overall attitude that is relatively stable (Jones and Suh, 2000), especially for multiple service encounters (Choi and Chu, 2001).

Most customer experiences have an emotional or affective element, and there is growing attention to providing opportunities for positive emotional feelings towards the service. The outcome of the customer experience is the customer attitude towards the service, which tends to be influenced by the customer’s emotional predisposition and selected elements of the service (Palmer, 2010). Accordingly, customers’ ratings of their overall satisfaction with a service are prone to a range of influences some of which are the direct responsibility of the provider and others outside the provider’s control (Baker and Crompton, 2000; Oliver, 1997; Zeithaml et al., 2006). Factors outside the provider’s control include weather conditions, public transport affecting access to the service, or the customer’s own personal circumstances such as recent successes or setbacks at work (Howat et al., 2008).
3.3 WOM recommendation

Berry and Carbone (2007) highlight the importance of emotionally connecting with customers where the quality of the overall customer experience, or overall customer satisfaction, influences loyalty, such as a willingness to recommend (WOM) a service to others. WOM has been one of the most commonly researched loyalty constructs (Han et al., 2008; Reichheld, 2003; Zeithaml et al., 2006). Furthermore, Reichheld (2003) asserts that WOM is a good predictor of future purchasing behaviour, because recommending a service to other potential customers involves putting one’s own reputation on the line. Consequently, in the present study we interpret WOM recommendation as an indication that customers are willing to endorse the aquatic centre as well as revisit themselves.

Based on Brady and Cronin’s (2001) service quality model applied to private fitness clubs Alexandris et al. (2004) found that outcome quality significantly predicted overall satisfaction, which in turn significantly influenced WOM recommendation. Similarly, outcome service quality dimensions including health-related benefits influenced overall customer satisfaction, which significantly predicted loyalty such as WOM recommendation for aquatic centres (Howat et al., 2008).

The focus of the present study is to examine the influence of service quality outcome dimensions and in particular, health-related benefits on overall customer satisfaction and WOM recommendation. Therefore, understanding the role of outcome service quality or benefits attained by specific target groups should help service providers to develop, promote and deliver physical activity opportunities that both attract and retain customers.

4 Research questions

The primary research questions for this study were:

RQ1 To what extent are health-related benefits a relative priority for Australian public aquatic centre customers and do these differ by age group?

RQ2 Are there significant positive relationships between attainment of health-related benefits and overall customer satisfaction and do these differ by age group?

RQ3 Is there a significant positive relationship between overall customer satisfaction and WOM recommendation and does this differ by age group?

5 Methods

5.1 Data collection and sample

The respondents were 7,133 customers from 27 Australian public aquatic centres who completed a paper-based questionnaire during their visit to the facility during 2009. A stratified sampling approach was utilised so that all activity groups had an opportunity to be included. Respondents were repeat customers aged 15 years and over, most (80%) of whom who had been aquatic centre customers for six months or more, with a majority
Health-related benefits

being females (65%). Customers under the age of 15 years were not surveyed, although parents or carers of learn to swim participants were included, with 75% of this group being females of whom 81% were between 30–49 years of age. The most popular water-based activities were swimming lessons (25%), lap swimming (18%) and recreational swimming (17%), while other activities included aerobics, fitness or gym activities (29%). The majority of the centres were larger multi-purpose centres that included facilities for aerobics, fitness or gym activities. Most centres had indoor pools (69%), and the remaining 31% were centres with outdoor pools. The centres were mainly located in the Australian States of Victoria (35%), Western Australia (33%) and New South Wales (28%).

5.2 Measures

5.2.1 WOM recommendation
Rated on seven-point scales the three WOM recommendation items were: ‘To what extent would you recommend this centre to others?’, ‘I say positive things about this centre to other people’, and ‘I encourage friends and relatives to use this centre’. The three items were combined into a WOM recommendation factor, with high internal consistency (Cronbach’s $\alpha = .94$). The WOM scales were adapted from Alexandris et al. (2004), Bruner et al. (2005), and Zeithaml et al. (1996), and are similar to those used by Zhang and Bloemer (2008).

