©Journal of Sports Science and Medicine (2006) **CSSI,** 28-34
http://www.jssm.org

Combat Sports Special Issue

Research article

PARTICIPATION MOTIVATION IN MARTIAL ARTISTS IN THE WEST MIDLANDS REGION OF ENGLAND

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Published (online): 1 July 2006

ABSTRACT
The objectives were to identify the participation motivations and the perceived importance of certain participation factors in martial artists in the West Midlands, England, UK. A 28-item adapted version of the Participation Motivation Questionnaire with additional demographic questions was distributed to 30 martial arts clubs in the West Midlands region. Eight questions that assessed the perceived importance for participation of progression through grades, learning self defence skills, technical ability of instructors, cost of participating, development of confidence, underpinning philosophy and instructional style were included. Seventy-five questionnaires were returned from a total of 11 clubs from across representing practitioners in Tai Chi, Karate, Kung fu, Aikido, Jeet Kune Do, British Free Fighting, Taekwon-Do and Jujitsu. Results indicated that the rank order in terms of participation motives was: 1-Affiliation; 2-Friendship; 3-Fitness; 4-Reward/status; 5-Competition; 6-Situational and 7-Skill development. Participants who trained for more than 4 hours per week placed greater importance on the underpinning philosophy of the martial art. Findings suggest that whilst there is a gender discrepancy in participation level, once engaged, females were equally committed to weekly training. The 'style' of the instructor is of paramount importance for enhancing student motivation to participate. High volume practitioners would appear to be fully immersed in the holistic appreciation of the martial art through increased value placed on its underpinning philosophy.

KEY WORDS: Aspirations, self-defence, physical fitness, recreation, martial arts.

INTRODUCTION

The data from the Sport England, 2002 survey of 'Participation in Sport in England' (Sport England, 2002) highlight interesting trends in martial arts participation in England. From the 17,463 respondents, 2.1% indicated that they had taken part in martial arts (including self defence) in the previous 12 months and on average had participated 6 times in four weeks prior to the date of data collection. Gender differences in participation were apparent with 2.5% of the male and 1.7% of the female respondents actively involved in the previous 12 months with participation rates decreasing with age group including rates of 6.8% of 16-19 year olds, 3.9% of 25-29 year olds and 0.6% of 60-69 year olds (Sport England, 2002).

The lowest participation rate in all sport in the previous 4 weeks prior to data collection was in the West Midlands (54%). Location of participation identified that 2.1% took part at an indoor facility with 2.4% practicing their martial art at home, 56.2% reported attending some form of club with 17.5% indicating a health/fitness setting, 4.5% at a social club and 18.7% at a sports club. Of those who took part in the martial arts, 9.8% had taken part

competitively in the previous 12 months and 81.3% reported receiving tuition. Respondents who reported that they would like to take up a sport or recreational activity that they were not currently engaged identified martial arts in the top ten preferred activities (Sport England, 2002).

Much of the previous sports psychology work regarding participant motivation has been undertaken using variations of the original 30-item Participation Motivation Questionnaire (PMQ) (Gill et al., 1983). Whilst the PMQ has been adapted and used in many sport and exercise (Trembath et al., 2002), physical activity (Kolt et al., 2004) and school physical education settings (Zahariadis and Biddle 2000), the number of factors and indeed the component items identified through factor analysis have varied dependent upon the sample under investigation (Gill et al., 1983; Koivula, 1999). As such, whilst a basic 6 to 8 factor structure has been found, any use of the questionnaire requires identification of these factors and subsequent scale reliability support before the factors can be deemed as appropriate in the sample involved. The use of principal components analysis to identify such factors and the use of an orthogonal rotation is the most commonly reported method in social sciences for these purposes (Fabrigar et al., 1999).

