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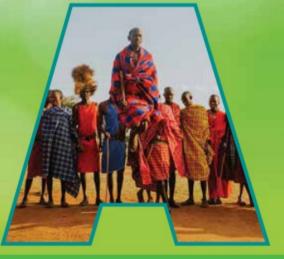
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Hong Kong Recreation Management Association 香港康樂管理協會





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The factors influencing sports participation in Masters swimming competition at Hong Kong Amateur Swimming Association – A case study

Bok Kei Man and Lip Wai Ting, Amy

Technological & Higher Education Institute of Hong Kong

INTRODUCTION

In recent years, sports participation of Hong Kong citizens has been increased especially the adults group. The growth of adults' sports participation points out a demand of organizing adults' sports meet, competitions or events. In this regard, the study of their needs can enhance the understanding of sports participation. Masters sports include all type of sports meets for adults. The word "Masters" was first applied to adults who participated in track and field and was later adopted in organized adult swimming in U.S. Masters Swimming at 2016. Generally, master athletes is defined as athletes older than 35 years. However, for master swimming, the International Swimming Federation (FINA) has defined the term of "master swimmers" as 25 years in age or older. In fact, Hong Kong Amateur Swimming Association (HKASA) allows swimmers who aged 18 or above to participate in masters swimming competitions except the relay event. Besides ages, the rule of Masters Swimming has a little difference to senior swimming competitions (FINA, 2015). In Masters Swimming competitions, there is a mixed relay for male and female when senior swimming only provide single gender's

Since adults have their own decision-making power and financial resources, they can select any sports activity for leisure or competition purpose (Hritz & Ramos, 2008). It will be better to understand the factors that may influence their decision-making on sports activity participation in order to get better development in the sports. The finding of this study can help understand the reasons of either increasing or decreasing number of masters swimming competitions' participants. According to Anthony (2014), a considerable increase in master games' participation in recent years was observed. Moreover, the results of his study indicated the increment in participation of swimmers in the older age groups of 45-49, 70-74 and 80-84 years. This reflects the popularity of current Masters swimming game and identifies the importance of the present study.

Based on the review, the participation of master swimming may become more demanding in the society. However, only a few studies discussed about the development of masters swimming community and participation. The study about Hong Kong sport policy (Lau & Chan, 2009) discussed the swimming

development in Hong Kong generally but not much about the masters swimming in Hong Kong. In this regard, the purpose of this study was to investigate the factors influencing on the participation of Hong Kong Masters Swimming and/or competition.

METHODS

Instrument of Research

Based on the previous researches about sports participation, swimming participation and Masters swimming participation, questionnaires were employed in surveying for quantitative research. By using questionnaires, this research was able to collect a large quantity of data which covering participants from different districts with different background while questionnaires targeted on adults who aged 18 years or above. The results was useful for analysing factors that influencing the participation of HKASA's Masters swimming competitions.

Questions

53 question items are included and divided into three parts. They are personal background, background of participating swimming and knowledge of Masters swimming competition (Appendix A).

For questions 1 to 8, personal background of participants was collected for geography analysis. Questions include gender, age, nationality, monthly income and residential area etc. Since their living district may affect their decision to participate in swimming, the question of residential area was created for correlation study.

For questions 9 to 12, the information about the background of playing sports was collected. Before asking their experience of swimming, their habit and frequency of playing sports may affect their participation in swimming. Therefore, those questions could help to reflect potential factors influencing their choices.

For questions 13 to 24, the participants' ability, knowledge and interests of participating in whether swimming or aqua sports was collected. As motivation was one of the important elements to motivate people to participate in sports, those questions are essential to know more about their hobbies and interests.





For questions 25, it was set up for participants who do not know swimming. Other than experienced swimmers, there is a need to understand the reason of participants who do know swimming. In fact, it could help to understand potential factors on how let them keep away from swimming. After that, questions 26 to 39 were designed for interviewees who have already participated in swimming. Those questions focus on asking their experience of participating in swimming include frequency, duration, motivation and opinions of public swimming pools.

The last part of questionnaire focused on the participants' knowledge of Masters swimming competition. Opinions and experience of HKASA was collected for further investigation. Regarding to the external factors on the influence of sports participation, the information related to membership fees, portfolio and public relations of HKASA were collected.

Participants

Three hundred adults who aged 18 years or above were invited in the survey. Chinese translation was provided verbally for the participants who did not understand English. The recruitment of participants was taken place in public swimming pools in Hong Kong.

Data collection

Data collection started from 1st January to 15th February in 2017. Before completing the questionnaire, written instruments, information sheet and a written consent form were provided in order to introduce the background and purpose of the study. After the invitation of subjects from the public swimming pool, they can start to complete the questionnaires by themselves. The whole procedure lasted for around 30 minutes. Moreover, the data collection was also taken place during the Masters swimming competition that organized by HKASA.

Ethical consideration

For the ethical application of the study, HSESC's Guidelines for Research Involving Human Subjects was noted before data collection. An application form for ethical review of the study was approved by the ethical committee of the Technological and Higher Education Institute of Hong Kong. During surveying, participants were asked to sign a written consent form before completing the questionnaire as a record of their voluntary participation.