5.2.2 Overall customer satisfaction
Overall satisfaction, ‘Overall, how satisfied are you as a customer of this centre?’ was measured on a seven-point Likert scale ranging from 1 (very dissatisfied) to 7 (very satisfied) (Murray and Howat, 2002; Skogland and Siguaw, 2004; Voss et al., 2004). Overall experience (‘Based on all of your experiences at this centre, please rate how you feel overall as a customer of this facility?’) was rated on a seven-point scale ranging from 1 (displeased) to 7 (pleased) (Jones and Suh, 2000). These two measures were aggregated into an ‘overall customer satisfaction’ scale with good internal consistency (Cronbach’s $\alpha = .81$). The two-item overall satisfaction scale used by Mittal et al. (2008) also included one item focussing on the customers’ experience and the other on satisfaction, while Han et al. (2008) used a combination of satisfaction and experiences in their five-item global satisfaction scale. Our two items have similar anchors to those recommended by Bruner et al. (2005, p.507).

5.2.3 Benefits
In the questionnaire, benefits were rated for importance as well as attainment on separate interval scales, ranging from 1 (very low), to 5 (very high). Respondents were asked to rate ‘How important are each of the following benefits for you and, as a result of your visits to the Aquatic Centre, to what extent do you feel these benefits have been attained’. The benefit importance measures were combined into factors, as were the benefit attainment measures, with satisfactory to good internal consistency (Cronbach’s $\alpha = .75$ to .92) (Table 1). All 11 benefits are listed in Table 1 as worded in the questionnaire, and were initially based on a series of customer focus groups at four different aquatic centres.
across Australia and New Zealand (McGrath, 2007) as well as inputs from other research (e.g., Alexandris et al., 2004; Paluska and Schwenk, 2000). In the present study, reference to ‘health-related benefits’ will focus on the first three benefits dimensions listed in Table 1: improved health and fitness, relaxation and stress release, and improved skill and self-esteem, although social benefits are often considered as a health benefit. However, in the present study supplementary analyses indicate that the social benefit, time with family or friends is relevant only to specific age groups, and is generally rated relatively low compared to other benefits.

**Table 1**  CERM PI benefits for public aquatic centre customers

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Factors (benefit attainment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved health and well-being</td>
<td>Improved health and fitness (.82)</td>
</tr>
<tr>
<td>Improved physical fitness</td>
<td></td>
</tr>
<tr>
<td>Relaxation</td>
<td>Relaxation and stress release (.83)</td>
</tr>
<tr>
<td>Escaping the pressures of daily life (e.g., reduced stress)</td>
<td></td>
</tr>
<tr>
<td>A sense of personal accomplishment and success</td>
<td>Improved skill and self-esteem (.87)</td>
</tr>
<tr>
<td>Improved skill level</td>
<td></td>
</tr>
<tr>
<td>Improved self esteem</td>
<td></td>
</tr>
<tr>
<td>Spending time with family</td>
<td>Time with family or friends (.75)</td>
</tr>
<tr>
<td>Spending time with friends</td>
<td></td>
</tr>
<tr>
<td>Team success in competition</td>
<td>Success in competition (.92)</td>
</tr>
<tr>
<td>Personal success in competition</td>
<td></td>
</tr>
</tbody>
</table>

Note: Numbers in parenthesis are Cronbach’s alphas.

Data were also collected on a range of other customer demographic and usage variables including gender, the main activity customers usually take part in at the centre, and frequency of visiting the centre; ‘On average how many times do you visit the centre?’ with four response options: less than once per week, once per week, twice per week, three or more times per week.

5.3 Statistical design and analyses

Statistical analyses were conducted using Statistical Package for the Social Sciences (SPSS 18). Descriptive statistics included percentages, frequencies, means and standard deviations. Cronbach’s alpha coefficients were used to check the internal reliability of factors. Means for benefit attainment and analysis of variance (ANOVA) to compare age groups were utilised to answer the first research question, and paired t-tests were used to compare benefit importance and benefit attainment means for each age group. Benefit attainment measures were used in the regression analyses for the second research question because these are output measures that can be compared directly with other output measures such as overall satisfaction and WOM recommendation. Regression analyses were also used to answer the third research question, to examine the relationship between overall customer satisfaction and WOM recommendation. Missing values for the factor items were replaced via imputation using maximum likelihood estimation (Switzer and Roth, 2002). Missing data for the age groups represented 2.2% of cases (n = 157).
6 Results

6.1 Priority of benefits

RQ1 To what extent are health-related benefits a relative priority for Australian public aquatic centre customers and do these differ by age groups?

