

A MOTIVATION BASED TYPOLOGY OF OPEN-WATER SWIMMERS

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ABSTRACT

People travel to destinations for different reasons and the same applies to sporting events. To fulfil the needs of athletes and ensure that the event remains competitive, it is important to understand the needs of different markets through market segmentation. Reasons for participation (travel motives) were used to identify different market segments at the largest open-water swimming event in the world, the Midmar Mile in South Africa. The survey was conducted during the registration period in February 2010. A total of 461 questionnaires were administered and a factor analysis was conducted. Three motivational factors were identified: socialisation and escape, fun and entertainment and intrinsic achievement. ANOVAs were applied and the results showed that the swimmers did not have homogenous motives for participation. The results confirmed that motives for participating differ according to the sporting event, and that marketers and sport event organisers need to be aware that not all participants are the same. These findings can assist organisers to differentiate between the needs of different markets, and thereby adapt their marketing campaigns accordingly, which would lead to a more competitive and sustainable event.

Key words: Market segmentation; Factor analysis; K-means clustering; Travel motivation; Sport tourism; Sport participants.

INTRODUCTION

FINA (Fédération Internationale de Natation), the world governing body of swimming, officially recognised open-water swimming in 1986. Yet, open-water swimming, the forerunner of what today is known as indoor competitive swimming, existed at the 1896 Olympic Games and earlier (OWS ADVISORY COMMITTEE, 2003). Open-water swimming, which is also known as long-distance swimming, is defined as any swimming competition up to 25km that takes place in open water (lakes, rivers, canals and the sea); events over 25km are considered marathon swims (Dean, 1998:3; OWS ADVISORY COMMITTEE, 2003). The afore-mentioned swimming competitions are endurance events, similar to marathon running or long-distance cycling. Open-water swimming appeals to a variety of swimmers, and competitors range from developmental or age-group swimmers to master-level swimmers. As a result, the sport has expanded and participation has grown significantly both nationally and internationally (VanHeest *et al.*, 2004).

The sport's popularity is evident from the more than 1 400 competitive open-water swimming races that are held around the world. In South Africa, more than 90 open-water swimming races are held every year, ranging from serious competitions to recreational and charity swims. The most popular and successful open-water swimming event in South Africa is the Halfway Telkom Midmar Mile (hereafter referred to as the Midmar Mile¹), which attracts 13 755 finishers. In 2009, it was officially recognised as the 'World's Largest Open Water Swimming Event' by the Guinness Book of World Records. For the past 37 years, the event has been held at the Midmar Dam located north of Pietermaritzburg in KwaZulu-Natal. The many competitors include serious international athletes, Olympic medallists, enthusiastic amateurs, families, disabled persons, as well as swimmers from schools, clubs and companies.

The Midmar Mile attracts swimmers of different ages and fitness levels who participate in various categories. The main goal that draws many open-water swimmers to the sport is to complete a swim, regardless of the distance (Dean, 1998). However, given the diverse range of swimmers, the Midmar Mile participants are unlikely to be influenced by a single motive, but rather a number of motives affect their decisions (Gill & Williams, 2008). Non-competitive participants might be motivated by the desire to seek new and different experiences, meet new people, and the need to escape from routine, whereas competitive swimmers may be driven by the desire to win, to be with a team, or to improve their level of fitness (Hastings *et al.*, 1995; Weed & Bull, 2004). Insight into the motives and interests of the different categories/segments of participants at the Midmar Mile is necessary (De Knop, 1990). With the above in mind, this article is based on research conducted to determine the motives of the Midmar Mile swimmers and, based on these motives, to identify and profile different markets/segments at the race.

LITERATURE REVIEW

Sport-based events, such as the Midmar Mile, differ from other types of events, as they attract a wide range of tourists, spectators and participants, each seeking to satisfy their motivations for engagement in slightly different ways (Cassidy & Pegg, 2008). Both Brotherton and Himmetoglu (1997) and Cook *et al.* (2010) classify sport participants as special interest groups of travellers, since they are motivated to travel to a sport event for a distinct and specific reason or interest. Motivation is an activation, drive and/or reason to engage in certain behaviours and to maintain those behaviours (Mannell & Kleiber, 1997). Motivation therefore determines the direction and strength or intensity of behaviour (Parrinello, 1993; Cassidy & Pegg, 2008). The concept of needs is central to most theories of motivation (Hudson, 1999). Needs are the driving force that motivate behaviours, and so to understand human motivation means discovering people's needs and how to fulfil them. Sport participation involves primarily a set of motivational factors established in anticipation of the fulfilment of the desired needs (Cassidy & Pegg, 2008).

¹ The Midmar Mile gains its name from its location (Midmar Dam) and its distance ($\pm$ one mile or 1 600 metres). A unique feature of the race is that while the distance covered is one mile, depending on the rainfall and the water levels in the dam, the distance swum varies from year to year. In years with poor rainfall, competitors must sprint through the shallows until the water is deep enough to swim.

