The hierarchical effects of perceived quality on perceived value, satisfaction, and loyalty: Empirical results from public, outdoor aquatic centres in Australia

Gary Howat [*], Guy Assaker [1]

University of South Australia, Australia

ARTICLE INFO

ABSTRACT

Drawing on the literature on service quality, value, satisfaction, and loyalty, the present study assumes a hierarchical, multidimensional scheme for perceived quality focussing on four process dimensions of service quality. The aim of this study is to test a comprehensive model of perceived quality on loyalty in the context of public aquatic centres in Australia. Using partial least squares structural equation modelling (PLS-SEM) on a sample of 961 repeat customers of three outdoor public aquatic centres, results from this study reveal that four first-order process quality dimensions—facility presentation, core services, secondary services and staff—are significant in determining their higher-order perceived quality construct, with *facility presentation* and *staff* having the strongest influence. Moreover, the results of the present study indicate that overall satisfaction fully mediates the impact of perceived quality and perceived value on loyalty (behavioural intentions), with perceived quality having the strongest influence on overall satisfaction and loyalty. The present study provides an enhanced conceptualisation of the perceived quality construct in the context of public aquatic centres and contributes to the debate on the relationships among service quality, satisfaction, value, and loyalty in the sport and leisure context. In addition to strengthening theoretical understandings, the present study offers a service quality model that allows aquatic centre managers to identify specific attributes of the service that can be managed to influence loyalty more favourably.

© 2012 Sport Management Association of Australia and New Zealand. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Service quality models for sport and leisure contexts are becoming more comprehensive in attempts to identify key antecedents of customer loyalty (e.g., Hightower, Brady, & Baker, 2002; Silcox & Soutar, 2009), with a growing body of research on hierarchical models, mainly based on the Brady and Cronin (2001) multi-dimensional conceptualisation of service quality, which help identify the important factors influencing loyalty (e.g., Clemes, Brush, & Collins, 2011; Ko & Pastore, 2005). Improved understanding of the drivers of loyalty behaviours (such as customer retention and positive word of mouth recommendation) can assist managers in improving organisational financial performance (Fornell, 2007). For

* Corresponding author at: Centre for Tourism and Leisure Management, School of Management, University of South Australia, Mawson Lakes, South Australia 5095, Australia. Tel.: +61 8 8302 5326; fax: +61 8 8302 5326.

E-mail addresses: gary.howat@unisa.edu.au (G. Howat), guy.assaker@unisa.edu.au (G. Assaker).

[1] Centre for Tourism and Leisure Management, School of Management, University of South Australia, Australia.

example, public sport and leisure services such as aquatic centres in countries such as Australia and England tend to struggle financially thus increasing the importance of retaining current customers and attracting new ones (Howat & Crilley, 2007; Howat, Crilley, & Murray, 2005; Liu, Taylor, & Shibli, 2007). Consequently, pressure for these facilities to be operationally viable, has focused attention on aspects of the visitor experience that facility managers can influence directly, such as process service quality dimensions, which influence customer satisfaction (Dabholkar, Shepherd, & Thorpe, 2000; Zeithaml, Bitner, & Gremler, 2009). In turn customer satisfaction has a strong influence on loyalty, such as repeat visits, and word of mouth (WOM) recommendation to encourage new customers (Gallarza, Gil-Saura, & Holbrook, 2011; Ganesh, Arnold, & Reynolds, 2000; Voss, Roth, Rosenzweig, Blackmon, & Chase, 2004). The impact of customer satisfaction on loyalty translates into improved financial performance for organisations (Cronin, Brady, & Hult, 2000). Therefore, as a key antecedent to customer satisfaction, service quality has an important role in the financial viability of sport and leisure services such as public aquatic centres.

Although sport and leisure researchers have examined service quality for over two decades (e.g., Alexandris, Dimitriadis, & Kasiara, 2001; Chelladurai & Chang, 2000; Crompton & MacKay, 1989; Crompton, MacKay, & Fesenmaier, 1991; Howat, Absher, Crilley, & Milne, 1996) Clemes et al. (2011) identified a need for more sport and leisure research that examines "...the relationships between service quality, satisfaction, customer value and behavioural intentions" (p. 371). For example, service quality models do not converge on a single model to explain relationships among perceived quality, value, overall satisfaction, and loyalty measures such as behavioural intentions. Alternative models included service quality as having both a direct and an indirect effect (via satisfaction) on loyalty (Cronin et al., 2000), whereas in other 'comprehensive' models, value and satisfaction were both found to mediate service quality, with direct links to behavioural intentions (Brady, Knight, Cronin, Hult, & Keillor, 2005). Several models in spectator sports (Brady, Voorhees, Cronin, & Bourdeau, 2006; Clemes et al., 2011; Hightower et al., 2002) and participant sport and recreation (Murray & Howat, 2002; Silcox & Soutar, 2009) found that perceived quality and perceived value impact loyalty indirectly through satisfaction.

In addition, no consensus has been reached regarding the representation and content of the dimensions of perceived quality even within specific sport and leisure contexts. Several studies have focused on identifying the relevant attributes to measure the dimensions of service quality based mainly on either Parasuraman, Berry, and Zeithaml's (1988) five dimensions of the SERVQUAL model; the functional and technical dimensions of Grönroos' model (1984, 2005); and more recently Brady and Cronin's (2001) three dimensions model (i.e., interaction, physical environment, and outcome quality). These studies have tended to either link first-order service quality dimensions directly to other constructs such as value, overall satisfaction and loyalty (e.g., Alexandris, Zahariadis, Tsorbatzoudis, & Grouios, 2004; Howat, Crilley, & McGrath, 2008) or have parcelled service quality dimension items to arrive at an aggregate score for each dimension to subsequently link those aggregate dimensions to a first-order quality construct (Dabholkar et al., 2000). Other service quality literature, however, indicates that these primary service quality dimensions (identified in the context of Parasuraman, Zeithaml, & Berry, 1988; Grönroos, 1984; or Brady & Cronin, 2001) should be viewed as latent constructs consisting of various sub-dimensions that are distinct for specific industry contexts (Brady & Cronin, 2001). This suggests that the perceived quality construct is hierarchical and multidimensional in nature and is formed by several quality dimensions each of which is measured by a set of individual quality items (Ko & Pastore, 2005). The assumption is that customers' perceptions of quality occur at multiple levels in a service setting. Customers first evaluate the quality of the interaction with the service provider at the individual attributes level. Then, the quality of the interaction is evaluated at the dimensions level, and finally perceived quality is evaluated at the level of the overall service (Clemes et al., 2011).

Only recently, however, has the sport and leisure literature incorporated perceived quality as a hierarchical multidimensional construct, with research based mainly on Brady and Cronin's (2001) three dimension representation of the service quality construct. The perceived quality construct is hypothesised as a third-order latent construct formed by three dimensions, with the three dimensions measured through nine sub-dimensions. These nine sub-dimensions, in turn, are measured through a set of individual attributes specific to the study's context (e.g., Clemes et al., 2011).

With several research disparities in mind, the present study presents and empirically tests a comprehensive conceptual model to examine the direct and indirect effects (through perceived value and satisfaction) of service quality on loyalty. Here, perceived quality is hypothesised as a hierarchical formative construct formed by four latent dimensions: facility presentation, core services, secondary services, and staff.

The present study contributes to the sport and leisure service quality literature from both theoretical and managerial perspectives. First, it aligns with recent advances in the general marketing and consumer behaviour literature, which have endorsed the use of hierarchical models to represent or measure service quality in terms of conceptualising and identifying the dimensions of perceived service quality in a diverse range of service contexts (e.g., Collier & Bienstock, 2006; Fassnacht & Koese, 2006) including sport and leisure (Brady & Cronin, 2001). Second, the present study enhances our understanding of service quality evaluations in the sport and leisure literature regarding the role of measuring process dimensions and the role these dimensions play in forming the overall evaluation. As in the present study it is asserted that hierarchical models outperform single-level, multifactor models (Dabholkar et al., 2000) in terms of investigating causal relationships between constructs such as perceived quality, perceived value, satisfaction, and loyalty. In single-level, multifactor quality models either formed or reflected by a set of observed service quality dimensions (in which dimension attributes are parcelled to result in an aggregate score for each dimension) aggregated item scores are statistically less reliable than individual scores, because they incorporate measurement errors in modelling the causal relationships between the constructs (Little, Cunningham, & Shahar, 2002). Hierarchical models using individual items (scores) to measure the dimensions of perceived

quality provide enhanced diagnostics to understand individual attributes specific to each quality dimension and to investigate if and how quality, value, and satisfaction impact loyalty. In addition, compared to existing hierarchical, multidimensional models (based on Brady and Cronin's [2001] three-quality dimensions model), process dimensions (facility presentation, core services, secondary services, and staff) are more appropriate in the specific context of aquatic centres. A focus on process dimensions can thus outperform existing models in terms of investigating the causal relationships between constructs such as perceived quality, perceived value, satisfaction, and loyalty in the context of outdoor aquatic centres. This further contributes to the discussion in the literature about the direct and indirect effect of quality on loyalty (Clemes et al., 2011).

In addition to strengthening theoretical understandings, the present study offers a service quality model that allows facility managers to identify specific attributes of their service that influence customers' overall evaluations of quality. Identifying the most influential attributes allows managers to focus on those attributes (Crompton & MacKay, 1989; Sachdev & Verma, 2005) that have the strongest impact on overall satisfaction and subsequent behavioural intentions.

In the following section of this paper a conceptual framework includes the proposed hypothetical model, overview of key constructs, and the hypotheses.

2. Conceptual framework and hypotheses development

2.1. Proposed hypothetical model

Fig. 1 illustrates the full hypothesised model to be tested in the context of the present study. It depicts the underlying dimensions for each construct and the theorised causal relationships among constructs based on the literature review. Specifically, the perceived quality construct is hypothesised as a second-order formative construct determined by four first-order dimensions: facility presentation, core services, secondary services, and staff. The hypothesised causal relationships among the different constructs include: perceived quality → perceived value → satisfaction → loyalty; perceived value → loyalty; and satisfaction → loyalty. Each of the indicators and corresponding labels (i.e., the first-order quality dimension indicators, the perceived value indicators, satisfaction indicators, and behavioural intentions indicators) are listed in Table A.1. Each of these constructs will be considered in the following section.