6.1.1 Benefit importance versus benefit attainment

*Improved health and fitness* was the highest rated benefit factor in terms of benefit importance as well as benefit attainment ($M_I = 4.36, M_A = 4.11, t = 35.47, p < .001$) (Table 2). Other health-related benefits, *relaxation and stress release* ($M_I = 3.97, M_A = 3.83, t = 17.39, p < .001$) and *improved skill and self-esteem* ($M_I = 3.93, M_A = 3.79, t = 19.87, p < .001$), also rated relatively high, above both *time with family or friends* and *success in competition*. Paired t-tests indicated that the importance means for each of the three health-related benefit factors were significantly higher ($p < .001$) than their attainment means with attainment – importance gaps of –0.25, –0.14, and –0.14 for *improved health and fitness*, *relaxation and stress release*, and *improved skill and self-esteem* respectively. These gaps were relatively uniform across the age groups within each benefit dimension. Benefit attainment for *time with family or friends* ($M_A = 3.49$) was similar to benefit importance ($M_I = 3.55$) with an attainment – importance gap of –0.06 ($t = –7.28, p < .01$). *Success in competition* registered the same mean ($M = 2.96$) for both benefit attainment and importance.

Table 2 Benefit importance versus benefit attainment: paired samples t-tests

<table>
<thead>
<tr>
<th>Benefit factors</th>
<th>Benefit importance</th>
<th>Benefit attainment</th>
<th>Benefit attainment</th>
<th>SE</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved health and fitness</td>
<td>4.36 (0.66)</td>
<td>4.11 (0.69)</td>
<td>–0.25</td>
<td>.007</td>
<td>7,132</td>
<td>35.47</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Relaxation and stress release</td>
<td>3.97 (0.79)</td>
<td>3.83 (0.77)</td>
<td>–0.14</td>
<td>.008</td>
<td>7,132</td>
<td>17.39</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Improved skill and self-esteem</td>
<td>3.93 (0.80)</td>
<td>3.79 (0.76)</td>
<td>–0.14</td>
<td>.007</td>
<td>7,132</td>
<td>19.87</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Time with family or friends</td>
<td>3.55 (1.08)</td>
<td>3.49 (1.00)</td>
<td>–0.06</td>
<td>.008</td>
<td>7,132</td>
<td>–7.28</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Success in competition</td>
<td>2.96 (1.22)</td>
<td>2.96 (1.10)</td>
<td>0.00</td>
<td>.008</td>
<td>7,132</td>
<td>–1.01</td>
<td>ns</td>
</tr>
</tbody>
</table>

Note: Benefits scales range from 1 (very low), to 5 (very high)

6.1.2 Benefit attainment

All age groups rated attainment of the benefit factor *improved health and fitness* highest, ranging from 4.02 to 4.28 on a five-point scale (Table 3), with highest ratings for the age groups 65 years and over ($M_A = 4.28$), 60–64 years ($M_A = 4.25$) and 50–59 years ($M_A = 4.24$). ANOVA statistics with a Tukey HSD post hoc show that the older age groups 50 years and over rated *improved health and fitness* significantly higher than most of the younger age groups ($F = 17.45, p < .001$). In contrast, the 50–64 years age groups
rated lowest for *success in competition* ($M_A = 2.77$ and $2.81$). The significant differences between the age groups for each benefit attainment factor are presented in Table 3.