If this is the case, event planners should pay more attention to the expectations and experiences of participants (Green & Chalip, 1998) because a positive experience means that individuals continue to participate and become more committed to maintaining their level of involvement (Casper & Stellino, 2008). Previous research has found that sport participants' motivators can be intrinsic in nature (to experience, to know, to accomplish and to be physically active) or speak to self-determination (Gill *et al.*, 1983; Ritchie & Adair, 2002). Sport participants can also seek extrinsic motivators such as winning trophies and gaining social prestige (Hritz & Ramos, 2008). A study of cyclists at the Cape Argus Pick 'n Pay Cycle Tour (CACT) in Cape Town, South Africa, found that participants were mainly motivated by intrinsic motives such as personal motivation, escape and relaxation, while the event itself was also a major motivator. Based on the results, the study suggested that the CACT should combine the event attractiveness with achievement of personal (intrinsic) goals in their marketing campaign (Streicher & Saayman, 2009). These findings support the view that understanding the motives of participants is critical, because of the implications for developing marketing strategies that attempt to match the sport event offering with the motivational bundle sought by the sport participants (Gill & Williams, 2008).

Swimming events greatly contribute to the economy of the local community, as participants spend a significant amount of money locally (Hritz & Ramos, 2008). Continued involvement by regular participants is vital for the sustainability of annual swimming events, such as the Midmar Mile (Mullin *et al.*, 2000). It is crucial to understand swimmers' motives for participating, especially as the bid process for sporting events can be complex and swimmers can pick and choose which events they attend (Hritz & Ramos, 2008). However, understanding their motives is a complex phenomenon, as motives are influenced by many behavioural factors that are different for each person and may shift across the lifespan (Hastings *et al.*, 1995; Vallerand & Losier, 1999; Hritz & Ramos, 2008). Furthermore, participants not only have different motives but their motives also vary in strength and importance (Koivula, 1999). Therefore, what makes one person choose to participate in a swimming event may not be the same for another person (Hritz & Ramos, 2008).

Research has recently been done to determine the motives of participants at different sport events. When comparing competitive and non-competitive sport participation, competitive athletes emphasised the extrinsic motives of reinforcement and competing against others (Ogles & Masters, 2003; Weed & Bull, 2004), while non-competitive athletes endorsed life meaning, social and participation motives (Croft *et al.*, 1999). McDonald *et al.* (2002:102-104) identified 13 motivational constructs that drive participation in a sport event. These are physical fitness, risk-taking, stress reduction, aggression, affiliation, social facilitation, self-esteem, competition, achievement, skill mastery, aesthetics, value development and self-actualisation. Gillett and Kelly (2006:239) identified similar motives: competition, extrinsic-achievement, socialising, camaraderie and athletic identity. Some people also want their chosen sport to be fun and entertaining, and participate for the 'love of the game' (Buchanan & Dann, 2006). On the other hand, LaChausse (2006) found that participation in a sport event could result from a combination of motives: health orientation, weight concern, goal achievement, competition, recognition, affiliation, coping, life-meaning and self-esteem. Participants are motivated by the chance to spend more time with family members, friends and business associates, while participant performance is motivated by peer and family

relations in the sport setting, such as friendship, peer acceptance, family presence and social interaction (Weiss & Duncan, 1992; Jamber, 1999; McDonald *et al.*, 2002).

Given the above findings, people participate in sporting events for various reasons. The motivations of adult sport participants are different from those of their younger cohorts (Hritz & Ramos, 2008). Adult swimmers rate health and fitness as more important than social status associated with participating in their sport, or having fun, that younger swimmers report. However, older adults are more motivated to have fun, while younger adults in their 20s and 30s are more motivated to be with friends and family (Brodikin & Weiss, 1990). Other significant variables were also revealed when examining the motives of the adult swimming participants such as age, gender and past experience (Hritz & Ramos, 2008). Moreover, adult swimming participants are significantly affected by their past experience at swimming events and the number of swim competitions they participate in a year (Hastings *et al.*, 1995; Hritz & Ramos, 2008). Gill *et al.* (1996) found differences between the genders: women are more interested in fitness and health issues, while men are more inclined to compete to win.

However, having fun, being physically fit, making friends and seeking achievement may well be important motives for participation in swimming events, but they change over time or are dependent on age, gender, ability and skill level (Robinson & Gammon, 2004; Buchanan & Dann, 2006). Even within particular activities, participation profiles, behaviours, motives and experiences vary considerably. Therefore, marketers and sport event organisers need to recognise that swimming participants should be regarded as heterogeneous, as they do not have the same interests and needs (Hinch & Higham, 2004; Weed & Bull, 2004). Given the heterogeneity of participants, motivation alone cannot explain why they participate in a sport event. Demographic characteristics such as age, gender and education can increase the predictability of the level of participation in a sport event based on motivation (Zhang *et al.*, 2001). Hence, market segmentation, which divides potential participants into identifiable groups that share similar characteristics and exhibit common behaviour (Kotler, 1993), allows marketers to identify potential target markets and customise marketing strategies for these groups (Green, 2003; Casper & Stellino, 2008).

The profile of sport participants is male, physically active, college educated, relatively affluent, and young (18-44 years old), willing to travel long distances to participate, likely to engage in active sport tourism well into retirement, tends to participate in more than one activity and engages in repeat activity (Delpy, 1998; Gibson, 1998; Hemmati Nezhad *et al.*, 2009; Streicher & Saayman, 2009; Cook *et al.*, 2010). Sport-based events should identify committed participants, as they will play a more essential role in achieving the goals of the event, including revenue generation (Iwasaki & Havitz, 2004). The successful marketing and long-term sustainability of any sport-based event, such as the Midmar Mile, is dependent on the profile of the (swimming) participants together with the motives that attract them to the event (Gill & Williams, 2008).