2.2. Perceived service quality

Service quality is predominantly a cognitive evaluation of customers' perceptions of how well a range of service attributes perform (Gallarza et al., 2011; Zeithaml et al., 2009). Service quality conceptualisations tend to build on the pioneering work of Parasuraman et al. (1988) and their SERVQUAL instrument, as well as the work of Grönroos (1984, 2005). More recently, Cronin and colleagues (e.g., Brady & Cronin, 2001) have proposed models. Each of these researchers concur that process
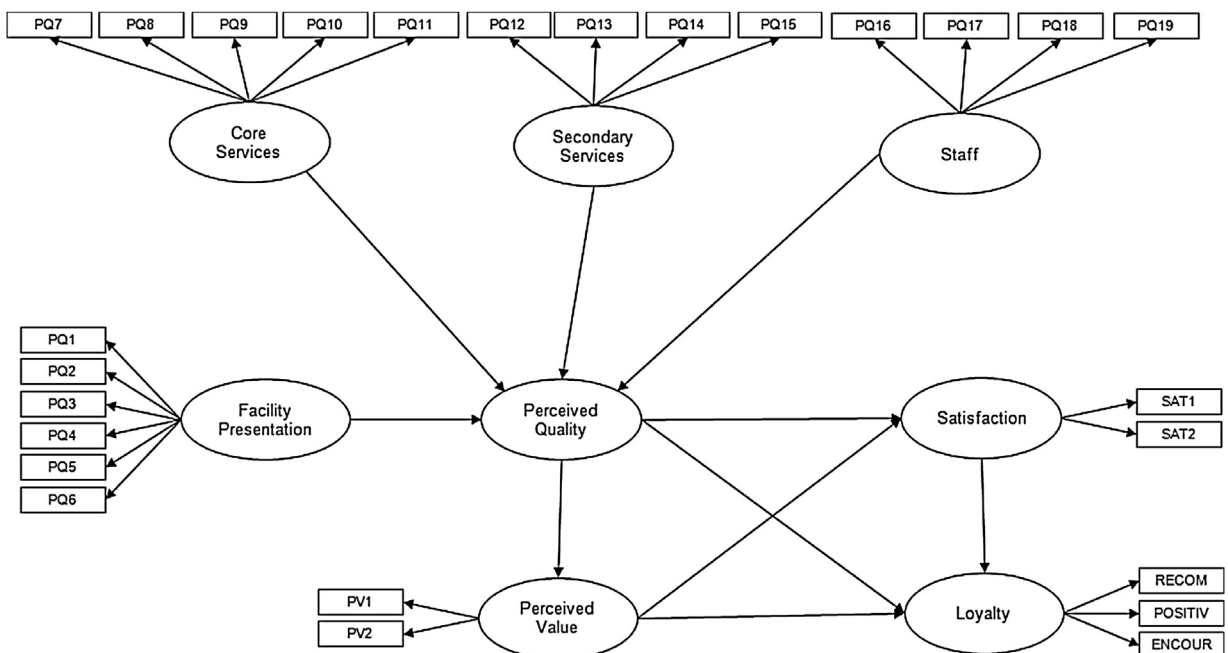

Fig. 1. The proposed hypothesised hierarchical model of perceived quality on behavioural intentions.

dimensions influence service quality during service delivery while outcome dimensions tend to be assessed following the service. In the SERVQUAL model (Parasuraman et al., 1988) four of the five SERVQUAL dimensions are process dimensions. Process dimensions include tangibles, such as facilities and equipment and assurance, empathy, and responsiveness (Zeithaml et al., 2009). The latter three dimensions concern staff interactions with customers during service delivery. Grönroos (1984) described process dimensions as functional quality, including relational quality (staff–customer interactions) and physical quality (tangibles such as facilities and equipment). Finally, in the Brady and Cronin (2001) model, nine, first-order sub-dimensions compose three, second-order dimensions: interaction (relational) quality, physical environment quality, and outcome quality. Interaction quality and physical environment quality are similar to the Parasuraman et al. (1988) process dimensions and the functional dimension of Grönroos (1984, 2005).

Conceptualisation of outcome dimensions however, is less consistent. For example, two of the three Brady and Cronin (2001) outcome dimensions appear to be more akin to process dimensions in that the 'tangibles' dimension includes food quality and the 'waiting time' dimension includes time spent waiting to experience the core service. The third Brady and Cronin (2001) dimension of outcome quality 'valence' is the extent to which a service outcome is good or bad for a customer (Brady et al., 2006), and is relevant especially in sporting events (Clemes et al., 2011), such as a fan's team winning or losing (Brady et al., 2006). In addition, Brady et al. (2006) acknowledged that most service quality research has focussed on process dimensions rather than outcome quality dimensions which tend to be more difficult to evaluate. For example, participation in activities at aquatic centres often provides health and fitness benefits that have a longer term impact on the customer and are evaluated sometime in the future (Robinson & Taylor, 2003). In turn, such longer term benefits are likely to be influenced by other external factors rather than just a specific service (Grönroos, 1984). In the SERVQUAL instrument there is a relative lack of outcome quality measures, with only reliability describing a service outcome (Parasuraman, Zeithaml, & Berry, 1991, p. 2). Furthermore, there is some evidence to suggest that where customers have a choice of service providers, process dimensions rather than outcomes have a stronger influence on overall satisfaction (Brady et al., 2006; Grönroos, 1984). Accordingly, as the present study focuses on service quality attributes and dimensions that the provider can influence directly, outcome dimensions are not included in the conceptual model for the present study (Fig. 1).

Although the SERVQUAL (Parasuraman et al., 1988) conceptualisation dominates the literature, a consensus has not evolved regarding which, if either, is the more appropriate approach. Moreover, there is no general agreement regarding the nature or content of the dimensions (Cronin et al., 2000). The lack of any single universally appropriate instrument to measure service quality has led to a range of instruments specific to a particular context. For example, in sport and leisure research, service quality dimensions vary between spectator sport or sporting events (Brady et al., 2006; Clemes et al., 2011; Cronin et al., 2000; Hightower et al., 2002), compared to participant sport and recreation in private fitness centres (Alexandris et al., 2004; Chang & Chelladurai, 2003; Papadimitriou & Karteroliotis, 2000) and public sport and leisure centres (Howat et al., 2008; Liu, Taylor, & Shibli, 2009; Silcox & Soutar, 2009). Specifically, Howat et al. (1996) identified four dimensions (core services, staff, general facility, and secondary services) that influence customers' overall quality evaluations, based on data from 2575 respondents of 15 public sport and leisure centres representing a mix of different size centres and including wet and dry facilities. In subsequent studies the dimension structures were adapted for a single dry recreation centre (Murray & Howat, 2002), and for multi-purpose indoor aquatic centres (Howat et al., 2008).

Besides specific service quality dimensions, measures of overall service quality have been conceptualised and measured differently in sport and leisure research (Brady & Cronin, 2001; Clemes et al., 2011; Cronin et al., 2000; Hightower et al., 2002). To date, limited research has linked latent dimensions of perceived quality to a hierarchical, multidimensional quality construct for understanding service quality, with several studies relying mainly on Brady and Cronin's (2001) conceptualisation of overall quality. For example, using structural equation analysis, the Ko and Pastore (2005) hierarchical model of service quality for university recreational sport included four primary dimensions comprising (overall) service quality. Each of the four dimensions (programme quality, interaction quality, outcome quality and physical environment quality) consisted of two or three sub-dimensions. In turn, each of the 11 sub-dimensions was comprised of between three and seven items. In their hierarchical model examining the spectator sport experience Clemes et al. (2011) used a reflective three-item scale for overall service quality, which was influenced by three primary dimensions (interaction quality, outcome quality and physical environment quality) each comprised of between three and five sub-dimensions that in turn included between two and five items per sub-dimension.

Beyond the issue of order and dimensionality, the literature has increasingly found conceptual support for a formative quality construct, which assumes the quality dimensions form the underlying overall quality construct in areas such as business, marketing, and the sport and leisure literature (see Brady & Cronin, 2001; Clemes et al., 2011; Dabholkar et al., 2000; Rust & Oliver, 1994; Venaik, Midgley, & Devinney, 2004). Specifying perceived quality as a formative construct is based on the belief that overall quality is first determined at the dimensions levels, which in turn helps determine the level of overall quality the customer perceives (Clemes et al., 2011). Few reasons lead us to believe, however, that process dimensions will be highly correlated as the reflective viewpoint of classical theory requires (i.e., directional, causal arrows go from the construct to the indicators). For example, a customer may have a poor opinion about the overall service, but still hold a positive opinion of specific service quality attributes or dimensions available from a specific sport and leisure service.

To determine further whether a formative or reflective measurement model is more appropriate for the quality construct, Jarvis, Mackenzie, and Podsakoff (2003) suggested observing four sets of criteria: (1) the direction of causality between the construct and its indicators; (2) the interchangeability of indicators; (3) co-variation among indicators; and (4) whether

indicators have the same antecedents and consequences (referred to in the SEM literature as the nomological set of the indicators). Applying these criteria to the quality construct under study indicates that it should be modelled as a formative construct. In particular, overall quality is defined by its dimensions, not vice versa, because a change in one of the process quality dimensions affects the overall perceived quality construct. Nevertheless, a poor perception of quality does not necessarily mean that the customer holds a negative opinion about all dimensions of quality. Moreover, dimensions that affect quality do not necessarily correlate with one another (although they may actually co-vary in practice). For example, why should a set of attributes designed to measure staff quality (staff presentation, staff friendliness, etc.) correlate with a set of attributes designed to measure facility presentation quality (e.g., facility cleanness, quality of equipment)? Furthermore, quality dimensions do not necessarily share the same set of antecedents; for example, facility presentation is determined by factors that differ from factors that affect staff or core services. In the present study, perceived quality was operationalised as a higher-order (multidimensional) formative construct comprised of four, lower-order dimensions (facility presentation, core services, secondary services, and staff). Each dimension consists of between three and six process attributes. Performance-only measures were used to measure the 22 attributes (Brady, Cronin, & Brand, 2002) comprising the four dimensions in the present study.