### Table 3

Means ($SD$) and ANOVA for benefit attainment factors by age group

<table>
<thead>
<tr>
<th>Group</th>
<th>Age group</th>
<th>%</th>
<th>Improved health and fitness (attainment)</th>
<th>Relaxation and stress release (attainment)</th>
<th>Improved skill and self-esteem (attainment)</th>
<th>Time with family or friends (attainment)</th>
<th>Success in competition (attainment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15–19 yrs</td>
<td>5</td>
<td>4.11</td>
<td>3.92</td>
<td>3.98</td>
<td>3.79</td>
<td>3.63</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.83)</td>
<td>(0.81)</td>
<td>(0.85)</td>
<td>(0.91)</td>
<td>(1.04)</td>
</tr>
<tr>
<td>2</td>
<td>20–29 yrs</td>
<td>16</td>
<td>4.12</td>
<td>3.84</td>
<td>3.84</td>
<td>3.40</td>
<td>3.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.69)</td>
<td>(0.76)</td>
<td>(0.73)</td>
<td>(1.03)</td>
<td>(1.09)</td>
</tr>
<tr>
<td>3</td>
<td>30–39 yrs</td>
<td>32</td>
<td>4.02</td>
<td>3.78</td>
<td>3.75</td>
<td>3.57</td>
<td>2.93</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.70)</td>
<td>(0.77)</td>
<td>(0.75)</td>
<td>(0.97)</td>
<td>(1.09)</td>
</tr>
<tr>
<td>4</td>
<td>40–49 yrs</td>
<td>26</td>
<td>4.09</td>
<td>3.80</td>
<td>3.74</td>
<td>3.49</td>
<td>2.88</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.69)</td>
<td>(0.78)</td>
<td>(0.77)</td>
<td>(0.99)</td>
<td>(1.07)</td>
</tr>
<tr>
<td>5</td>
<td>50–59 yrs</td>
<td>11</td>
<td>4.24</td>
<td>3.94</td>
<td>3.80</td>
<td>3.28</td>
<td>2.77</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(0.63)</td>
<td>(0.74)</td>
<td>(0.76)</td>
<td>(1.05)</td>
<td>(1.13)</td>
</tr>
<tr>
<td>6</td>
<td>60–64 yrs</td>
<td>4</td>
<td>4.25</td>
<td>3.93</td>
<td>3.86</td>
<td>3.41</td>
<td>2.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.61)</td>
<td>(0.75)</td>
<td>(0.78)</td>
<td>(1.00)</td>
<td>(1.11)</td>
</tr>
<tr>
<td>7</td>
<td>65 yrs and +</td>
<td>6</td>
<td>4.28</td>
<td>3.91</td>
<td>3.88</td>
<td>3.46</td>
<td>2.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.59)</td>
<td>(0.76)</td>
<td>(0.76)</td>
<td>(0.99)</td>
<td>(1.10)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100</td>
<td>4.11</td>
<td>3.83</td>
<td>3.79</td>
<td>3.49</td>
<td>2.96</td>
</tr>
<tr>
<td>ANOVA</td>
<td>$F(6, 6981)$</td>
<td></td>
<td>17.45***</td>
<td>6.90***</td>
<td>7.45***</td>
<td>15.29***</td>
<td>33.65***</td>
</tr>
<tr>
<td></td>
<td>Tukey post hoc</td>
<td></td>
<td>7 &gt; 1 + 2</td>
<td>6 &gt; 3,</td>
<td>7 &gt; 4,</td>
<td>4 &gt; 5,</td>
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<td></td>
<td>+ 3 + 4</td>
<td>5 &gt; 3 + 4</td>
<td>2 &gt; 3 + 4</td>
<td>3 &gt; 2 + 5,</td>
<td>2 &gt; 3 + 4</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6 &gt; 3 + 4,</td>
<td>1 &gt; 3</td>
<td>1 &gt; 2 + 3,</td>
<td>+ 5 + 6,</td>
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<td></td>
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<td></td>
<td>5 &gt; 2 + 3</td>
<td>+ 4 + 5</td>
<td>+ 4 + 5 + 6</td>
<td>+ 4 + 5 + 6</td>
<td>+ 4 + 5 + 6</td>
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<td>+ 4, 4 &gt; 3,</td>
<td>2 &gt; 3</td>
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</tbody>
</table>

Notes: ***$p < .001$; attainment of benefits scale ranges from 1 (*very low*), to 5 (*very high*)

Attainment of the benefit factor *relaxation and stress release* was second highest ($M_A = 3.83$) with ANOVA statistics indicating few significant differences between the means for most age groups except for the 30–49 year age groups which rated *relaxation and stress release* lower than the 50–64 year age groups.

Compared to the other age groups, the 15–19 year age group rated highest for *improved skill and self-esteem* ($M_A = 3.98$), *time with family or friends* ($M_A = 3.79$), and *success in competition* ($M_A = 3.63$). Supplementary analyses show that for all age groups, there was an inverse relationship between frequency of visiting the centre and attainment of the benefit *time with family or friends*, with highest ratings for respondents attending the centre less frequently, $F(6, 6933) = 15.75$, $p < .001$. In contrast, frequent visitors clearly had a greater focus on health and fitness, with a direct positive relationship...
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between frequency of visiting the centre and attainment of the benefits improved health and fitness, \( F(6, 6933) = 17.58, p < .001 \), and improved skill and self-esteem \( F(6, 6933) = 7.42, p < .001 \).