PURPOSE

The purpose of this research was to segment swimmers at the Midmar Mile based on their motives for participation. The results can be used to encourage wider participation, provide a more satisfying experience, help athletes (children and adults) fully benefit from their

experience and persuade swimmers to return which, in turn, can produce a greater prestige and financial return not only for the event, but possibly for the wider travel destination as well (Hritz & Ramos, 2008). As this approach has never been applied to swimmers or any other sport participants in South Africa, the research will also expand the limited knowledge and literature base concerning the motives of different sport participants in the country.

METHOD OF RESEARCH

The data was gathered during the registration process at the Midlands Mall in Pietermaritzburg from 10-12 February 2010. Field workers were trained to ensure that they understood the aim of the study and the questionnaire, and that they targeted respondents representative of the profile provided by the event organisers (that is, an even distribution of younger and older participants). Respondents were also briefed beforehand on the purpose of the research, to ensure that they participated willingly and responded openly and honestly. Approximately 500 self-administered questionnaires were distributed during the registration process, of which 461 completed questionnaires were included in the analysis. According to Cooper and Emory (1995:207), for any population of 100 000 (N) the recommended sample size (S) is 384. Since 13 755 swimmers finished the race in 2009, the number of completed questionnaires is greater than the required number.

Questionnaire

The survey questionnaire was divided into questions concerning the participants' profile (age, gender, home language, occupation, province and country of origin, marital status, level of education), socio-economic information (length of stay, group size, spending behaviour, mode of transport and type of accommodation), behaviour (number of years participating, initiator of participation, category and other sport events attended), and motives for participation. The content of the questionnaire was based on the work of Gill *et al.* (1983), Brodtkin and Weiss (1990), Hritz and Ramos (2008), and Streicher and Saayman (2009). The section on motives for participation measured 19 items on a five-point Likert scale: respondents were asked to indicate how important they considered each item (1=not at all important; 2=less important; 3=important; 4=very important; and 5=extremely important).

Statistical analysis

Microsoft® Excel® was used to capture and analyse the data. SPSS (2007) was used to analyse the data further. The analysis comprised of four stages. Firstly, a general profile of the participants was compiled. Secondly, a principal component factor analysis, using an oblimin rotation with Kaiser Normalisation was performed on the 19 motivational items, to explain the variance-covariance structure of the set of variables through a few linear combinations of these variables. The Kaiser-Meyer-Olkin measure of sampling adequacy was used to determine whether the covariance matrix was suitable for factor analysis. Kaiser's criteria for the extraction of all factors with eigenvalues larger than 1 were used. Items with a factor loading above 0.3 were considered as contributing to a factor, whereas items with factor loadings lower than 0.3 were considered as not correlating significantly with a factor (Steyn, 2000). Any item that cross-loaded on two factors with factor loadings greater than 0.3, was categorised in the factor where it could be best interpreted. A reliability coefficient (Cronbach's alpha) was computed to estimate the internal consistency of each factor. All

factors with a reliability coefficient above 0.6 were considered to have acceptable internal consistency. As another measure of reliability, the average inter-item correlations were also computed and, according to Clark and Watson (1995), the average inter-item correlation should lie between 0.15 and 0.55.

Thirdly, two types of cluster analyses were undertaken to distinguish different groups/segments of swimmers. A cluster analysis is “a multivariate interdependence technique, whose primary objective is to classify objects into relatively homogeneous groups based on the set of variables considered, and is mostly an exploratory technique” (Hair *et al.*, 2000: 594). Hierarchical clustering makes no assumptions concerning the number of groups or group structure. Instead, the members are grouped together based on their natural similarity (Johnson & Wichern, 2007). This research did not take an *a priori* view of which data points should fall into which segment. Rather, a hierarchical cluster analysis was used to explore the natural structure of the data, by means of Ward’s method with Euclidean distances. Based on the most viable number of clusters obtained from the hierarchical cluster analysis, K-means clustering was performed on the motivational factor scores. K-means clustering is a non-hierarchical technique for grouping items (rather than variables). With K-means clustering, the data is divided into a given number (K) of clusters, where the researcher chose K from the hierarchical dendrogram. Each item is assigned to a cluster based on distances from the mean value of the cluster, using the Euclidean distance (Johnson & Wichern, 2007). In this case, the number of clusters chosen was based on the results of the initial hierarchical cluster analysis, and K was chosen as three groups in the analysis.

Lastly, after identifying the clusters, multivariate statistics were used to examine any statistically significant differences between the motivational clusters. The demographic profile of the clusters was established through two-way frequency tables and Chi-square tests, while any significant differences in continuous variables between clusters were investigated using ANOVAs with Tukey’s multiple comparisons. The study employed demographic variables (age, gender, home language, province of origin, marital status, level of education), as well as behavioural variables (average spending per person, length of stay, repeat visitation, category participated in, initiator of participation, other tourist attractions visited, type of accommodation) to examine whether statistically significant differences existed among different groups.

RESULTS OF THE RESEARCH

This section provides an overview of the profile of the swimmers who participated in the Midmar Mile, presents an analysis of motives for participation, and discusses the results of the cluster analysis and K-means clustering.

Profile of swimmers in the Midmar Mile

As the results in Table 1 shows, swimmers who participated in the Midmar Mile were mainly male (59%), English-speaking (79%), not married (47%) and originated from either KwaZulu-Natal (59%) or Gauteng (30%). They were, on average, 32 years old, had a high level of education, traveled in large groups (typically 6 persons), and stayed only one night in Midmar. A participant spent on average R1 506.33 during the event. Swimmers had taken

part in the race an average of 4 times and also participated in other endurance events such as the Comrades Marathon.