An overview of the conceptual framework containing the second-order conceptual perceived quality construct is depicted in Fig. 1. The research literature indicates that perceived quality can have a positive, direct impact (Bloemer, de Ruyter, & Peeters, 1998; Zeithaml, Berry, & Parasuraman, 1996) and an indirect impact (Baker & Crompton, 2000; Li & Petrick, 2010) on loyalty through perceived value and satisfaction, leading to the following hypotheses:

Hypothesis 1. A higher level of perceived quality will result in a higher level of perceived value by customers.

Hypothesis 2. A higher level of perceived quality will result in a higher level of customer satisfaction.

Hypothesis 3. A higher level of perceived quality will result in a higher level of loyalty.

2.3. Perceived value

In the marketing and sport and leisure literature, value scales include the utilitarian perspective, which encompass both monetary and non-monetary costs (Boksberger & Melsen, 2011; Li & Petrick, 2010; Petrick, 2002; Zeithaml, 1988). Monetary costs include value perceived in contrast to the price paid (Petrick, 2002), and non-monetary costs refer to value perceived in return for costs such as time and effort expended (Boksberger & Melsen, 2011). In sport and leisure, the utilitarian approach dominates the literature on perceived value, such as Brady et al. (2005) who proposed a three-item scale for perceived value for money. Other researchers, however, used single item measures for value for money (Murray & Howat, 2002; Petrick, Backman, & Bixler, 1999). Liu et al. (2009, p. 239), in their research on English sports halls and swimming pools suggested that using a single-item, 'overall value for money' was an "acceptable surrogate" for overall satisfaction partly on the basis of its relevance to the British Best Value policy for local public services. Finally, Clemes et al. (2011) proposed that a single value for money item captures price issues.

Operationalising perceived value in the present study is consistent with the utilitarian perspective (Boksberger & Melsen, 2011; Zeithaml, 1988) where value was measured in terms of value for money based on a two-item measure. Some researchers have reported that perceived value both directly influences loyalty as well as indirectly through satisfaction (Cronin et al., 2000; Li & Petrick, 2010). Furthermore, Gallarza et al. (2011) reported that value tends to be an antecedent to satisfaction rather than vice versa. The literature indicates that perceived value has a positive direct impact on both satisfaction and loyalty, leading to the following hypotheses:

Hypothesis 4. A higher level of perceived value will result in a higher level of customer satisfaction.

Hypothesis 5. A higher level of perceived value will result in a higher level of loyalty.

2.4. Overall satisfaction

While service quality evaluations are mainly cognitive, satisfaction tends to include post-consumption assessments of a service (Gallarza et al., 2011). An influential view of satisfaction is that offered by Oliver (1997) who explained satisfaction as 'pleasurable fulfillment' of a need, desire, or goal after consuming a product or service, with overall satisfaction having a strong affective orientation concerning customers' overall experience with a service (Baker & Crompton, 2000). Overall satisfaction therefore, is a summary evaluation of the customers' overall experiences with a service (Li & Petrick, 2010), with multiple encounters with a service likely to result in more stable cumulative satisfaction which directly impacts on loyalty (Homburg, Koschate, & Hoyer, 2005).

Whereas earlier research used a single-item overall satisfaction measure (e.g., Ganesh et al., 2000; Murray & Howat, 2002; Petrick et al., 1999), more recent studies used a combination of items for overall satisfaction and overall experience (Brady et al., 2005; Li & Petrick, 2010). This is also the case in the present study, in which overall satisfaction is a combination of two items. In sport and leisure contexts, there has been growing support for models in which antecedents such as perceived

quality and perceived value impact loyalty indirectly through a global satisfaction measure (Alexandris et al., 2004; Clemes et al., 2011; Howat et al., 2008), leading to the following hypothesis:

Hypothesis 6. A higher level of satisfaction will result in a higher level of loyalty.

2.5. Loyalty

Walsh, Evanschitzy, and Wunderlich (2008) highlighted the complexity of the loyalty construct, which includes attitudinal (e.g., recommending a service or spreading positive word of mouth) and behavioural loyalty (e.g., frequency of using a service), which is inherent in a four-phase loyalty process comprising cognitive loyalty, affective loyalty, conative loyalty, and action loyalty (Han, Kwortnik, & Wang, 2008; Oliver, 1999). Rundle-Thiele (2005), however, proposed that whereas there were different types of loyalty, they should not be thought of as a series of stages, but rather as "one or a combination of attitudinal and behavioural loyalty" (p. 444). For example, Rundle-Thiele (2005) defined loyalty as "a customer feeling or attitude of devoted attachment... towards the service" (p. 499), which includes behavioural intentions. As an antecedent to actual behaviour, intentions include intentions to recommend (e.g., word-of-mouth recommendation) and repatronage intentions. Attitudinal loyalty (conative loyalty such as word-of-mouth intentions) is a suitable proxy for actual behaviour and that customer loyalty to a specific service is indicated by recommend intentions (e.g., Reichheld, 2003). For example, Oliver (1999) described "conative loyalty as recommend intention, which may be translated into action loyalty (actual behaviour), when the customer is ready to overcome any obstacles that may restrict translation of intention to action" (p. 36).

Zeithaml et al. (1996) offered a battery of 13 behavioural intention items, combinations of which have been used in other sport and leisure research (Alexandris & Kouthoris, 2005). Adapted from Zeithaml et al. (1996), the present study included three WOM recommendation items which are also similar to behavioural intentions items included in Hightower et al. (2002).

3. Method

3.1. Participants

Respondents were repeat customers of three outdoor, public aquatic centres located in a major Australian city, with centre sample sizes ranging from 250 to 434 customers. Australian public aquatic centres are owned by local or state government and most provide subsidised services to the local community. In early 2012 experienced data collectors intercepted respondents as they were exiting the centre to complete a questionnaire during their visit to the centre. In an aim to obtain stratified samples, data were collected during a typical week across all time periods when the centre was open to ensure that most centre customers had a similar opportunity to complete a questionnaire. However, when compared with centre activity group profiles there was a tendency for some customer groups to be underrepresented (e.g., lap swimmers and fitness gym customers) compared to recreational swimmers and aquatic education customers. Adding online data collection options may improve the representativeness of samples in future data collections. Respondents with more than 20% of missing entries for the 26 variables were deleted from the sample (Hair, Black, Babin, Anderson, & Tatham, 2010), resulting in a reduced sample size of 961 responses. Variables that had the most missing data included those that many customers do not experience directly and thus could not assess accurately (e.g., pool water cleanliness, pool water temperature, and child minding). However, while respondents only stated their most frequent activity at the particular centre, some respondents who were mainly fitness and gym customers also were likely to have experienced the pool water personally, albeit less frequently than their 'main' activity. The nearest neighbourhood approach (Olinsky, Chenb, & Harlow, 2003) was then used to impute any missing entries and arrive at the final dataset.

Respondents included recreational swimmers (55%), respondents attending the centre for aquatic education, mainly swim lessons (26%), and fitness and gym customers (12%). About 30% of respondents had children in their visiting group, one-third of whom attended primarily for recreational swimming and two-thirds for swim lessons. More than half (52%) of the respondents had been using the centre for two years or more, and few (9%) had been centre customers for less than one month. A majority (56%) of the respondents visited the centre two or more times per week, and a minority (16%) visited less than once a week. Female respondents (52%) were slightly better represented than males, with the mean age of the respondents being 40 years ($SD = 13$). While the three centres from which data were obtained were all within relative proximity of each other and managed by the same operator, there were differences in individual centre respondent profiles and consequently responses to specific attributes.

3.2. Measures

Service quality. Performance-only service quality measures were used in deriving the final service quality dimensions examined (Brady et al., 2002). Respondents' perceptions of service quality for each of 19 process attributes were rated on a positively biased, six-point interval scale ranging from 1 (*disagree*) to 6 (*very strongly agree*) (Howat, Murray, & Crilley, 1999), and are listed in Table A.1.

Value. The present study used two items to measure value for money (*Facilities provide value for money* and *Programmes provide value for money*) rated on similar scales as those used for the service quality items, with measures of perceived performance being used in the analyses.

Overall satisfaction. Consistent with Han et al. (2008) the present study combined two items to measure overall satisfaction: *Overall, how satisfied are you as a customer of this centre?* on a scale from 1 (*very dissatisfied*) to 7 (*very satisfied*) and *Based on all of your experiences at this centre, please rate how you feel overall as a customer of this facility?* on a scale from 1 (*displeased*) to 7 (*pleased*).

Loyalty. Three WOM recommendation items adapted from Zeithaml et al. (1996), were rated on seven-point scales ranging from 1 (*very likely*) to 7 (*very unlikely*): *How likely would you recommend this centre to others?*, *How likely would you say positive things about this centre to others?*, and *How likely would you encourage friends and relatives to use this centre?*

3.3. Data analysis

Exploratory factor analysis (EFA) was conducted first on the entire unstandardised dataset. EFA was used to support the theoretical structure of the constructs (Hurley et al., 1997) to verify whether the dataset (related to the 26 variables) produced satisfactory factor structures as hypothesised in the context of the present study. After the EFA, the unidimensionality of each construct was tested conducting a block factor analysis and reliability analysis for each construct separately to verify whether each construct was sufficient to influence the set of indicators identified from the literature and proposed in the present study. When the unidimensionality and internal consistency of each factor was verified the structural relationships between the various factors (as hypothesised in the hypothetical model, Fig. 1) were examined. The structural relationships were examined by means of partial least squares structural equation model (PLS-SEM) analysis, rather than using the traditional covariance-based structural equation model (CB-SEM) technique. Structural models are generally analysed with the traditional CB-SEM (Hulland, 1999), particularly due to the availability of overall goodness of fit criteria of the structural model associated with this method (Byrne, 2001). However, CB-SEM requires the identification of the model before it can converge to admissible results (Kline, 2004). Specifically in the case of higher-order formative models, a necessary condition for identification of correlated higher-order formative constructs (in the present study: perceived quality is correlated with perceived value, satisfaction, and loyalty) is that higher-order latent factors should: (1) have at least three lower-order factors or (2) emit paths to at least three indicators or latent constructs with reflective indicators (Rindskopf & Rose, 1988). Consequently, CB-SEM could not be used in the present study since the effect of perceived quality on loyalty was found to be non-significant, causing the model to be empirically underidentified because perceived quality has only two significant paths with other latent constructs (i.e., perceived value and satisfaction), although perceived quality was hypothesised to emit paths to perceived value, satisfaction and loyalty.