Other supplementary analyses by activity show that attainment of improved health and fitness was highest for lap swimming, aerobics, fitness or gym activities, and lowest for swimming lessons and recreational swimming \( F(6, 7126) = 67.45, p < .001 \), while attainment of relaxation and stress release was highest for lap swimming and recreational swimming, and lowest for swimming lessons, \( F(6, 7126) = 38.34, p < .001 \). Attainment of time with family or friends was highest for swimming lessons and recreational swimming and lowest for lap swimming, aerobics, fitness or gym activities \( F(6, 7126) = 131.49, p < .001 \).

6.2 Benefit attainment and overall customer satisfaction

RQ2 Are there significant positive relationships between attainment of health-related benefits and overall customer satisfaction and do these differ by age groups?

Table 4  Regression analysis: dependent variable: overall customer satisfaction factor, by age

<table>
<thead>
<tr>
<th>Benefit attainment dimensions</th>
<th>All sample</th>
<th>15–19 years</th>
<th>20–29 years</th>
<th>30–39 years</th>
<th>40–49 years</th>
<th>50–59 years</th>
<th>60–64 years</th>
<th>65 years+</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>7,127</td>
<td>330</td>
<td>1,102</td>
<td>2,211</td>
<td>1,826</td>
<td>796</td>
<td>297</td>
<td>384</td>
</tr>
<tr>
<td>R</td>
<td>.38</td>
<td>.50</td>
<td>.42</td>
<td>.40</td>
<td>.35</td>
<td>.39</td>
<td>.27</td>
<td>.29</td>
</tr>
<tr>
<td>R²</td>
<td>.14***</td>
<td>.25***</td>
<td>.17***</td>
<td>.16***</td>
<td>.12***</td>
<td>.15***</td>
<td>.07***</td>
<td>.08***</td>
</tr>
<tr>
<td>Improved health and fitness</td>
<td>.13***</td>
<td>.18*</td>
<td>.15***</td>
<td>.07*</td>
<td>.11***</td>
<td>.13*</td>
<td>.09</td>
<td>.13*</td>
</tr>
<tr>
<td>Relaxation and stress release</td>
<td>.22***</td>
<td>.23***</td>
<td>.21***</td>
<td>.26**</td>
<td>.20***</td>
<td>.24***</td>
<td>.23***</td>
<td>.18**</td>
</tr>
<tr>
<td>Improved skill and self-esteem</td>
<td>.07***</td>
<td>.16*</td>
<td>.17***</td>
<td>.07*</td>
<td>.06</td>
<td>.07</td>
<td>–.04</td>
<td>.05</td>
</tr>
<tr>
<td>Time with family or friends</td>
<td>.11***</td>
<td>.13*</td>
<td>.06</td>
<td>.15***</td>
<td>.16***</td>
<td>.04</td>
<td>.08</td>
<td>–.01</td>
</tr>
<tr>
<td>Success in competition</td>
<td>–.10***</td>
<td>–.07</td>
<td>–.20***</td>
<td>–.05*</td>
<td>–.11***</td>
<td>–.02</td>
<td>–.11</td>
<td>–.09</td>
</tr>
</tbody>
</table>

Notes: ***\( p < .001 \); **\( p < .01 \); *\( p < .05 \)

6.2.1 Benefit attainment and overall customer satisfaction, by age group

Regression analyses were performed to examine the relationships between overall customer satisfaction and each of the five benefit attainment factors. Standardised beta values (Table 4) indicate that relaxation and stress release had a significant influence on overall customer satisfaction for the overall sample (\( \beta = .22, p < .001 \)), as well as for each age group. Improved health and fitness had a significant influence on the overall customer satisfaction for the overall sample (\( \beta = .13, p < .001 \)) as well as for all activity groups except the 60-64 year respondents. In contrast, improved skill and self-esteem had a significant influence on overall customer satisfaction for only the age groups below 40 years of age. Time with family or friends had a significant influence on overall
customer satisfaction for the 15–19 year age group ($\beta = .13, p < .05$), the 30–39 year age group ($\beta = .15, p < .001$) and the 40–49 year age group ($\beta = .16, p < .001$). Success in competition had a significant negative influence on overall customer satisfaction for the overall sample ($\beta = -.10, p < .001$), but in particular for the 20–29 year age group ($\beta = -.20, p < .001$), and the 40–49 year age group ($\beta = -.11, p < .05$).