TABLE 1: PROFILE OF MIDMAR MILE SWIMMERS

Category	Profile of swimmers
Gender	Male (59%); Female (41%)
Language	English (79%)
Age	Average age of 32 years
Marital status	Not married (47%); Married (44%)
Level of education	Diploma/Degree (30%)
Occupation	Student (31%) and Professional (26%)
Group size	Average of 6 persons
Length of stay	Average of 1 night
Average spending	R1 506.33
Province of origin	KwaZulu-Natal (59%); Gauteng (30%)
Number of times participated	First-time (33%); Average of 4 times
Initiator of participation	Self (46%)
Other sports events participated in	1. Comrades Marathon 2. Old Mutual Two Oceans Marathon 3. Cape Argus Cycle Tour 4. Duzi Canoe

Results of the factor analysis

Using oblimin rotation with the Kaiser Normalisation, the pattern matrix of the principal component factor analysis identified three factors that were labelled according to similar characteristics (Table 2). The three factors accounted for 51% of the total variance. All factors had relatively high reliability coefficients, ranging from 0.68 (the lowest) to 0.84 (the highest). The average inter-item correlation coefficients, with values between 0.31 and 0.42, also implied internal consistency for all factors. Moreover, all items loaded on a factor with a loading greater than 0.3 and relatively high factor loadings indicate a reasonably high correlation between the delineated factors and their individual items. The Kaiser-Meyer-Olkin measure of sampling adequacy of 0.87 also indicated that patterns of correlation were relatively compact and yield distinct and reliable factors (Field, 2005:640).

Factor scores were calculated as the average of all items that contribute to a specific factor so that they could be interpreted on the original 5-point Likert scale of measurement. As shown in Table 2, the following motivational factors were identified:

TABLE 2: FACTOR ANALYSIS RESULTS OF MOTIVES TO PARTICIPATE IN THE MIDMAR MILE

Motivational factors and items	Factor loading	Mean value	Reliability coefficient	Average inter-item correlation
<i>Factor 1: Socialisation and escape</i>		3.19	0.84	0.42
To spend time with friends	0.77			
To relax	0.72			
To get away from routine	0.65			
To spend time with family	0.70			
It is a sociable event	0.59			
To meet new people	0.56			
The atmosphere of the Midmar Mile	0.52			
Because the whole family can participate	0.40			
<i>Factor 2: Fun and entertainment</i>		2.10	0.73	0.41
To explore a new area	0.81			
To meet well-known personalities	0.80			
Reason to visit KwaZulu-Natal	0.78			
It is an international event	0.63			
I am participating as part of a corporate team	0.56			
I must participate to qualify for the ironman/biathlon etc.	0.50			
<i>Factor 3: Intrinsic achievement</i>		3.45	0.68	0.31
The Midmar Mile is a huge challenge	0.61			
The Midmar Mile tests my level of fitness & endurance	0.41			
Because the event is well organised	0.63			
I do it annually	0.66			
Because I enjoy swimming	0.72			

Factor 1: Socialisation and escape

Socialisation and escape received the second highest mean value of 3.19, with a reliability coefficient of 0.84 and an average inter-item correlation of 0.42. *Socialisation* is supported by research done by Weiss and Duncan (1992), Croft *et al.* (1999), Jamber (1999), McDonald *et al.* (2002), Gillett and Kelly (2006), LaChausse (2006). Streicher and Saayman (2009) found that *Escape* was a major motivator for participating in a sporting event.

Factor 2: Fun and entertainment

Although Brodtkin and Weiss (1990) and Gillett and Kelly (2006) found that participants want their sport to be fun and entertaining, swimmers in the Midmar Mile considered this motive to be less important. The factor *Fun and entertainment* obtained the lowest mean value (2.10), with a reliability coefficient of 0.73 and an average inter-item correlation of 0.41.

Factor 3: Intrinsic achievement

Obtaining the highest mean value (3.45), *Intrinsic achievement* was the most important motive for participating in the Midmar Mile. The reliability coefficient was 0.68 and the average inter-item correlation was 0.31. Research by both Gill *et al.* (1983) and Streicher and Saayman (2009) found that participants were mainly motivated by intrinsic motives.

Results of the cluster analysis: Ward's method with Euclidean distances

To enhance the understanding of the factor structure, the motivation factors were subjected to a hierarchical cluster analysis based on all cases in the data set. Using Ward's method and Euclidean distances, a hierarchical cluster analysis determined the clusters' structures based on the motivation factors. As the means of factor scores in Figure 1 shows, a distinction could be made between the two clusters. However, the two clusters only differed on the magnitude of factor scores and not on the motives to participate.