Subsequently, PLS-SEM was used as an alternative to CB-SEM as PLS-SEM is a complementary approach to CB-SEM and generates similar results when SEM assumptions do not hold (such as identification conditions) (Diamantopoulos & Winklhofer, 2001; Jöreskog & Wold, 1982). The analysis thus applied PLS-SEM in two steps: (1) validating the outer model and (2) fitting the inner model (Chin, 1998). Validating the outer model was accomplished primarily through convergent, discriminant validity and reliability for the first-order reflective constructs (facility presentation, core services, secondary services, staff, perceived value, satisfaction and loyalty) as well as content validity for the second-order formative construct (perceived quality) (Wetzels, Odekerken-Schroder, & Van Oppen, 2009). Fitting the inner model was accomplished primarily through path analysis with latent variables.

4. Results

4.1. Exploratory factor analysis

First, an EFA was conducted to obtain a satisfactory factor structure, including principal component analysis (PCA) on the entire unstandardised dataset by running an oblique (PROMAX) rotated analysis in order to arrive at an interpretable factor structure. Compared to traditional orthogonal (VARIMAX) rotation, this method of rotation maximises the variance on the new axes, resulting in a satisfactory pattern of loadings on each factor while allowing factors to be correlated with one another (Fabrigar, Wegener, MacCallum, & Strahan, 1999). This outcome is desirable in the specific context of the present study to allow identification of causal/predictive relationships among constructs, which need to be correlated. Based on the EFA results (Table 1), the final model structure was found to explain 69.81% of the variance. Table 1 also reports the eigenvalues after the rotation, indicating the effectiveness of the PROMAX method in adequately splitting the total variance. Total variance was found to be split among seven factors/constructs (with eigenvalues > 1) that are closely similar to the factor structure hypothesised in the context of this study. In particular, the EFA results confirmed the assignment of attributes to the four first-order dimensions of perceived quality (i.e., facility presentation, core services, secondary services, and staff), with all quality attributes having high loadings (>0.5). Factor loadings of 0.5 were considered significant in this case given the large sample size and the large number of variables analysed (e.g., Hair et al., 2010) on their respective first-order dimensions (Table 2). The only exception was the 'adequate child minding' attribute, which was found to have a moderate loading on its underlying dimension (secondary services), suggesting that this attribute should be removed from further analysis. However, this attribute was not removed at this stage, as block factor analysis on this construct (secondary

Table 1
Total variance explained.

Component	Latent variable	Eigenvalues from PROMAX rotation		
		Total	% Variance	Cumulative %
1	Facility presentation	4.281	16.465	16.465
2	Staff	3.258	12.533	28.998
3	Core services	2.806	10.793	39.790
4	Loyalty	2.510	9.656	49.447
5	Secondary services	2.500	9.616	59.063
6	Satisfaction	1.674	6.438	65.501
7	Perceived value	1.123	4.317	69.818

Extraction method: principal component analysis; Rotation method: PROMAX with Kaiser normalisation.

services) was run separately to assess how well this attribute correlated with other attributes in explaining its underlying dimension (Velicer & Jackson, 1990).

The seven extracted factors and their corresponding indicators/variables (Table 2) include:

- Facility presentation, which consists of six attributes: facilities clean [PQ1], facility maintenance [PQ2], equipment high-quality and well-maintained [PQ3], physically comfortable and pleasant [PQ4], clean pool water [PQ5], and pool water temperature [PQ6]. This represents the first dimension of perceived quality and accounts for 16.46% of the total variance extracted.

Table 2
Rotated EFA factor solution.

Label	Attributes/items	Perceived quality dimensions				Perceived value[a,b]	Satisfaction	Loyalty[a,b]
		Facility presentation[a,b]	Core services[a,b]	Secondary services[a,b]	Staff[a,b]			
PQ1	Facilities clean	0.797						
PQ2	Facility maintenance	0.834						
PQ3	Equipment high quality and well maintained	0.738						
PQ4	Physical comfort and pleasant	0.694						
PQ5	Clean pool water	0.732						
PQ6	Pool water the right temperature	0.607						
PQ7	Information available		0.537					
PQ8	Broad range of activities		0.771					
PQ9	Activities relevant to needs of customers		0.776					
PQ10	Centre well organised and well run		0.513					
PQ11	Start and finish times		0.683					
PQ12	Safe and secure parking			0.875				
PQ13	Parking area suitable			0.868				
PQ14	Suitable food and drink			0.637				
PQ15	Adequate child minding			0.430				
PQ16	Staff friendly				0.831			
PQ17	Staff responsive				0.831			
PQ18	Staff presentation				0.757			
PQ19	Staff experience and knowledge				0.750			
PV1	Facilities provide value for money					0.632		
PV2	Programmes provide value for money					0.770		
SAT1	Overall satisfaction rating						0.752	
SAT2	Overall experience						0.775	
RECOMM	Would recommend centre to others							0.910
POSITIVE	Say positive things to others about centre							0.923
ENCOUR	Encourage others to attend centre							0.905

[a] Extraction method: principal component analysis; Rotation method: PROMAX with Kaiser normalisation.
[b] Absolute loading values less than .4 are not shown.

- Core services, which includes five attributes: information available [PQ7], broad range of activities [PQ8], activities relevant to needs of customers [PQ9], centre well organised and well run [PQ10], and start and finish times [PQ11]. This represents the second dimension of perceived quality and accounts for 10.79% of the total variance extracted.
- Secondary services, which comprise four attributes: safe and secure parking [PQ12], parking area suitable [PQ13], suitable food and drink [PQ14], and adequate child minding [PQ15]. This represents the third dimension of perceived quality and accounts for 9.61% of the total variance extracted.
- Staff, which comprises four attributes: staff friendly [PQ16], staff responsive [PQ17], staff presentation [PQ18], and staff experience and knowledge [PQ19]. This represents the fourth dimension of perceived quality and accounts for 12.53% of the total variance extracted.
- Perceived value, which includes two attributes: facilities provide value for money [PV1] and programmes provide value for money [PV2], accounting for 4.32% of the total variance extracted.
- Satisfaction, which includes two attributes: overall satisfaction rating [SAT1] and overall experience [SAT2]. This accounts for 6.44% of the total variance extracted.
- Loyalty, which comprises three attributes: would recommend centre to others [RECOMM], would say positive things to others [POSITIVE], and would encourage others to attend the centre [ENCOUR], accounting for 9.66% of the total variance extracted.

4.2. Exploratory block factor, and reliability analysis

After determining the EFA results, the analysis tested the dimensionality of each construct by conducting a PCA of the unstandardised data of the seven blocks of variables (Table 3). All constructs (i.e., the four first-order dimensions of perceived quality as well as perceived value, satisfaction and loyalty constructs) were unidimensional, with each represented by one factor with an eigenvalue greater than 1.

In addition, all loadings – with the exception of 'adequate child minding' – performed well inside each block (loadings > 0.7), further supporting the unidimensionality of the blocks (Kaiser, 1974). In particular, all factors inside each block fell within a relatively small range: 0.67–0.88, 0.75–0.86, and 0.86–0.90 for facility presentation, core services, and staff, respectively. For loyalty, the factors ranged from 0.96 to 0.97; for satisfaction and perceived value, the factors had equal loadings of 0.91 and 0.95, respectively. As for 'adequate child minding', the results of the loading indicate that this attribute was not significantly correlated (0.59) with other attributes of that dimension (Table 3). As was also inferred from the

Table 3
Factor matrix, Cronbach's α, composite reliability, and eigenvalues by variable blocks with component analysis extraction method.

Constructs	Variables	Factor 1	Cronbach's α	D.G. rho (CR)	Critical value	Eigenvalues
Facility presentation	PQ1	0.84	0.89	0.92	1	3.92
	PQ2	0.88				0.68
	PQ3	0.84				0.47
	PQ4	0.80				0.42
	PQ5	0.80				0.31
	PQ6	0.67				0.20
Core services	PQ7	0.75	0.85	0.89	1	3.17
	PQ8	0.84				0.58
	PQ9	0.86				0.50
	PQ10	0.77				0.48
	PQ11	0.76				0.26
Secondary services[a,b]	PQ12	0.88	0.80	0.89	1	2.43
	PQ13	0.87				0.77
	PQ14	0.71				0.61
	PQ15	0.59				0.19
Staff	PQ16	0.90	0.91	0.94	1	0.81
	PQ17	0.93				0.86
	PQ18	0.86				0.73
	PQ19	0.88				0.77
Perceived value	PV1	0.91	0.80	0.91	1	1.66
	PV2	0.91				0.34
Satisfaction	SAT1	0.95	0.89	0.95	1	1.79
	SAT2	0.95				0.21
Loyalty	RECOMM	0.97	0.91	0.95		2.81
	POSITIVE	0.97				0.11
	ENCOUR	0.96				0.07

[a] PCA with rotation method: VARIMAX with Kaiser normalisation.
[b] Cronbach's α and D.G. rho were calculated after removing 'child care minding' item [PQ15].

previous section when EFA was performed at the level of all variables 'adequate child minding' did not seem to represent its underlying dimension well (Nunnally & Bernstein, 1994, 1994). Thus, this attribute was removed from the analysis prior to checking for reliability and internal consistency of each block (construct) (Bedeian, Day, & Kelloway, 1977). With only about 30% of respondents indicating they had children in their visiting group, it is likely that most respondents had not personally experienced the attribute 'adequate child minding'.

Finally, the Cronbach's alpha and Dillon–Goldstein's rho for the four first-order quality constructs, the perceived value construct, the satisfaction and the loyalty construct were robust and well above the lower limit of 0.6 and 0.7 which are considered satisfactory threshold values for exploratory and confirmatory studies, respectively (Nunnally & Bernstein, 1994), indicating high-scale reliability and further supporting the unidimensionality and reflective scheme of these factors (Table 3).