6.3 Overall customer satisfaction and WOM recommendation

RQ3 Is there a significant positive relationship between overall customer satisfaction and WOM recommendation and does this differ by age groups?

Regression analyses (Table 5) indicate that overall customer satisfaction ($R^2 = .51, p < .001$) had a significant influence on WOM recommendation for all age groups, and in particular for the age groups below 50 years of age. The strongest relationship between overall customer satisfaction and WOM recommendation was for the 15–19 year age group ($R^2 = .57$), while a decreasing trend was recorded from the 50–59 year age group ($R^2 = .46$) to the 65 years and over age group ($R^2 = .36$).

<table>
<thead>
<tr>
<th>Overall customer satisfaction</th>
<th>All sample</th>
<th>15–19 years</th>
<th>20–29 years</th>
<th>30–39 years</th>
<th>40–49 years</th>
<th>50–59 years</th>
<th>60–64 years</th>
<th>65 years+</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>7,131</td>
<td>334</td>
<td>1,106</td>
<td>2,215</td>
<td>1,830</td>
<td>800</td>
<td>301</td>
<td>388</td>
</tr>
<tr>
<td>R</td>
<td>.71</td>
<td>.75</td>
<td>.72</td>
<td>.72</td>
<td>.73</td>
<td>.68</td>
<td>.64</td>
<td>.60</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.51***</td>
<td>.57***</td>
<td>.52***</td>
<td>.52***</td>
<td>.53***</td>
<td>.46***</td>
<td>.41***</td>
<td>.36***</td>
</tr>
</tbody>
</table>

Note: ***$p < .001$

7 Discussion and managerial implications

7.1 Priority of benefits

RQ1 To what extent are health-related benefits a relative priority for Australian public aquatic centre customers and do these differ by age groups?

The benefit importance means were higher than the benefit attainment means (Table 2) for the three health-related benefit dimensions, and these gaps were relatively uniform across the age groups within each benefit dimension. The average attainment – importance gap of –0.25 for improved health and fitness suggests that customers would like to gain even higher levels of health and well-being and physical fitness from their visits to public aquatic centres. Customers clearly place a high priority on improved health and fitness, which was the highest rated benefit attained for all age groups, and in particular for the age groups 50 years and over (Table 3). From a managerial perspective, the challenge is to provide opportunities for customers to gain even higher levels of health and well-being and physical fitness from their visits to aquatic centres. For example, in acknowledging the direct positive relationship between frequency of visiting the centre and attainment of improved health and fitness benefits, one option is to encourage less frequent visitors to visit more often, particularly those...
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already involved in such activities as lap swimming, aerobics, fitness or gym activities. Strategies to increase frequency of visiting include offering popular classes more often and discounting memberships for customers moving to a pattern of more regular visits. Such strategies may be more cost effective because they focus on existing customers making more intensive use of existing products, or market penetration (Armstrong and Kotler, 2005).

The relatively small attainment – importance gaps of –0.14 for relaxation and stress release, and improved skill and self-esteem (Table 2) indicates a congruency between the importance of these benefits and the extent to which they were attained. Respondents overall felt that opportunities available at public aquatic centres allowed them to attain these two health-related benefits. Relaxation and stress release as well as improved skill and self-esteem also rated higher than both the social and success benefits, thus strengthening the role of health-related benefits as a priority for public aquatic centre customers.

Rated relatively low was benefit attainment for time with family or friends, especially for activities such as lap swimming, aerobics, fitness or gym activities compared to more ‘social’ activities involving family and friends such as swimming lessons and recreational swimming. The inverse relationship between frequency of visiting the centre and attainment of the benefit time with family or friends also tends to link with the type of activity as most swimming lessons and recreational swimming customers visited the centre once a week or less, but attend with family or friends. Even though social interaction during some aquatic activities may be limited, customers who attend with family or friends can enjoy social interaction during their travel to the centre as well before or after completing the main physical activity that was the core reason for their visit. Managerial implications include a reminder that infrequent visitors may have different priorities than frequent visitors involved in lap swimming, aerobics, fitness or gym activities, a majority (65%) of who visited the centre alone.

Success in competition was the lowest rated benefit attained for all age groups suggesting that most of the respondents, especially older customers, were not attending public aquatic centres to improve their performance in competitive sport. Compared to the other age groups, the 15–19 year age group rated highest for attainment of benefits for time with family or friends and success in competition, although these two benefits were still a lower priority for this age group than the three health-related benefits.