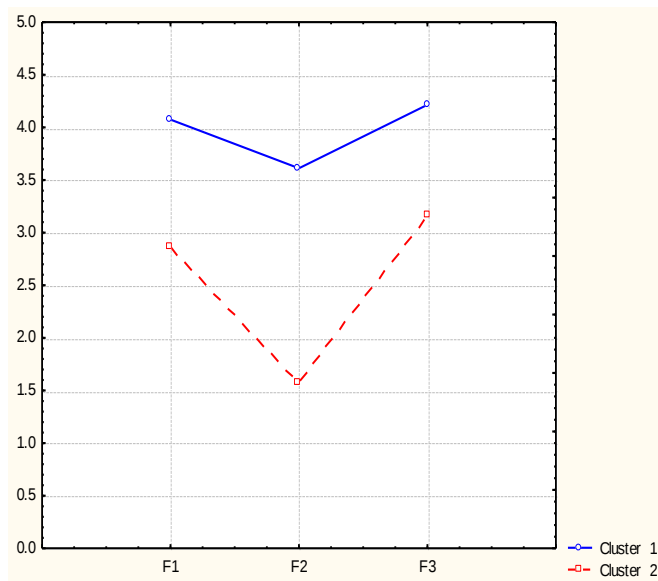


FIGURE 1: TWO CLUSTER SOLUTION: WARD'S METHOD WITH EUCLIDEAN DISTANCE MEASURES

This was verified by the ANOVA and Chi-square analyses. As shown in Table 3, Cluster 1 accounted for 80% of the respondents and Cluster 2 accounted for only 20%. Compared to Cluster 1, Cluster 2 rated all the motivational factors higher, especially *Fun and entertainment*. Based on the results, it seemed as if Cluster 2 was the *Zealous swimmers*, while Cluster 1 appeared to be the *Preponderant swimmers*.

TABLE 3: ANOVA AND TUKEY'S POST HOC MULTIPLE COMPARISONS OF RESULTS FOR MOTIVATIONAL FACTORS IN TWO CLUSTERS OF MIDMAR MILE PARTICIPANTS

Motivational factors	Cluster 1 Zealous swimmers (N = 307)	Cluster 2 Preponderant swimmers (N = 76)	F-ratio	Significant level
Socialisation and escape	2.83	4.14	0.054	0.816
Fun and entertainment	1.57	3.64	61.170	0.000*
Intrinsic achievement	3.12	4.28	0.508	0.476

Chi-square tests were used to determine whether significant demographic differences existed between the two clusters. Table 4 shows that the two clusters differed significantly based on type of accommodation, future attendance intention and visits to tourist attractions in the area.

Cluster 1 seemed to consist mostly of local residents, while Cluster 2 appeared to be participants from other provinces (travelling further to attend the race) who also stayed in hotels. Cluster 2 was more likely to visit other tourist attractions in the area during their stay, while a larger percentage will also attend the event again. More participants in Cluster 1 indicated that they were unsure whether they would participate again and did not visit other tourist attractions.

TABLE 4: CHI-SQUARE TEST RESULTS OF TWO CLUSTERS OF MIDMAR MILE PARTICIPANTS

Characteristics	Cluster 1 Zealous swimmers (N = 307)	Cluster 2 Preponderant swimmers (N = 76)	Chi-square value	df	Sign. level	Phi-value
<i>Type of accommodation</i>						
Local resident	Yes=52%; No =48%	Yes=32% No =68%	14.225	1	0.000*	0.182
Hotel	Yes=3%; No =97%	Yes=10% No =90%	9.816	1	0.002*	0.151
<i>Attend again?</i>						
Yes, definitely	72%	87%	11.652	2	0.003*	0.166
No, definitely not	1%	1%				
Perhaps	27%	12%				
<i>Visit other tourist attractions?</i>						
Yes	21%	41%	17.595	1	0.000*	0.205
No	79%	59%				

Results of the K-means clustering

Based on the results obtained in the initial cluster analysis, the data was investigated further. Three distinct clusters appeared when the number of nights in Midmar was added to the hierarchical cluster analysis together with the motives to participate (as Figure 2 shows). Therefore, K-means clustering was used and K was set at 3.

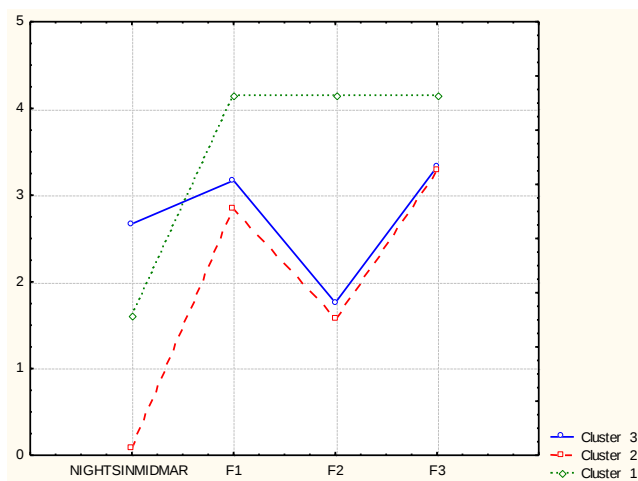


FIGURE 2: THREE CLUSTER SOLUTION: MOTIVES AND NUMBER OF NIGHTS IN MIDMAR

Table 5 shows the difference in means between the three clusters and reveals the importance of each of the motivational factors for each cluster's participation. *Intrinsic achievement* received the highest mean value of all three clusters followed by *Socialisation and escape* and *Fun and entertainment*.