Previous martial arts participation motivation research has focussed primarily on specific martial arts (Zaggelidis et al., 2004), in specific population groups (Stefanek, 2004) or has been undertaken outside the UK (Twemlow et al., 1996). Research using a modified 28-item PMQ in judo and karate practitioners revealed no significant differences between the two sports and genders as regards to the main motives encountered for entering the sports in the sample of 113 mixed ability males and females. The three most highly ranked motives identified were interest in the sport, health benefits and character cultivation (Zaggelidis et al., 2004). Twemlow et al. (1996) investigated motives using a 13-item questionnaire in 170 male and female attendees aged 5–63, at a martial arts school in the USA. Whilst self defence and physical fitness motives were deemed to be the most important individual item motivations, the authors suggest that students could be identified by the three following 'perceived needs': 'physical and recreational'; 'intellectual and emotional', and 'integrated self-transcendent' needs. The reliability of responses to the questionnaire from a sample containing such young children, however, should be questioned based upon their reading ability and their understanding of the nature of the questions. Unfortunately, the data analysis in both studies relied entirely upon ranking of individual item scores and did not seek to explore any common underlying factors through the use of factor analysis. The existence of any more broadly identifiable motives for participation was not investigated therefore and as such, the conclusions based on the identified 'motives' from either individual items or visual inspection of rank orders is less enlightening.

Motives for participation in 250 male and female collegiate Taekwondo participants of varying belt ranks were found to be similar to those motives found in traditional sports, including motivations such as fun, physical exercise, skill development, and friendship (Stefanek, 2004). Additional motives amongst the top ten identified were integrating and improving both mental and physical health, increasing perseverance, and reducing stress with further martial art specific factors including the philosophy of the martial arts, suggesting that a mind-body-spirit approach is important to participants. This motive has been highlighted as a key aspect of martial arts participation on several occasions (Iedwab and Standefer, 2000; Lu, 2003). No differences in motivation for participation were found between genders, supporting previous findings (Ebbek et al., 1995; Zaggelidis et al., 2004), or belt rank groups, which is in contrast to the findings of Breese (1998). In his investigation of 72 Taekwon-Do participants in New Zealand, Breese (1998) also identified that motivation for participation was different dependent upon overall time involved in the martial art with those involved for greater than 4 years identifying personal power and control as their primary motivation whilst those involved for less than 2 years identified fitness as their main motivation. Breese (1998) concluded that instructors should be aware of these differential motivations and customise their training regimes accordingly.

Despite the obvious participation interest in England, and the limited research evident in other countries, there is a no published research that has attempted to evaluate participation motivation in martial arts at the national or indeed regional level in England. With the apparent national trends and the paucity of previous research in the areas as its rationale, the aim of this preliminary study was to identify participation motivations and perceived importance of selected participation factors for a variety of martial arts from a regional cohort of practitioners in England.

METHODS

The questionnaire consisted of a 28-item adapted version of the PMQ (Gill et al., 1983) with additional demographic questions relating to grade, club location, primary martial art practices, gender, age, height, weight, experience, length of club

membership, hours of training per week and number of males and females in the club all of which have been suggested as important factors in participation in sport. Also included were 8 questions that investigated the perceived importance of a number of factors previously identified as aspects of martial arts and physical activity participation such as tradition, progression through grades, learning self defence skills, technical ability of instructors, cost of participating, development of confidence, underpinning philosophy and instructional style.

Three hundred questionnaires were sent by post to 30 martial arts clubs in the West Midlands region of England. Club members were asked to complete the questionnaires and return them in the pre-paid envelope provided. The PMQ and perceived importance statements were structured in a 5-point Likert scale using the common prefixes of 'I participate because I …' and 'how important are the following to you…' respectively. Responses were identified as 'very important', 'important', 'somewhat important', 'unimportant' and 'not at all important'.

Due to the variable factor structure of the PMQ identified in previous research, principal component analysis (PCA) was performed to identify the factors evident in this sample. Items and factors were selected by the criteria of factor loadings above 0.40 and eigenvalues above 1.0 according to Ntoumanis (2001).

RESULTS

Seventy-five questionnaires were returned (return rate of 25%) from a total of 11 clubs from across the West Midlands representing practitioners in Tai Chi, Karate, Kung fu, Aikido, Jeet Kune Do, British Free Fighting, Taekwon-Do and Jujitsu. Respondent demographic data are presented in Table 1.

Table 1. Respondent demographic data. Data are means (±SD).