The overall trends in the present study tend to show similarities to Theodorakis et al. (2004) in research on health clubs where a health-fitness dimension was rated higher than a relaxation dimension with a social/intellectual dimension rated considerably lower.

### 7.2 Benefit attainment and overall customer satisfaction

**RQ2** Are there significant positive relationships between attainment of health-related benefits and overall customer satisfaction and do these differ by age group?

Regression analyses (Table 4) indicate that relaxation and stress release had a dominant influence on overall customer satisfaction for all age groups. This finding is partly explained by considering customer satisfaction as an emotional state of mind (Baker and Crompton, 2000; Wong, 2004) reflecting fulfilment of customer needs (Oliver, 1997). Feelings of relaxation and stress release should be mainly influenced by the actual participation in activities that help customers escape pressures of daily life. While there
may also be external factors affecting customers’ emotional states (Zeithaml et al., 2006), centre operators can enhance feelings of relaxation and stress release by minimising negative aspects of the service, such as providing clean facilities and responsive staff (Liu et al., 2009). In contrast, encountering problems or service failures can generate feelings of stress that will translate into decreased overall satisfaction and recommendation intention (Michel and Meuter, 2008).

All age groups, particularly those aged 50 years and over, rated improved health and fitness highest of all benefits attained (Table 3), which also had a significant influence on overall customer satisfaction for all activity groups except the 60–64 year respondents. Even though 60–64 year respondents rated attainment of improved health and fitness high, and 73% of this group were involved in lap swimming, aerobics, fitness or gym activities, more research is needed to ascertain why this age group’s overall customer satisfaction was not significantly influenced by attainment of improved health and fitness benefits.

Another health-related benefit improved skill and self-esteem had a significant influence on overall customer satisfaction for only the age groups below 30 years of age. Feelings of personal accomplishment and success, and improved skill level and self esteem result in positive emotions impacting on overall customer satisfaction for the 15–29 year old age respondents who are more likely than older age groups to be learning and refining skills in physical activities.

Social interaction (time with family or friends) had a significant influence on overall customer satisfaction only for the 15–19 year age group and the 30–49 year age groups. Supplementary analyses indicate that many of the 15–19 year age group were involved in leisure swimming with friends (30%), while many of the 30–49 year age groups included parents and carers accompanying children to swimming lessons (35%) or leisure swimming (18%). Social interaction at the centre therefore, appears to be a higher priority only for specific activity groups. For example, leisure swimming often includes groups of young people relaxing together, while learn to swim activities generally include children and parents or carers.

The relatively low priority of social benefits for public aquatic centre customers tends to differ from other research where participating with others was found to strengthen social networks (Howat et al., 2004). However, centre operators should not overlook those groups for whom social interaction is a relatively higher priority, such as swimming lesson and leisure swimming customers. For example, providing clean facilities and friendly staff (Liu et al., 2009) may facilitate social interaction in a welcoming environment where customers feel comfortable.

Furthermore, there may be scope for the parents and carers who accompany their children to these centres, to become involved in fitness activities themselves. In turn, if these parents are attracted to physical activity they enjoy through their aquatic centre experiences, they are also more likely to continue with such activity into old age (Jancey et al., 2009).

Success in competition had a significant negative influence on overall customer satisfaction for the overall sample and in particular for the 20–29 year age group. One explanation for this finding is that the majority of participants surveyed for the present study were mostly seeking health and fitness benefits, rather than visiting public aquatic centres primarily to train for or compete in competitive sport.
7.3 The overall customer experience and WOM recommendation

RQ3 Is there a significant positive relationship between overall customer satisfaction and loyalty and does this differ by age group?

Overall customer satisfaction had a significant influence on WOM recommendation for all age groups, and especially for the age groups below 50 years of age. The strongest relationship between overall customer satisfaction and WOM recommendation was for the 15–19 year age group while a decreasing trend was recorded from the 50–59 year age group to the 65 years and over age group. The findings of this research indicate that attaining health-related benefits have a significant positive influence on overall customer satisfaction which strongly predicts customer loyalty, such as positive WOM recommendations to other prospective customers (Berry and Carbone, 2007; Howat et al., 2008). One possible explanation for these findings is that the 15–19 year age group may be more impulsive and willing to communicate their recent experiences freely through social networks such as Twitter and Facebook, and via texting.