Based on this analysis, all indicators hypothesised to define their underlying constructs (after removing 'adequate child minding') appear to belong well together in identifying their underlying constructs (Raykov & Marcoulides, 2000). Subsequently, PLS-SEM analysis was conducted: (1) to further confirm how well these indicators load on their underlying constructs; and (2) to examine the hypothetical causal relationships across the constructs as defined by their set of indicators and as hypothesised. These two points were then considered in the SEM analysis.

4.3. Partial least square analysis

PLS-SEM using XLSTAT software was run on the full dataset of the unstandardised data, using mode A (reflective scheme) for the four first-order dimensions of perceived quality and the perceived value and loyalty constructs and mode B for the higher-order perceived quality construct. Mode B is the estimation method proposed by XLSTAT-PLSPM to be applied in the case of multi-dimensional constructs. Such constructs are also referred to as 'formative' schemes (Fornell & Bookstein, 1982), although nothing in the PLS-SEM model equations refers to a formative scheme. The centroid scheme is also indicated for the estimation of inner weights.

4.3.1. Outer model analysis

First, the formative and reflective measurement models were analysed. PLS-SEM makes no distributional assumptions; thus, only non-parametric tests can be used to evaluate the explanatory model (Chin, 1998). The quality of the reflective measures was assessed using the convergent and discriminant validity of the latent variables. Because formative indicators cause their constructs, they do not have to be highly correlated with one another. Consequently, the higher-order perceived quality construct was evaluated according to its content validity rather than traditional measures of convergent and discriminant validity (Henseler, Ringle, & Sinkovics, 2009).

Reflective measurement constructs. In the proposed model (Fig. 1), seven reflective constructs remained: first-order dimensions of perceived quality (facility presentation, core services, secondary services, and staff) and perceived value, satisfaction and loyalty. The usual tests were applied. The convergent validity of the constructs was supported as all factor loadings exceeded the 0.7 threshold (Table 4); thus, more than 50% of the variance in the observed variable was due to the underlying construct (Hulland, 1999). Furthermore, the bootstrap test showed high significance levels for all loadings (bootstrap-based empirical 95% confidence interval does not include zero; see Table 4). The average variance extracted (AVE), which measures the amount of variance in the indicators accounted for by the construct relative to the amount due to the measurement, achieved values of 0.653, 0.633, 0.716, and 0.792 for the first-order quality dimensions (facility presentation, core services, secondary services, and staff, respectively) as well as 0.830, 0.897 and 0.850 for the perceived value, satisfaction and loyalty constructs, respectively. An AVE value of at least 0.5 indicates sufficient convergent validity (Gobbers & Krafft, 2010) implying in this specific case that more than 50% of the indicators' variance can be captured by their underlying constructs (e.g., first-order quality dimensions, perceived value, satisfaction, and loyalty constructs). With respect to discriminant validity, the average shared variance of a construct and its indicators should exceed the shared variance with every other construct of the model (Fornell & Larcker, 1981). This was the case in the model outlined in the present study (Table 5), where the root of AVE for each construct was found to surpass the correlation coefficient of that construct with every other construct of the model.

Formative measurement construct. The perceived quality construct is assumed to be a higher-order formative construct due to reflective lower-order dimensions. As a result, its content validity was evaluated at both individual and construct levels. At the individual level, the results of the bootstrap tests showed high significance levels for facility presentation, core services, secondary services, and staff loadings on the perceived quality construct, where bootstrap-based empirical 95% confidence interval does not include zero (Table 4). Moreover, investigating the variance inflation factor (VIF) for the perceived quality factors showed levels lower than 2.0 for each of the factors: facility presentation, core services, secondary services, and staff (Table 6), thereby suggesting that these four factors were not highly correlated to one another. Therefore, first-order factors were retained in the outer model measurement model.

However, at the construct level, the achieved explained variance (R^2) of the endogenous perceived quality construct was primarily used to determine whether a theoretically sound formative specification for perceived quality was appropriate (Diamantopoulos & Winklhofer, 2001). Results of the R-square (R^2) showed that 99% of the variations in the perceived quality construct could be explained by its determined first-order factors, further supporting the content validity of this measure (Fig. 2).

Table 4
Results of outer model: first-order latent variables with reflective indicators and formative higher-order perceived quality.

Latent variable	Manifest variables label	Standardised loadings	Standardised loadings (Bootstrap)	Critical ratio (CR)	Lower bound (95%)	Upper bound (95%)	Average variance extracted (AVE)
Facility presentation	PQ1	0.852	0.851	62.152	0.823	0.882	0.653
	PQ2	0.880	0.879	86.769	0.857	0.900	
	PQ3	0.823	0.822	51.267	0.785	0.851	
	PQ4	0.786	0.786	43.518	0.744	0.821	
	PQ5	0.801	0.800	50.107	0.760	0.835	
	PQ6	0.694	0.693	29.231	0.646	0.746	
Core services	PQ7	0.763	0.765	40.554	0.709	0.807	0.633
	PQ8	0.823	0.821	57.382	0.780	0.847	
	PQ9	0.838	0.838	58.403	0.810	0.870	
	PQ10	0.787	0.788	46.229	0.750	0.827	
	PQ11	0.763	0.761	35.777	0.718	0.815	
Secondary services	PQ12	0.921	0.920	112.143	0.902	0.935	0.716
	PQ13	0.921	0.920	100.856	0.901	0.936	
	PQ14	0.673	0.672	21.274	0.590	0.737	
Staff	PQ16	0.911	0.911	97.653	0.888	0.928	0.792
	PQ17	0.938	0.937	154.935	0.921	0.947	
	PQ18	0.830	0.830	46.156	0.793	0.870	
	PQ19	0.877	0.878	77.760	0.850	0.903	
Perceived value	PV1	0.905	0.914	89.203	0.895	0.936	0.830
	PV2	0.929	0.906	85.454	0.868	0.925	
Satisfaction	SAT1	0.951	0.949	153.788	0.935	0.960	0.897
	SAT2	0.948	0.946	98.367	0.921	0.959	
Loyalty	RECOMM	0.914	0.949	129.572	0.928	0.961	0.850
	POSITIV	0.908	0.930	83.046	0.900	0.950	
	ENCOUR	0.948	0.885	59.670	0.853	0.909	
Perceived quality	Core services	0.378	0.378	26.516	0.352	0.415	
	Facility presentation	0.337	0.337	26.713	0.310	0.359	
	Secondary services	0.317	0.315	22.406	0.283	0.341	
	Staff	0.236	0.236	22.352	0.211	0.266	

4.3.2. Inner model analysis

In a second step, the inner model was considered. The R^2 results of the tested model demonstrated that a substantial part of the variance of the endogenous latent constructs could be explained by the model. In particular, the cross-sectional regressions (for perceived value, satisfaction, and loyalty: 0.43, 0.28, and 0.78, respectively) provided an explained variance of at least 20–30%. Thus, the nomological validity of the model was considered to be satisfactory (Chin, 1998).

Another assessment of the structural model involves the model's capability to predict the endogenous latent variable indicators, referred to in the PLS-SEM literature as cross-validated redundancy measures (Jöreskog & Wold, 1982). To this end, the Stone–Geisser Q2 values (Geisser, 1975; Stone, 1974), the predominant measure of predictive relevance measured using blindfolding procedures (Tenenhaus, Esposito, Chatelin, & Lauro, 2005), were studied. Q2 values for the perceived value, satisfaction, and loyalty variable indicators were larger than zero, suggesting predictive relevance in explaining the endogenous latent variables under evaluation. Furthermore, Q2 values for the loyalty indicators were all above 0.35, indicating substantial predictive relevance in explaining the loyalty variables studied (Henseler et al., 2009).

Table 5
Results of discriminant validity: first-order latent variables with reflective indicators (squared correlations for any pair of latent variables < AVE).

	Core services	Facility presentation	Secondary services	Staff	Perceived value	Satisfaction	Loyalty	Mean communalities (AVE)
Core services	**1**	0.336	0.203	0.387	0.465	0.164	0.132	**0.633**
Facility presentation	0.336	**1**	0.099	0.287	0.211	0.274	0.233	**0.653**
Secondary services	0.203	0.099	**1**	0.087	0.143	0.021	0.020	**0.716**
Staff	0.387	0.287	0.087	**1**	0.245	0.223	0.202	**0.792**
Perceived value	0.465	0.211	0.143	0.245	**1**	0.149	0.118	**0.830**
Satisfaction	0.164	0.274	0.021	0.223	0.149	**1**	0.784	**0.897**
Loyalty	0.132	0.233	0.020	0.202	0.118	0.784	**1**	**0.850**
Mean communalities (AVE)	**0.633**	**0.653**	**0.716**	**0.792**	**0.830**	**0.897**	**0.850**	**0**

Table 6
Collinearity statistics for the formative higher-order perceived quality construct (overview of VIFs).