	Male (n = 56)	Female (n = 18)
Age (years)	31 (12)	28 (10)
Mass (kg)	78 (16)	55 (19) *
Height (m)	1.74 (.09)	1.53 (.32)
Time practised (years)	7.4 (8.0)	3.3 (3.0) *
Time with club (years)	4.5 (4.0)	2.2 (1.7) *
Hours practised per week	7.9 (9.6)	5.2 (6.7)

* $p < 0.01$.

Mean scores in order from most important to least important for the 7 factors identified can be seen in Table 2.

The belt grades of the respondents were varied ranging from white belt to 6th dan black belt. Only 29 of the respondents, however, entered their current belt grade status and therefore meaningful investigation of belt grade differences was inappropriate with the small numbers in each category. Whilst acknowledging the impact of the small sample size on the appropriateness of the use of the PCA procedure, seven factors were identified (explaining 68% of the variance) as 1-Affiliation; 2-Friendship; 3-Fitness; 4-Reward/status; 5-Competition; 6-Situational and 7-Skill development and their associated Eigenvalues, variance and Cronbach's alpha (α) can be seen in Table 3.

Table 2. Means (±SD) and rank order for seven factors identifiable from PCA.

Factor	Mean (±SD)	Rank order
Affiliation	2.00 (.78)	1 Most important
Fitness	2.09 (.86)	2
Skill development	2.16 (.91)	3
Friendship	2.67 (.98)	4
Rewards / status	3.42 (.87)	5
Situational	3.43 (1.00)	6
Competition	3.69 (1.27)	7 Least important

Gender, experience in martial arts (quartiles) and weekly training hours (quartiles) differences in the seven named factors were investigated using multivariate analysis of variance (MANOVA). The results (Table 4) identified no significant main effects or interaction effects.

Item means for the eight individual questions investigating the perceived importance of tradition, progression through grades, learning self defence skills, technical ability of instructors, cost of participating, development of confidence, underpinning philosophy and instructional style were calculated (Table 5).

Gender, experience in martial arts (quartiles) and weekly training hours (quartiles) differences in the eight individual questions were then investigated using multivariate analysis of variance (MANOVA). The results (Table 6) identified a significant main effect for weekly training hours with subsequent post hoc Bonferroni tests identifying significantly greater importance placed on the underpinning philosophy of the martial art (Wilks' Lambda=.29, F (24, 105) = 2.32, Partial $Eta^2 = 0.34$, $p < 0.05$). Martial artists training for more that 8 hours per week (quartile 4; mean 1.56 ± 0.86) or between 4 to 7.9 hours per week (quartile 3; mean 1.22 ± 0.42) identified the underpinning philosophy as significantly more important to them than both those who trained in up to 2.5 hours per week (quartile 1; 2.38 ± 0.96; $p < 0.05$ and $p < 0.01$ respectively) and those who trained for between 2.5 and 3.9 hours per week (quartile 2; 3.10 ± 1.20; $p < 0.01$ for both).

Table 3. Principal component analysis and reliability results.

Rotated Component Matrix

	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. Affiliation:								
like the instructor	.816							
like the challenge	.705							
enjoy individual aspect	.651							.484
learn new skills	.641							
enjoy being part of a club	.564							
like to have fun	.469							
2. Friendship:								
be with friends/social		.841						
have something to do		.673				.492		
meet new friends		.670						
3. Fitness:								
to stay in good physical shape			.824					
exercise and physical fitness			.805					
4. Reward/status:								
want to be popular				.714				
like to feel important				.714				
release tension			.518	.626				
like the rewards		.481		.514				
do something I'm good at				.470			.452	
5. Competition:								
like to compete					.891			
win and enjoy competition					.755			
6. Situational:								
like the facilities						.597		
parents or close friends want me to take part						.560		
want to gain status or recognition				.454		.467		
7. Skill Development:								
improve martial arts skills							.832	
get to higher level							.565	
8. Undeterminable:								
like to travel								.819
like excitement							.479	.524
Eigenvalues	9.3	2.4	1.8	1.5	1.4	1.4	1.2	1.0
Variance	33.3	8.5	6.3	5.4	5.1	5.0	4.1	3.6
Cronbach's alpha	.86	.76	.77	.76	.84	.80	.77	.73

DISCUSSION

This study offers findings of participation motivation for martial arts in a broad range of martial arts including Tai Chi, Karate (variants), Kung fu, Aikido, Jeet Kune Do, British Free Fighting, Taekwon-Do and Jujitsu and as such represents a unique study sample from a region that has been identified as experiencing the lowest participation rate in all sport in England (Sport England, 2002). The sample in the present study was similar to those found in previously published research in many respects, however, as it included both gender, novice through to very experienced practitioners and a broad age range (Ebbek et al., 1995; Stefanek, 2004; Twemlow et al., 1996; Zaggelidis et al., 2004).