8 Limitations and recommendations for future research

The findings of the present study support public aquatic centres as a desirable setting to increase physical activity by promoting positive, health-related benefits. However, more in-depth research is recommended to better understand health benefits and their role in facilitating people, particularly older adults, to undertake more physical activity at public aquatic centres, thus reducing the incidence of chronic disease (Burke et al., 2010; Jancey et al., 2008; Jonker et al., 2006). Besides older adults, research could also target other groups with low physical activity levels including adults from lower income households, and people with dependent children (ABS, 2011; Jones et al., 2010). A cost effective approach would be a market development focus (new customers making use of existing products), although catering for special needs groups may require more costly market diversification involving new products for new customers (Armstrong and Kotler, 2005).

Future qualitative research involving interviews of customers and centre staff could examine how service providers can improve facilities and programmes to facilitate attainment of improved health and fitness benefits. Conversely, influencing factors outside the control of centre staff include constraints at the individual level or other external factors such as centre location (Baker and Crompton, 2000; Howat et al., 2008, Oliver, 1997; Smith, 2010; Zeithaml et al., 2006). Accordingly, other research with both current aquatic centre customers as well as non-customers could clarify constraints or barriers to benefit attainment. Barriers to physical activity include such factors as: access to facilities, perceived safety, confidence to embark on a physical activity programme, knowledge of health benefits attributed to physical activity, free time from work and family commitments, quality of the environment, as well as cost factors (Arbel et al., 2009; Cohen-Mansfield et al., 2004; Jancey et al., 2009). Several barriers have been identified that are also potential motivators to physical activity particularly relevant to older adults, including: poor health, quality of the environment, and knowledge (Booth et al., 1997), and older Australians prefer to receive advice on physical activity from their own medical doctor (Schutzer and Graves, 2004). Therefore, there may be potential for medical referrals to stimulate more low-impact physical activity opportunities at public
aquatic centres, especially water-based activities. Water-based activities are relevant for older adults in particular because they reduce the physical impact on the body (Kim et al., In press), and swimming in adulthood was found to be the activity most likely to prevent locomotor disability later in life (Hunt et al., 2010).

Further research would also help clarify whether it is cost effective for governments to direct more of their health budgets to such strategies as improving access, refurbishing older facilities, and subsidising activities at public aquatic centres especially for older adults and other vulnerable and disadvantaged groups. However, behaviour change theory (Wiedemann et al., 2011) highlights the challenge to convert physically inactive people into regular physical activity participants. In contrast, people already engaged in regular physical activity at an aquatic centre are more likely to adapt to other physical activity options should they lose access to a favoured facility.

While our research has focussed on personal benefits relevant to customers and their participation in physical activity at public aquatic centres, other research could consider the economic benefits of physical activity at public aquatic centres at all three levels as proposed by Cadilhac et al. (2011): individuals, businesses, and governments. Businesses make savings from decreased absenteeism and lower recruitment and training costs. Governments can gain increased taxation from worker income, and save on welfare payments and health-care costs; with health sector savings of $Aust 96 million per year estimated from a 10% reduction in physical inactivity in the Australian adult population, while individuals gain from increased personal income and improved health and well-being (Cadilhac et al., 2011).

Limitations of the present study include the generalisability of the findings, as the research population was customers, 15 years and over, of public aquatic centres in Australia. More robust research dimensions would be available in future research by ensuring a minimum of three items for the overall satisfaction scale as well as for each of the benefits scales. For example, in their customer satisfaction scale for health clubs Theodorakis et al. (2004), provide three-item scales for relaxation, and health and fitness, and an eight-item social and intellectual scale.

9 Conclusions

The results highlight that for the majority of public aquatic centre customers improved health, well-being and fitness benefits are a priority compared to social and success in competition benefits. The relatively high ratings that all age groups placed on health and well-being, physical fitness, and relaxation and stress reduction benefits reinforces the importance of public aquatic centres as an important health promotion resource. In turn, the significant influence of these health-related benefits on WOM recommendation mediated by overall customer satisfaction indicates that satisfied customers are likely to recommend their centre to others as well as to revisit themselves. An improved understanding of benefits and linking these to age groups, will aid service providers in the design, promotion and delivery of physical activity opportunities appropriate for different target groups, thus improving community physical activity levels. These findings have implications for public policy, particularly for potentially substantial health savings (Lee et al., 2011; Prochaska et al., 2008) if more government resources were directed into promoting physical activity at facilities such as public aquatic centres.
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References