TABLE 5: ANOVA AND TUKEY'S POST HOC MULTIPLE COMPARISON RESULTS FOR MOTIVATIONAL FACTORS IN THREE CLUSTERS OF MIDMAR MILE PARTICIPANTS

Motives to participate	Cluster 1 <i>Devotees</i> N=93	Cluster 2 <i>Recreationists</i> N=228	Cluster 3 <i>Aficionados</i> N=139	F-ratio	Sig. level
<i>Socialisation and escape</i>	4.24 ^a	2.80 ^b	3.16 ^c	86.859	<0.0001
<i>Fun and entertainment</i>	4.09 ^a	1.58 ^b	1.78 ^b	316.375	<0.0001
<i>Intrinsic achievement</i>	4.34 ^a	3.16 ^b	3.33 ^b	58.931	<0.0001

* Statistically significant difference: $p \leq 0.05$

^a Group differs significantly from type (in row) where ^b is indicated

^c Group differs significantly from type (in row) where ^a and ^b are indicated

These results correspond with the results of the total group (Table 3). Cluster 1 contained 93 respondents (20%) and had the highest mean scores for all the motivational factors, and stayed on average between one and two nights in Midmar. All three motivational factors were considered extremely important, and participants came only for the race. This cluster was therefore labelled the *Devotees*. Cluster 2 contained 228 respondents (50%), representing the largest sample of the respondents, and had the lowest mean values across all three motivational factors. On average, these participants came only for the day of the race or stayed one night, and were thus named the *Recreationists*. Cluster 3 had 139 respondents (30%) with approximately the same mean values for factors as Cluster 2, but relatively lower mean scores compared to Cluster 1. This cluster stayed three nights on average and was therefore labelled the *Aficionados*. A MANOVA was performed, which found that the three clusters at the Midmar Mile have statistically significant different motives for participating, based on the identified motivational factors and Wilks' Lamda ($p < 0.001$) (Table 6).

TABLE 6: ANOVA AND TUKEY'S POST HOC MULTIPLE COMPARISON RESULTS FOR MOTIVATIONAL FACTORS IN THREE CLUSTERS OF MIDMAR MILE PARTICIPANTS

Characteristics	Cluster 1 <i>Devotees</i> N=93	Cluster 2 <i>Recreationists</i> N=228	Cluster 3 <i>Aficionados</i> N=139	F-ratio	Sign. level
Age	30.60	31.68	31.51	0.292	0.7470
Spending per person (R)	704.00 ^a	343.85 ^b	1403.84 ^c	35.056	<0.0001
Group size	6.47	4.71 ^a	7.91 ^b	6.554	0.0020*
No. of people paid for	3.08	2.81	2.89	0.168	0.8480
No. of nights in Midmar	1.56 ^a	0.07 ^b	2.70 ^c	487.734	<0.0001
No. of years participated	4.87	4.13	4.07	1.056	0.3490

^oExpenditure per person (in Rand), which was calculated by adding the spending of the respondent on the various components, and dividing the total by the number of people that respondents' indicated they were financially responsible for.

* Statistically significant difference: $p \leq 0.05$

^a Group differs significantly from type (in row) where ^b is indicated

^c Group differs significantly from type (in row) where ^a and ^b are indicated

Using ANOVAs to determine the differences in other characteristics of the participants, the analysis revealed that spending per person, group size and number of nights in Midmar differed significantly between the clusters (Table 6). The *Aficionados* (Cluster 3) spent significantly more money (mean=R1 403.84) compared to the *Devotees* (Cluster 1), who spent half that amount (mean=R704.00), and the *Recreationists* (Cluster 2), who spent the least (mean=R343.85). *Recreationists* (Cluster 3) attended the event with the largest travel party (mean=7.91 persons) compared to the *Recreationists* (Cluster 2) who travelled to the event with an average of 4.71 persons. The *Aficionados* (Cluster 3) stayed the most nights in Midmar (mean=2.70 nights), while the *Devotees* (Cluster 1) stayed an average of 1.56 nights. *Recreationists* (Cluster 2) did not stay over in Midmar and were most probably local residents. The clusters showed no significant difference in the number of people paid for, age and number of years participated in the Midmar Mile. As Table 6 shows, participants in all 3

clusters were in their early thirties, paid for an average of 3 persons and had participated in the event between 4 and 5 times.

Two-way frequency tables were constructed to provide a complete demographic profile for each of the three clusters, and Chi-square tests were used to determine whether significant demographic differences existed between them ($p < 0.05$). Table 7 provides a summary of the profile of the three clusters based on various demographic and behavioural variables. Statistically significant differences were found for language, province, type of accommodation, initiator of participation (friends), future attendance and other tourist attractions attended.

The participants were mostly English speaking, but more *Aficionados* (Cluster 3) and *Devotees* (Cluster 1) speak Afrikaans than *Recreationists* (Cluster 2). It is clear that *Recreationists* (Cluster 2) were local residents living in Midmar or in the nearby region of Pietermaritzburg, since 94% of the respondents in this cluster resided in KwaZulu-Natal. *Aficionados* (Cluster 3) included participants from all over the country, although most were from Gauteng, while *Devotees* (Cluster 1) included a high percentage of participants from KwaZulu-Natal and Gauteng, as well as international participants. The type of accommodation confirms that *Recreationists* (Cluster 2) were local residents (77%). While a significant proportion of *Devotees* (Cluster 1) were local residents (32%), non-local participants preferred to stay in guesthouses or bed and breakfast establishments (22%), with family and friends (11%), or camping (11%). *Recreationists* (Cluster 2) also preferred to stay at guesthouses or bed and breakfast establishments (41%) or with family and friends (21%).

Devotees (Cluster 1) were the most likely to attend the event again (87%), followed by *Aficionados* (Cluster 3) (80%), while *Recreationists* (Cluster 2) were more uncertain (30%). *Devotees* (Cluster 1) and *Aficionados* (Cluster 3) also visited other tourist attractions while in the area (43% and 44% respectively). With regard to the initiator of participation, friends convinced more *Aficionados* (Cluster 3) (37%) than *Recreationists* (Cluster 2) (23%) and *Devotees* (Cluster 1) (16%).