Perceived quality	VIF
Facility presentation	1.638
Core services	1.910
Secondary services	1.262
Staff	1.764
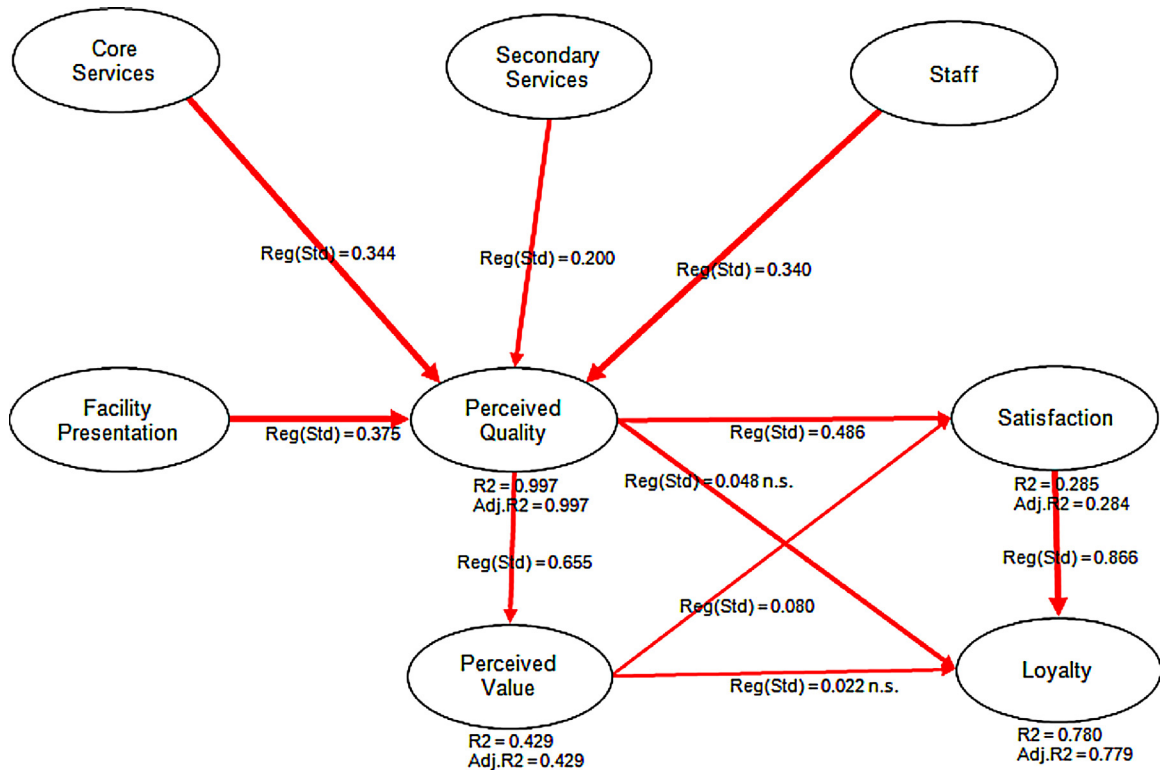
Fig. 2. Results of proposed hypothetical hierarchical model of perceived quality on behavioural intentions with the standardised solution for inner model from PLS-SEM using XLSTAT. All estimates are significant at the .05 level except for those designated "n.s.".

Path estimates and hypotheses testing. Finally, a bootstrap with $N = 1000$ samples was run, providing *t*-values and two-tail significance levels for the estimates of the path coefficients (Davidson & Hinkley, 1997). Fig. 2 depicts the results of the inner model with the results of the conducted bootstrap, indicating that four of the six hypotheses were supported while two showed no significance. The loyalty construct was positively influenced by the level of satisfaction (regression coefficient = .866), supporting Hypothesis 6. Satisfaction was positively influenced by perceived quality and perceived value (regression coefficients = .486 and .08, respectively), supporting Hypotheses 2 and 4. Perceived value was positively influenced by perceived quality (regression coefficient = .655), supporting Hypothesis 1. Thus, Hypotheses 3 and 5 remained unsupported, demonstrating the non-significant direct influence of perceived quality and perceived value on loyalty.

Direct, indirect, and total effects. Table 7 summarises the direct, indirect, and total effects among various constructs. Both the satisfaction and perceived quality constructs have the largest positive significant effect on loyalty (0.866 and 0.466,

Table 7
Standardised direct, indirect, and total effects for inner model from PLS-SEM using XLSTAT.

	Direct effect	Indirect effect	Total effect
Perceived quality → Loyalty	0.048n.s.	0.466	**0.514**
Perceived value → Loyalty	0.022n.s.	0.069	**0.091**
Satisfaction → Loyalty	0.866	–	**0.866**
Perceived quality → Satisfaction	0.486	0.045n.s.	0.531
Perceived value → Satisfaction	0.080	–	0.080
Perceived quality → Perceived value	0.655	–	0.655

Note: n.s. refer to non-significant effects at the.05 level. All other effects significant at $P < .05$.

respectively). Furthermore, the positive effect of perceived quality on loyalty was demonstrated to be solely indirect through satisfaction. Finally, the perceived value construct had the lowest significant effect on loyalty. The impact of perceived value on loyalty was found to be positive and entirely indirect (0.069) through satisfaction.

5. Discussion, conclusions and implications

There is ongoing debate regarding conceptualising and measuring perceived quality, as well as inconsistent findings about the relationships between service quality, satisfaction, perceived value, and loyalty in the sport and leisure literature. Accordingly, the present study proposes a hierarchical, multidimensional construct for service quality and examines a comprehensive model for the structural relationships among the hypothesised hierarchical constructs of perceived quality, perceived value, satisfaction, and loyalty in the context of outdoor aquatic centres in Australia. The perceived quality construct in the present study included four lower-order quality dimensions: facility presentation, core services, secondary services, and staff, with each measured by a set of between three and six quality attributes. The results of this study provide both theoretical and managerial implications.

5.1. Theoretical implications

First, the results clearly show support for the hierarchical, multidimensional model, with all four dimensions contributing significantly in forming perceived quality (regression coefficients of 0.375, 0.344, 0.340, and 0.200 for facility presentation, core services, staff and secondary services, respectively). This suggests that customers of the outdoor aquatic centres in the present study form their overall evaluation of service quality based on how they assess the different dimensions and the corresponding attributes representing those dimensions. In particular, the first-order service quality dimensions of *facility presentation* and *staff* were found to have the strongest influence on the higher-order perceived quality dimension. The hierarchical model also identifies individual attributes that have the greatest influence on the first-order service quality sub-dimensions. For example, the most influential facility presentation attributes were *facility maintenance* and *facility cleanliness*, and the most influential staff attributes were *staff responsiveness* and *staff friendliness*. In contrast, the attribute, *suitable food and drink* had a relatively low influence on the secondary services dimension.

Second, the hierarchical models tested in the present study outperform single-level, multifactor quality models investigated in previous research (e.g., Licata, Mowen, Harris, & Brown, 2003) in terms of investigating relationships among constructs (e.g., quality value, satisfaction, and loyalty). As such, the present study provides enhanced results for understanding how quality impacts loyalty and offers a plausible diagnostic framework for managers. Results of the present study indicate that perceived quality and perceived value impact overall satisfaction directly, which in turns mediates their relationship with loyalty. Perceived quality has a stronger influence on overall satisfaction and loyalty compared to perceived value. These results both support and build on the extant literature, which leans towards the indirect effects that service quality and value have on loyalty, mediated by overall satisfaction. For example, Gallarza et al. (2011) reported growing support in the literature for the quality → value → satisfaction → customer loyalty linkages. The findings of the present study are consistent with research on spectator sport (e.g., Brady et al., 2006; Clemes et al., 2011; Cronin et al., 2000; Hightower et al., 2002) and participant sport and recreation (Murray & Howat, 2002), where perceived quality was found to impact loyalty only indirectly through satisfaction. Moreover, the low effect of value on satisfaction and loyalty, compared to quality on satisfaction and loyalty (Fig. 2), indicates outdoor aquatic centre customers seem to place greater importance on process service quality attributes than they do on the costs associated with acquiring that service.

The findings of the present study clearly support the indirect effects that perceived quality and perceived value have on customers loyalty mediated by customer satisfaction, consistent with other sport and leisure research (Clemes et al., 2011; Li & Petrick, 2010; Silcox & Soutar, 2009). As such, models should incorporate the interaction between cognitive (quality and value) and affective (satisfaction) dimensions (Gallarza et al., 2011).

5.2. Managerial implications

The findings supporting the indirect effects that perceived quality and perceived value have on customer loyalty mediated by customer satisfaction suggest that models for customer evaluations of services that consider only individual variables or direct effects are likely to result in incomplete assessments regarding the basis for these decisions, because consuming sport and leisure services is a complex and comprehensive process. Thus, service managers who consider only the direct effect of a service quality initiative on their customers' loyalty err if they do not also consider the indirect effects on customers' loyalty through the influence of service quality and value on customers' satisfaction.

One explanation for the findings that the first-order service quality dimensions of *facility presentation* and *staff* were found to have the strongest influence on the higher-order perceived quality dimension is that participant sport and recreation such as physical activity at an aquatic centre includes an important role for participants in 'producing' the experience. For example, Chelladurai and Chang (2000) asserted that participants in sport services involving physical activity are in effect co-producers of the service, but depend on the service provider for appropriate facilities and equipment, and sometimes specialist staff. Accordingly, the experience for active sport and recreation participants tends to be heavily influenced by the

quality of the physical environment (clean and well-maintained facilities and equipment) and relationship quality, especially if activities involving customers require direction from instructors or officials.

Other managerial implications of the present study include the role of the hierarchical service quality structure, which allows managers to measure service quality on three levels depending on reporting requirements or the detail needed to make decisions. For example, to monitor a facility over time, or benchmark a facility against similar facilities, the global service quality construct provides a complementary measure to overall satisfaction measures. In turn, the first-order service quality dimensions allow managers to focus on major operational areas such as facility presentation or staff (Dabholkar et al., 2000). Further detailed diagnostic analysis at the attribute level may consider the relative influence of individual attributes on a particular dimension. For example, the strongest drivers of the staff dimension were the attributes *staff responsiveness* and *staff friendliness*. This suggests that if appropriate staff are recruited and suitably trained, front-line staff should be capable of influencing favourable customer perceptions by providing personal attention (Silcox & Soutar, 2009). For example, a base level expectation is to be welcomed by friendly and responsive reception staff who often provide the only staff interaction for many customers during their visit to an aquatic centre, especially for activity groups such as those involved in informal recreation swimming. In contrast, other groups such as swim lesson customers may be in close contact with instructors throughout their visits to an aquatic centre and thus expect even more personal attention from friendly and responsive instructors.

Just as customers expect front-line staff to treat them in a friendly and responsive manner, it appears that attributes with the strongest influence on facility presentation (*clean facilities* and *well-maintained facilities*) tend to be a high priority for most customers. Any deviation below a reasonable level of performance for *clean facilities* and *well-maintained facilities* may have a high impact on customer dissatisfaction. For example, most aquatic centre customers engage in activities where they have a close interaction with facilities such as pool water (for aquatic activities), gym floor areas and equipment (for fitness and gym customers) and change rooms and showers, especially for aquatic customers. Accordingly, participant sport and recreation customers, particularly those in aquatic centre settings consider key service quality attributes to include *facility maintenance*, and *facility cleanliness*, which equate to 'performance factors' in Kano's (1984) Model of Attractive Quality (cited in Matzler, Bailom, Hinterhuber, Renzl, & Pichler, 2004). As they are directly linked to customer needs and desires, performance factors tend to be important determinants of customer satisfaction and loyalty (Matzler et al., 2004).