The fact that 76% of the respondents were male is congruent with the greater participation rate in martial arts for males evident in the Sport England survey (Sport England, 2002). Males, compared to females, were also found to have been involved with martial arts for a longer period of time and had belonged to their club longer (Table 1), again suggesting predominantly male participation in the martial arts. There was no significant gender difference found in the mean number of hours trained per week, however, indicating that once involved, females were equally committed to training on a weekly basis. These findings would

Table 4. MANOVA of named factors by gender, experience (quartiles) and weekly training hours (quartiles).

Effect	F (Wilks' Lambda)	Df (hyp, error)	P
Intercept	94.51	7, 37	.000
Experience	1.65	21, 106	.05
Gender	1.18	7, 37	.34
Weekly training	1.62	21, 106	.06
Experience*gender	1.20	21, 106	.26
Experience*weekly training	1.35	42, 176	.09
Gender*weekly training	1.19	21, 106	.27
Experience*gender*weekly training	1.23	14, 74	.27

appear to support the trend apparent for physical activities that identified that despite the lower participation rates in females, the mean number of sessions of physical activity undertaken per week were similar (3.6 for females and 3.2 for males) (Australian Sports Commission, 2005).

Whilst considered a strength of the current study, the diversity of the primary martial arts practiced and their sub-variations and indeed the range of belts held, resulted in low participant numbers in many of the style and belt categories. As such the investigation of differences in participation motivation between the styles and individual belt categories was deemed inappropriate thus not permitting direct comparison to the 'belt group' findings of Breese (1998) and Stefanek (2004). Instead of belt held, therefore, length of involvement with the martial arts was used to reflect level of achievement within the martial art practised in subsequent analyses as has been done in previous publications (Breese, 1998).

Whilst the sample size reduced the suitability of the data from the 28-item PMQ for PCA, it was deemed necessary to use this method to identify the motivating factors in this sample as the PMQ has demonstrated variable factor structure in previous work (Gill et al., 1983; Koivula, 1999). The factors identified, however, all displayed acceptable reliability statistics and thus were appropriate for further investigation in this sample. The four most important emergent factors in descending order were 'Affiliation', 'Fitness', 'Skill Development' and 'Friendship' (Table 2). As such the findings of this study support the contention that broad participant motives for martial arts engagement are similar to those evident for other sports, these being fun, physical exercise, skill development and friendship (Stefanek, 2004). Affiliation to the sport would appear to be congruent with 'interest in the sport' identified by Zaggelidis et al. (2004) as the main motivation. 'Fitness' in this study, which encompassed items relating to health, also reflects the 'health benefits' motivation identified as second most important by Zaggelidis et al., (2004) and 'physical health' identified as a key motive by Stefanek (2004).

The three least important motives from the current study: 'Rewards/status; 'Situational' and 'Competition' would also appear to reflect previous survey data and research that has identified low rates of competitive engagement (Sport England, 2002) and little emphasis placed on extrinsic rewards or status (Twemlow et al., 1996). This finding would also appear to be supported from the individual item question (Table 5) that rated progression through grades as relatively unimportant.

When investigating individual items from the 'Affiliation' factor and the most highly rated individual questions (Tables 2 and 5) it would appear that the 'style' of the instructor (encompassing teaching/communication style and technical ability) is of paramount importance for practitioners. In conjunction with the conclusion of Breese (1998), these findings stress the significance of both the student perception of the instructor's abilities and the association between student participation motives and the instructional training regimes used, on continued engagement.

Table 5. Mean (±SD) scores and rank order of importance for the eight additional questions.