No statistically significant differences existed between the three clusters based on gender, marital status, level of education or category participated in. More male swimmers were represented in all three clusters. The majority of participants in each cluster had a matric certificate or a diploma/degree, while school participants were *Devotees* (Cluster 1). *Devotees* (Cluster 1) mainly participated in four categories at the event: Company team (19%), Non-company team (15%), Family team (16%) and Men 31+ years (18%). Similarly, *Recreationists* participated in the categories Company team (16%), Non-company team (18%), Family team (13%) and Men 31+ years (16%), and also took part in the Women 31+ year's category (12%). *Aficionados* (Cluster 3) mainly participated in the Non-company category (27%), followed by Men 31+ years (19%), Family team (17%), Women 31+ years and Company team (14% respectively).

FINDINGS AND IMPLICATIONS

Swimmers at the Midmar Mile were motivated by *Socialisation and escape*, *Fun and entertainment* and *Intrinsic achievement*. The cluster analysis, which segmented participants

according to these motives, revealed three distinct segments that were labelled: *Devotees*, *Aficionados* and *Recreationalists*. Across all three clusters, *Intrinsic achievement* was the most important motive for participating in the Midmar. However, in addition to being goal-orientated, participants were also driven by the need for social interaction and escape. The relative under-emphasis of *Fun and entertainment* by all clusters contradicts the findings of Buchanan and Dann (2006) that fun and enjoyment are the most important reasons for participating in action sport.

Based on these findings, the following implications are evident:

- (1) Travel motives, and therefore clusters of participants, differ from one event to another, which means that what attracts participants to one event may not necessarily work for another. Marketers and event organisers therefore have to determine the main motives and markets at their particular sport event. The goals of the event must also be taken into consideration. For example, this type of analysis is of paramount importance for an event that is used as a way of extending the tourism season or generating 'new money'.
- (2) Both *Devotees* and *Aficionados* could be regarded as viable segments with long-term financial and sustainable prospects. *Devotees* appeared to be the most loyal and determined participants, with the highest mean values across all motivational factors and had participated in the event most times. However, *Aficionados* spent significantly more money, travelled further and in larger groups, and stayed more nights in Midmar. The *Recreationists* represented the largest sample of participants at the event, but were mostly local residents and had a minimal economic impact.

The implication is that marketers of the Midmar Mile should follow a two-pronged approach. The priority should be to attract more *Devotees* and *Aficionados* to the event, so that the event will have a greater economic impact in the region and benefit more people. The second strategy should be to give *Recreationists* (local market), the opportunity to participate in and support a major event. *Recreationists* are also cheaper to attract, as marketers can communicate with potential participants through schools. Both marketing campaigns must combine the achievement of personal (intrinsic) goals with socialisation and escape.

As repeat participation is imperative for the continued success of the Midmar Mile, ways need to be found to retain current loyal participants and, most importantly, encourage others to return. One way could be to introduce a 'loyalty club' (a mile-long club), where members can accumulate discounts on, for example, registration fees and accommodation, based on the number of times they have participated in the event.

- (3) *Devotees* and *Aficionados* also visited other tourist attractions in the area during their stay, and therefore have the potential to contribute positively to tourism in the region. Tourist attractions in the area should thus be marketed more extensively to participants. Information should be made available to them on the website, at accommodation establishments and in the form of brochures. Special tour packages of the area could also be compiled, which would further enhance the fulfilment of participants' need for socialisation and escape.

TABLE 7: CHI-SQUARE RESULTS OF THE THREE MIDMAR MILE PARTICIPANT CLUSTERS

Characteristics	Cluster 1 Devotees N=93	Cluster 2 Recreationists N=228	Cluster 3 Aficionados N=139	Chi-square value	df	Significance level	Phi- value
Gender				5.458	2	0.065	0.110
Male	68%	54%	60%				
Female	32%	46%	40%				
Language				24.933	4	0.000*	0.234
Afrikaans	21%	12%	33%				
English	78%	87%	65%				
Other	1%	1%	1%				
Province				235.475	16	0.000*	0.718
KwaZulu-Natal	48%	94%	13%				
Gauteng	37%	5%	66%				
Free State	5%	1%	9%				
Western Cape	1%	0%	4%				
Mpumalanga	4%	0%	3%				
Northern Cape	1%	0%	2%				
North West	0%	0%	1%				
Limpopo	0%	0%	1%				
Outside RSA	3%	0%	1%				
Marital status				7.729	8	0.460	0.133
Married	46%	45%	43%				
Not married	42%	48%	50%				
Divorced	6%	6%	5%				
Widow/er	2%	0%	1%				
Living together	5%	2%	2%				

TABLE 7: CHI-SQUARE RESULTS OF THE THREE MIDMAR MILE PARTICIPANT CLUSTERS (cont.)