The greater influence on satisfaction and loyalty of attributes such as *facility maintenance*, *facility cleanliness*, *staff responsiveness* and *staff friendliness*, compared to the low influence of *suitable food and drink* supports the Liu et al. (2009) research on English public sports halls and swimming pools. The most important service attributes for English public sport facilities were related to facility cleanliness and staff, while food and drink attributes were found to be a relatively low priority (Liu et al., 2009). The important role of facilities and staff attributes in service quality evaluations is consistent with research on private sport and fitness centres (Afthinos, Theodorakis, & Nassis, 2005; Papadimitriou & Karteroliotis, 2000). In research on two multipurpose public aquatic centres, Howat et al. (2008) did not include a higher-order perceived quality construct but found that two process service quality dimensions (facility presentation and staffing) had a stronger influence on behavioural intentions mediated by overall satisfaction than did outcome service quality dimensions or secondary services such as parking.

In turn, the relatively high relationship between perceived quality and perceived value (Fig. 2) indicates that high levels of perceived quality have a strong influence on customers' perceptions of getting value for money. In a similar vein, Liu et al. (2009) found that a major weakness of English public sports halls and swimming pools was facility cleanliness which had a significant impact on value for money. Conversely, low perceptions of service quality, particularly if attributed to an unresolved problem encountered by the customer, are likely to result in low perceptions of value for money, even if the actual entry fee is relatively low such as at many Australian public aquatic centres where entry fees tend to be subsidised (Howat & Crilley, 2007). A related assumption is that customers of more expensive services at public aquatic centres are more likely to perceive lower value for money if key facility presentation attributes such as facilities and equipment are not clean and well maintained. An example of this would be fitness and gym memberships which tend to be more expensive than recreational swimming fees.

6. Limitations and future research

As with all studies, the present study has several limitations. First, the respondents from which the data were collected have different sociodemographic characteristics (e.g., age, gender, place of birth, disability) or usage characteristics (e.g., with whom they attend the centre, distance travelled, travel mode, number of visits, length of visit, usual time at centre, how long they have been using the centre). Consequently, future research could evaluate the influence of respondents' heterogeneity on the relationships among the variables hypothesised. Running PLS-SEM multi-group analysis (permutation tests in XLSTAT) across different subsamples based on the respondents' individual and sociodemographic variables would help further validate results from the present study or identify differences between heterogeneous groups. For example, multi-group analyses for specific activity group respondents would allow inclusion of additional attributes relevant to an activity group thus allowing for models to provide a more comprehensive assessment of service quality. For example, attributes focusing on pool water cleanliness or temperature could be included only for respondents whose main activity was an aquatic activity, and excluded for fitness and gym customers.

Future research could also be replicated with other aquatic centre customer groups to broaden the generalisability of the model; the majority of respondents in the present study were recreational swimmers or swim lesson customers or their carers.

Second, in the present study value was measured in terms of value for money based on a two-item measure, although the multidimensionality of consumer value suggests that more comprehensive, context-specific value dimensions could be considered in future research (Gallarza et al., 2011), such as those offered by Silcox and Soutar (2009). Likewise, while the use of two-item scales for overall satisfaction are supported in other research (Brady et al., 2005; Li & Petrick, 2010), future research should consider at least three items per scale as recommended by Yang, Watkins, and Marsick (2004).

Because an aim of the present study was to identify specific service quality attributes that management can influence directly, there was a focus on process dimensions rather than outcome dimensions of service quality. Compared to recreation and fitness activities in outdoor aquatic centres, outcome dimensions such as valence appear to be more important in sporting events in determining the spectators' level of perceived quality, satisfaction, and loyalty (Clemes et al., 2011). For example, for some services, valence may be difficult to control by the service provider or the customer (e.g., A fan of a sports team) such as in a sporting contest when the fan's team loses (Brady et al., 2006). However, future service quality models for aquatic centres could include process as well as outcome dimensions such as social and health benefits, especially when considering such respondent groups as lap swimmers and fitness gym customers. For example, Howat et al. (2008) found that two outcome dimensions (relaxation and personal accomplishment) had a significant influence on overall satisfaction, albeit much less than the influence of process dimensions.

Finally, the loyalty construct in the present study was defined in terms of behavioural intentions focusing on likely word-of-mouth behaviours, such as recommending the centre and spreading positive word of mouth, rather than intent to revisit the centre. The behavioural intentions phase of Oliver's (1999) four phase loyalty model is conative loyalty, which includes word-of-mouth intentions and repurchase intentions, both of which are strongly influenced by overall satisfaction. However, for some services highly satisfied customers may be willing to recommend the service even if their repurchase or repatronage intention is less likely due to situational or external factors. For example, many highly satisfied tourists or visitors to a locality are willing to recommend a service to others but may be unlikely to revisit due to the distance from their home (Howat, Brown, & March, 2006). A similar tendency occurs for seasonal facilities such as outdoor aquatic centres where highly satisfied customers may recommend the centre to others but may indicate a lower intention to revisit due to closure of the centre for the winter months. Other situational factors influencing highly satisfied customers to visit alternative centres include the growing number of public as well as private (commercial) sport and fitness centres that may be more convenient in terms of location or opening hours for time-strapped fitness gym customers. Accordingly, willingness to recommend is considered a more suitable indicator of loyalty towards an outdoor aquatic centre than revisit intentions, which is more susceptible to situational influences. However, including future visitation behaviour items in future research may provide further useful and practical insights for aquatic centre managers.

Appendix A

See Table A.1.

Table A.1
Summary of variables selected for the quality on loyalty model.

Dimension	Attributes/items	Label	Scale
Facility presentation	The centre is always clean	PQ1	1 = disagree to 6 very strongly agree
	The centre is well maintained	PQ2	
	Equipment is of a high quality and well maintained	PQ3	
	The centre is physically comfortable and pleasant	PQ4	
	The pool water is clean	PQ5	
	The pool water is the right temperature	PQ6	
Core services	Up-to-date information is available (e.g., activities, results, events)	PQ7	1 = disagree to 6 very strongly agree
	A broad range of activities is available	PQ8	
	Activities are relevant to needs of customers	PQ9	
	The centre is well organised and well run	PQ10	
	The centre's programmes start and finish on time	PQ11	
Secondary services	The parking area is very safe and secure	PQ12	1 = disagree to 6 very strongly agree
	The parking area is suitable	PQ13	
	Suitable food and drink facilities	PQ14	
	The centre provides adequate child minding	PQ15	
Staff	Staff are friendly	PQ16	1 = disagree to 6 very strongly agree
	Staff are responsive	PQ17	
	Staff are presentable and easily identified	PQ18	
	Staff are experienced and knowledgeable	PQ19	
Perceived value	The facilities provide value for money	PV1	1 = disagree to 6 very strongly agree
	The programmes provide value for money	PV2	

Table A.1 (*Continued*)

Dimension	Attributes/items	Label	Scale
Satisfaction	Overall, how satisfied are you as a customer of this centre Based on all of your experiences at this centre, please rate how you feel overall as a customer of this facility	SAT1 SAT2	1 = very dissatisfied to 7 = very satisfied 1 = displeased to 7 = pleased
Loyalty	How likely would you recommend the centre to others How likely would you say positive things to others about the centre How likely would you encourage others to attend the centre	RECOMM POSITIVE ENCOUR	1 = very unlikely to 7 = very likely

References

Afthinos, Y., Theodorakis, N. D., & Nassis, P. (2005). Customers' expectations of service in Greek fitness centres. *Managing Service Quality, 13*(5), 245–258.

Alexandris, K., Dimitriadis, D., & Kasiara, A. (2001). Behavioral consequences of perceived service quality: An exploratory study in the context of private fitness participation. *Journal of Sport Behavior, 25*(3), 217–231.

Alexandris, K., & Kouthoris, C. (2005). Personal incentives for participation in summer children's camps: Investigating their relationships with satisfaction and loyalty. *Managing Leisure, 10,* 39–53.

Alexandris, K., Zahariadis, C., Tsorbatzoudis, C., & Grouios, G. (2004). An empirical investigation of the relationships among service quality, customer satisfaction and psychological commitment in a health club context. *European Sport Management Quarterly, 4*(1), 36–52.

Baker, D. A., & Crompton, J. L. (2000). Quality, satisfaction and behavioral intentions. *Annals of Tourism Research, 27*(3), 785–804.

Bedeian, A. G., Day, D. V., & Kelloway, E. K. (1977). Correcting for measurement error attenuation in structural equation models: Some important reminders. *Educational and Psychological Measurement, 57,* 785–799.

Bloemer, J., de Ruyter, K., & Peeters, P. (1998). Investigating drivers of bank loyalty: The complex relationship between image, service quality, and satisfaction. *Journal of Bank Marketing, 16,* 276–286.

Boksberger, P. E., & Melsen, L. (2011). Perceived value, critical examination of definitions concepts and measures for the service industry. *Journal of Services Marketing, 25*(3), 229–240.

Brady, M. K., & Cronin, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing, 65*(3), 34–49.

Brady, M. K., Cronin, J. J., & Brand, R. R. (2002). Performance-only measurement of service quality: A replication and extension. *Journal of Business Research, 55,* 17–31.

Brady, M. K., Knight, G. A., Cronin, J. J., Hult, G. T., & Keillor, B. T. (2005). Removing the contextual lens: A comprehensive evaluation of five service models. *Journal of Retailing, 81*(3), 215–230.

Brady, M. K., Voorhees, C. M., Cronin, J. J., & Bourdeau, B. L. (2006). The good guys don't always win: The effect of valence on service perceptions and consequences. *Journal of Services Marketing, 20*(2), 83–89.

Byrne, B. (2001). *Structural equation modeling with AMOS.* New Jersey: Lawrence Erlbaum Associates.

Chang, K., & Chelladurai, P. (2003). System-based quality dimensions in fitness services: Development of the scale of quality. *The Services Industry Journal, 23*(5), 65–83.

Chelladurai, P., & Chang, K. (2000). Targets and standards of quality in sport services. *Sport Management Review, 3*(1), 1–22.

Chin, W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly, 22,* 7–16.

Clemes, M. D., Brush, G. J., & Collins, M. J. (2011). Analysing the professional sport experience: A hierarchical approach. *Sport Management Review, 14*(4), 370–388.