Item: How important are the following to you….	Mean (±SD)	Rank order
…instructors teaching / communication style?	1.28 (.52)	1 Most Important
…technical ability of the instructor?	1.42 (.78)	2
…learning self defence skills?	1.53 (.78)	3
…gaining confidence?	1.82 (1.07)	4
…philosophy underpinning martial art?	1.84 (1.04)	5
…tradition?	2.03 (1.10)	6
…progressing through grades?	2.47 (1.33)	7
…cost of participating?	3.00 (1.33)	8 Least Important

Table 6. MANOVA of eight importance questions by gender, experience (quartiles) and weekly training hours (quartiles).

Effect	F (Wilks' Lambda)	df (hyp, error)	P
Intercept	43.82	8, 36	.00
Experience	0.70	24, 105	.84
Gender	1.36	8, 36	.25
Weekly training	2.32	24, 105	* <.01
Experience*gender	1.07	24, 105	.39
Experience*weekly training	0.79	48, 181	.83
Gender*weekly training	0.70	24, 105	.85
Experience*gender*weekly training	1.08	8, 36	.40

The mind-body-spirit and philosophy underpinning the martial art participation motivations suggested by several previous authors (Iedwab and Standefer, 2000; Lu, 2003; Stefanek, 2004) was not evident from the PCA of the 28-item questionnaire, due possibly to the absence of items specifically relating to this concept. It was also not identified as the single item most important for participation in the additional eight questions (Table 5). From the single item question, however, the importance of philosophy of the martial art, was found to be significantly greater in those who participated in training for more than four hours per week compared to those who participated in less than four hours of training per week (Table 6). This may indicate that comprehension of the philosophy of the martial art practiced may be a key factor for current commitment to high levels of weekly training participation. Not only are these high volume practitioners participating for affiliation, fitness and skill development motives, they would appear to be fully immersed in the holistic appreciation of the martial art and its underpinning philosophy.

CONCLUSION

The four most important participation motivations evident were 'Affiliation', 'Fitness', 'Skill Development' and 'Friendship' supporting the contention that broad participant motives for martial arts engagement are similar to those evident for other sports. The three least influential motives, indicating their limited importance as motivations for participation in the martial arts, were 'Rewards/status; 'Situational' and 'Competition'. There were no significant gender or experience differences for any of these emergent motivational factors.

The current findings, from a range of martial arts, would suggest that whilst there is a gender discrepancy in participation level, once engaged, females were equally committed to weekly training. High volume practitioners would appear to be fully immersed in the holistic appreciation of the martial art through increased value placed on its underpinning philosophy.

The many martial arts practiced can be categorised in many ways, based on their "source systems", on philosophy, on syllabus etc. At closer inspection, they can loosely be described as external/internal, hard/soft, traditional/modern martial arts. The small sample size utilised by this research does allow consideration of some of these differences with respect to the martial artists analysed although it would certainly not be possible to extrapolate these findings to all martial arts.

It would appear that the 'style' of the instructor (encompassing teaching/communication style and technical ability) is of paramount importance for enhancing student motivation to participate. The importance of the instructors' teaching/communication style implies that *even for the same style of martial art,* practitioner responses will alter dependant on the attributes of the instructor. The instructor has inherent personality traits and behaviours and will make choices whether to adhere to a formal/traditional training regime (if in place) or has flexibility in the methods utilised to train his/her students.

Ancient martial art practice followed a master-disciple model. Modern practice often requires an instructor to interact with many students, all of which have different motivations for practice. One dilemma for the continuation of traditional martial arts is the need to follow ancient etiquette, which reflected a much less complex set of participation and motivation rationale. These issues reinforce that the "instructorship" is perhaps more important than the art being practiced; indeed the art is best defined by the nature of the instructor, and so the art *will* change with time, whether by intention or not. Future research could usefully consider the martial art instructor, in terms of the formal process (to become an instructor) from various perspectives, and motivational issues.

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KEY POINTS

- Whilst there is a gender discrepancy in participation level, once engaged, females were equally committed to weekly training.
- The four most important participation motivations evident were 'Affiliation', 'Fitness', 'Skill Development' and 'Friendship'.
- The three least influential motives were 'Rewards/status; 'Situational' and 'Competition'.
- There were no significant gender or experience differences for any of the emergent motivational factors.
- Instructor 'style' is of paramount importance for enhancing student motivation to participate.

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