Characteristics	Cluster 1 Devotees N=93	Cluster 2 Recreationists N=228	Cluster 3 Aficionados N=139	Chi-square value	df	Significance level	Phi- value
Level of educ.				19.541	12	0.076	0.211
No school	3%	2%	3%				
Matric	33%	21%	21%				
Diploma/degree	25%	34%	27%				
Post-graduate	10%	16%	21%				
Professional	9%	13%	17%				
Scholar	20%	14%	12%				
Type of accom.							
Local resident	Yes=32%; No=68%	Yes=77%; No= 23%	Yes= 7%; No=93%	179.989	2	0.000*	0.626
Family or friends	Yes=11%; No=89%	Yes= 7%; No= 93%	Yes=21%; No=79%	17.115	2	0.000*	0.193
Guesthouse/B&B	Yes=22%; No=78%	Yes= 5%; No= 95%	Yes=41%; No=59%	71.051	2	0.000*	0.393
Hotel	Yes=12%; No=88%	Yes= 1%; No= 99%	Yes= 9%; No=91%	19.378	2	0.000*	0.205
Camping	Yes=11%; No=89%	Yes= 1%; No= 99%	Yes= 9%; No=91%	18.484	2	0.000*	0.200
Rent full house	Yes= 4%; No=96%	Yes= 0%; No=100%	Yes= 6%; No=94%	9.812	2	0.007*	0.146
Initiator of partic.							
Self	Yes=56%; No=44%	Yes=48%; No= 52%	Yes=39%; No=61%	6.725	2	0.035	0.121
Spouse	Yes= 1%; No=99%	Yes= 0%; No=100%	Yes= 1%; No=99%	1.944	2	0.378	0.065
Media	Yes= 2%; No=98%	Yes= 0%; No=100%	Yes= 1%; No=99%	4.293	2	0.117	0.097
Friends	Yes=16%; No=84%	Yes=23%; No= 77%	Yes=37%; No=63%	20.266	4	0.000*	0.210
Children	Yes= 7%; No=93%	Yes= 9%; No= 91%	Yes= 5%; No=95%	1.901	2	0.386	0.064
Club	Yes= 5%; No=95%	Yes= 9%; No= 91%	Yes= 6%; No=94%	2.197	2	0.333	0.069
Organisation	Yes= 2%; No=98%	Yes= 4%; No= 96%	Yes= 1%; No=99%	1.553	2	0.460	0.058

TABLE 7: CHI-SQUARE RESULTS OF THE THREE MIDMAR MILE PARTICIPANT CLUSTERS (cont.)

Characteristics	Cluster 1 Devotees N=93	Cluster 2 Recreationists N=228	Cluster 3 Aficionados N=139	Chi-square value	df	Significance level	Phi- value
Category							
Ironman/woman	Yes= 7%; No=93%	Yes= 4%; No= 96%	Yes= 7%; No=93%	2.475	2	0.290	0.073
Biathlon	Yes= 5%; No=95%	Yes= 2%; No= 98%	Yes= 3%; No=97%	7.165	4	0.127	0.125
Disabled	Yes= 2%; No=98%	Yes= 0%; No=100%	Yes= 1%; No=99%	4.293	2	0.117	0.097
Company team	Yes=19%; No=81%	Yes=16%; No= 84%	Yes=14%; No=86%	1.351	2	0.509	0.054
Non comp. Team	Yes=15%; No=85%	Yes=18%; No= 82%	Yes=27%; No=73%	5.525	2	0.063	0.110
Family team	Yes=16%; No=84%	Yes=13%; No= 87%	Yes=17%; No=83%	1.246	2	0.536	0.052
Woman 31+ years	Yes= 4%; No=96%	Yes=12%; No= 88%	Yes=14%; No=86%	6.085	2	0.048	0.115
Men 31+ years	Yes=18%; No=82%	Yes=16%; No= 84%	Yes=19%; No=81%	0.858	2	0.651	0.043
Attend again				13.970	4	0.007*	0.175
Yes, definitely	87%	69%	80%				
No, definitely not	1%	1%	1%				
Perhaps	12%	30%	19%				
Visit other tourist attractions				68.725	2	0.000*	0.394
Yes	43%	9%	44%				
No	57%	91%	56%				

CONCLUSION

This study determined the motives of swimmers for participating in the Midmar Mile and clustered the participants according to these motives. This type of research was conducted for the first time at a swimming event in South Africa and only the second time at a sporting event in the country. In their study of the motives of cyclists at the Cape Argus Cycle Tour, Streicher and Saayman (2009:12) revealed five motives: *Socialisation, Event attractiveness, Personal motivation, Escape and relaxation* and *Event attributes*. Comparing the results of these two studies, it is clear that swimmers and cyclists have significantly different motives for participating in their respective sport. However, Midmar Mile swimmers' motives are primarily intrinsic, which supports Streicher and Saayman (2009) findings. This study confirms the argument that motives for participating differ according to the sporting event, and supports the view that marketers and sport event organisers must understand that participants have different motives and so should not be regarded as a homogenous group (Hinch & Higham, 2004; Weed & Bull, 2004).

The contribution of this research is threefold: (1) from a methodological point of view, capturing data from a questionnaire and then applying K-means clustering is an effective way of clustering participants at a sport event; (2) identifying the unique motives of swimmers at an open-water swimming event, and determining the different groups/segments of participants at such an event; and (3) thereby comprehensively profiling swimmers at the event. The Midmar Mile organisers and marketers can use these research findings to develop an effective marketing strategy that satisfies the needs and wants of the swimmers, and increase the event's economic impact, which is important for the event's sustainability. This type of research is valuable to sport events, as it assists in making informed and cost-effective marketing and product development decisions. It is thus recommended that similar research (comparing participants' motives and whether they are primarily intrinsic, extrinsic or a combination) be undertaken for other South African sporting events.

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