Collier, J. E., & Bienstock, C. C. (2006). Measuring service quality in e-retailing. *Journal of Service Research, 8*(3), 260–275.

Crompton, J. L., & MacKay, K. J. (1989). Users' perceptions of the relative importance of public recreation programs. *Leisure Sciences, 11,* 367–375.

Crompton, J. L., MacKay, K. J., & Fesenmaier, D. R. (1991). Identifying dimensions of service quality in public recreation. *Journal of Park and Recreation Administration, 9*(3), 15–28.

Cronin, J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing, 76*(3), 193–218.

Dabholkar, P. A., Shepherd, C. D., & Thorpe, D. I. (2000). A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing, 76*(3), 139–173.

Davidson, A. C., & Hinkley, D. V. (1997). *Bootstrap methods and their application.* Cambridge: Cambridge University Press.

Diamantopoulos, A., & Winklhofer, H. M. (2001). Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research, 38,* 269–278.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4,* 272–299.

Fassnacht, M., & Koese, I. (2006). Quality of electronic services: Conceptualizing and testing a hierarchical model. *Journal of Service Research, 9*(1), 19–37.

Fornell, C. (2007). *The satisfied customer.* New York, NY: Palgrave McMillan.

Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research, 119,* 440–452.

Fornell, C., & Larcker, D. G. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18,* 39–50.

Gallarza, M. G., Gil-Saura, I. G., & Holbrook, M. B. (2011). The value of value: Further excursions on the meaning and role of customer value. *Journal of Consumer Behaviour, 10,* 179–191.

Ganesh, J., Arnold, M. J., & Reynolds, K. E. (2000). Understanding the customer base of service providers: An examination of the differences between switchers and stayers. *Journal of Marketing, 64*(3), 65–87.

Geisser, S. (1975). The predictive sample reuse method with applications. *Journal of the American Statistical Association, 70,* 320–328.

Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods, and applications.* Berlin: Springer.

Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing, 18,* 36–44.

Grönroos, C. (2005). *Service management and marketing: A customer relationship management approach.* Chichester, UK: John Wiley & Sons.

Hair, J. F., Black, B., Babin, B., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Han, X., Kwortnik, R. J., & Wang, C. (2008). Service loyalty: An integrative model and examination across service contexts. *Journal of Service Research, 11*(1), 22–42.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *New Challenges to International Marketing: Advances in International Marketing, 20,* 277–319.

Hightower, R., Brady, M., & Baker, T. L. (2002). Investigating the role of physical environment in hedonic service consumption: An exploratory study of sporting events. *Journal of Business Research, 55,* 697–707.

Homburg, C., Koschate, N., & Hoyer, W. D. (2005). Do satisfied customers really pay more? A study of the relationship between customer satisfaction and willingness to pay. *Journal of Marketing, 69*(2), 84–96.

Howat, G., Absher, J., Crilley, G., & Milne, I. (1996). Measuring customer service quality in sports and leisure centres. *Managing Leisure, 1*(1), 77–89.
Howat, G., Brown, G., & March, H. (2006). Self-drive tourism: Travellers to South Australia's Limestone Coast Region. Technical Report # 80062, Gold Coast: Sustainable Tourism Co-operative Research Centre.
Howat, G., & Crilley, G. (2007). Customer service quality, satisfaction, and operational performance: A proposed model for Australian public aquatic centres. *Annals of Leisure Research, 10*(2), 168–195.
Howat, G., Crilley, G., & McGrath, R. (2008). A focussed service quality, benefits, overall satisfaction and loyalty model for public aquatic centres. *Managing Leisure, 13*(3), 1–23.
Howat, G., Crilley, G., & Murray, D. (2005). Using performance measures to assess performance of indoor and outdoor aquatic centres. *Journal of the Australian and New Zealand Academy of Management, 11*(1), 6–16.
Howat, G., Murray, D., & Crilley, G. (1999). The relationships between service problems and perceptions of service quality, satisfaction, and behavioral intentions of Australian public sports and leisure centre customers. *Journal of Park and Recreation Administration, 17*(2), 42–64.
Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal, 20*, 195–204.
Hurley, A. E., Scandura, T. A., Schriesheim, C. A., Brannick, M. T., Seers, A., & Vandenberg, R. J. (1997). Exploratory and confirmatory factor analysis: Guidelines, issues, and alternatives. *Journal of Organizational Behavior, 18*, 667–683.
Jarvis, C. B., Mackenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research, 30*(2), 20.
Jöreskog, K., & Wold, H. (1982). The ML and PLS techniques for modeling with latent variables: Historical and comparative aspects. In Jöreskog, K., & Wold, H. (Eds.), *Systems under indirect observation* (Vol. Part 1, pp. 263–270). Amsterdam: North-Holland.
Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*, 31–36.
Kano, N. (1984). Attractive quality and must be quality. *Hinshitsu (Quality), 14*(2), 147–156.
Ko, Y. J., & Pastore, D. L. (2005). A hierarchical model of service quality for the recreational sport industry. *Sport Marketing Quarterly, 14*(2), 84–97.
Kline, R. B. (2004). *Principles and practice of structural equation modeling.* New York, NY: Guilford Press.
Li, X., & Petrick, J. F. (2010). Towards an integrated model of loyalty formation: The role of quality and value. *Leisure Sciences, 32*, 201–221.
Licata, J. W., Mowen, J. C., Harris, E. G., & Brown, T. J. (2003). On the trait antecedents and outcomes of service worker job resourcefulness: A hierarchical approach. *Journal of the Academy of Marketing Science, 31*(3), 256–271.
Little, T. D., Cunningham, W. A., & Shahar, G. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*, 151–173.
Liu, Y., Taylor, P., & Shibli, S. (2007). The operational efficiency of English public sport facilities. *Managing Leisure, 12*(4), 251–272.
Liu, Y., Taylor, P., & Shibli, S. (2009). Measuring customer service of English public sport facilities. *International Journal of Sport Management and Marketing, 6*(3), 229–252.
Matzler, K., Bailom, F., Hinterhuber, H., Renzl, B., & Pichler, J. (2004). The asymmetric relationship between attribute-level performance and overall customer satisfaction: A reconsideration of the importance–performance analysis. *Industrial Marketing Management, 33*, 271–277.
Murray, D., & Howat, G. (2002). The relationships among service quality, value, satisfaction, and future intentions of customers at an Australian sports and leisure centre. *Sport Management Review, 5*(1), 25–43.
Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.
Olinsky, A., Chenb, S., & Harlow, S. (2003). The comparative efficacy of imputation methods for missing data in structural equation modeling. *European Journal of Operational Research, 15*, 53–79.
Oliver, R. L. (1997). *Satisfaction: A behavioural perspective on the consumer.* Boston: Irwin-McGraw-Hill.
Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*(special issue), 33–44.
Papadimitriou, D., & Karteroliotis, K. (2000). The service quality expectations in private sport and fitness centers: A re-examination of the factor structure. *Sport Marketing Quarterly, 9*(3), 157–164.
Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.
Parasuraman, A., Zeithaml, V., & Berry, L. L. (1991). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing, 67*(4), 420–450.
Petrick, J. F. (2002). Development of a multi-dimensional scale for measuring the perceived value of a service. *Journal of Leisure Research, 34*(2), 119–134.
Petrick, J. F., Backman, S. J., & Bixler, R. D. (1999). An investigation of selected factors' impact on golfer satisfaction and perceived value. *Journal of Park and Recreation Administration, 17*(1), 40–59.
Raykov, T., & Marcoulides, G. A. (2000). *A first course in structural equation modeling.* Mahwah, NJ: Lawrence Erlbaum Associates Inc Publishers.
Reichheld, F. (2003). The one number you need to grow. *Harvard Business Review, December*, 46–53.
Rindskopf, D., & Rose, T. (1988). Some theory and applications of confirmatory second-order factor analysis. *Multivariate Behavioral Research, 23*, 51–67.
Robinson, L., & Taylor, P. (2003). The performance of local authority sports halls and swimming pools in England. *Managing Leisure, 8*, 1–16.
Rundle-Thiele, S. (2005). Exploring loyal qualities: Assessing survey-based loyalty. *Journal of Services Marketing, 19*(7), 492–500.
Rust, R. T., & Oliver, R. L. (1994). Service quality: Insights and managerial implications from the frontier. In R. T. Rust & R. L. Oliver (Eds.), *Service quality: New directions in theory and practice* (pp. 1–19). Thousand Oaks, CA: Sage Publications.
Sachdev, S. B., & Verma, H. V. (2005). Relative importance of service quality dimensions. *Journal of Service Research, 4*(1), 93–116.
Silcox, S., & Soutar, G. N. (2009). Patrons' intentions to continue using a recreation centre: A suggested model. *Managing Leisure, 14*(3), 177–194.
Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society, 36*(2), 111–147.
Tenenhaus, M., Esposito, V. V., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics and Data Analysis, 48*, 159–205.
Velicer, W. F., & Jackson, D. N. (1990). Component analysis vs. common factor analysis: Some further observations. *Multivariate Behavioral Research, 25*, 95–112.
Venaik, S., Midgley, D. F., & Devinney, T. M. (2004). A new perspective on the integration-responsiveness pressures confronting multinational firms. (special issue). *Management International Review, 44*(1), 15–48 (2004).
Voss, C. A., Roth, A. V., Rosenzweig, E. D., Blackmon, K., & Chase, R. B. (2004). A tale of two countries' conservatism, service quality, and feedback on customer satisfaction. *Journal of Service Research, 6*(3), 212–230.
Walsh, G., Evanschitzy, H., & Wunderlich, M. (2008). Identification and analysis of moderator variables: Investigating the customer satisfaction–loyalty link. *European Journal of Marketing, 42*(9–10), 977–1004.
Wetzels, M., Odekerken-Schroder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly, 33*, 177–195.
Yang, B., Watkins, K., & Marsick, J. (2004). The construct of learning organization: Dimensions, measurement, and validation. *Human Research Development Quarterly, 15*(1), 31–55.
Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing, 52*(3), 2–22.
Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing, 60*(2), 31–46.
Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2009). *Services marketing: Integrating customer focus across the firm* (5th ed.). New York, NY: McGraw-Hill.