RESULTS AND DISCUSSION

In this study, total 321 questionnaires were sent out and collected. Total 160 male and 161 female interviewees participated in this study. For the population of age group, there are interviewees aged within all the age groups (Table 1).

Table 1.

Age distribution of interviewees who participated in the study and reply the questionnaire completely (Total number = 321)

Age group	Number	Percentage (%)
18 - 21	95	29.6
22 - 25	87	27.1
26 - 30	43	13.4
31 - 40	36	11.2
41 - 50	33	10.3
51 or above	27	8.4

After the stage of analysis, there are significant results show that Masters Swimming is not well known in Hong Kong while comparing to other sports.

Overall sports participation

After surveying 321 interviewees, all of them played or preferred to sports. 209 of them have participated in aqua sports. When swimming and basketball have been voted as the most common sports that people participated, 137 of them choose swimming and 57 choose basketball. This is reflecting that swimming could be more popular on sports participation.

Table 2. Sports participation background or preference among interviewees (can select more one sports)

Sports	Number	Percentage (%)
Aqua	209	65.1
Swimming	137	42.7
Football	31	9.7
Volleyball	34	10.6
Basketball	57	17.8
Surfing	13	4

The analysis of the participation rate of swimming from the collected data indicated that almost half of the interviewees swim less than once in a week (Table 3)

Table 3.

Frequency of swimming exercise per week among interviewees

Frequency	Number	Percentage (%)
Less than once	111	34.6
Once	59	18.4
2 – 3 times	52	16.2
4 – 6 times	12	3.7
Everyday	7	2.2

Regarding to the location of aqua sports, public swimming pool was selected by 177, which shows a high demand on public swimming pool and reflects the potential of the quantity of public swimming pools being a factor.

Table 4.

Location of aqua sports selected among interviewees (can select more than one location)

Location	Number	Percentage (%)
Public swimming pool	177	55.1
Private swimming pool	41	36.4
Beach	79	48.3

According to the results of data analysis which indicated that there are only 117 participants heard about Masters Swimming no matter they participated in competitions or not, which is only 35% within the total number of participants. This reflects the lack of popularity of Masters Swimming in Hong Kong. In fact, more than 80% of them think there has not enough promotion of Hong Kong's Masters Swimming including both Masters Participants and mom-participants. And for those swimmers who are currently participating in Masters Swimming competition, they also commented that there is insufficient information and promotion.

On top of that, result shows that "Friends" is the most common way to receive information about Masters Swimming. This means the social network within swimmers through "mouth-to-mouth" promotion may develop the current community of Masters Swimming. This may limit the participation rate of Masters Swimming if people do not have friends who are currently participating in this community (Table 5).

Table 5. Source to know about masters swimming competition among interviewees

Source	Number	Percentage (%)
Friends	69	21.5
Family	17	5.3
Media	15	4.7
Others	16	5.0

Actually, there are only half of them (117) interviewees are willing to know more about the information of Masters Swimming competitions. This also means another 50% are not interested in it.

But for those who are willing to know more, the most popular way that they would like to receive information is "social media", like Facebook, Instagram and Snapchat etc. This result may help to provide recommendation on how to promote Masters Swimming (Table 6).

Table 6.

The source to receive information about masters swimming competition among interviewees

Source	Number	Percentage (%)
Social media	34	55.7
Printed media	13	21.3
Email	13	21.3

Further analysis indicated that both external and self-factors have influence on the participation in Swimming and the HKASA's Masters Swimming competition. On top of that, "Personal factor" became the most influential internal factor affecting Hong Kong's Swimming participation. Besides, "Operation of competitions" is the major external factor that affects Masters Swimmers' decision-making on whether participating in Masters Swimming competition or not.

Factors influencing swimming participation

Results showed that both self-factors and external factors can definitely influence the sport participation in swimming.

Based on the data, "Personals factor" showed an important role in their participated in swimming activities. 96 within 241 of them think that personal factors affect the most of their participation when 65 chose "Personal Interest", 30 chose "Release Stress" and 1 chose "Others personal factors". At the same time, "Personal interest" showed the highest rate of selection and this means that it might be the most influential factor to motivate people participating in swimming (Table 7).

Table 7.

Factors of swimming participation among interviewees

Factor	Number	Percentage (%)
Personal interest	65	20.1
Release stress	30	9.3
Others	1	3

"Health factors" was ranked second among the interviewees (83 votes). According to the previous studies, health factors were considered as a significant motive. Besides personal interest, health factors can also motivate people to participate in swimming for improvements on their physical condition. Those factors include recovery, keep fit and belief to be healthy. On top of that, 75% of the interviewees selected "Keep fit" (Table 8).

Table 8.
Factors related to health for swimming participation among interviewees

Factor	Number	Percentage (%)
Recovery	17	5.3
Keep fit	63	19.6
Others	3	0.9

In order to reflect comprehensive results, it is also essential to analyze the factors that lead people not to participate in swimming activities.

After analyzing the data, it indicated that "Personal factor" and "Environment factor" were rated as the top two factors that lead interviewees not to swim. For those interviewees who do not swim, more than 50% of them think personal factor is the main reason that let them keep swimming away. Within these 50% interviewees, over 60% of them commented they were lack of interest of swimming. As interest responses to personal motivation, it may be hard to enhance sports participation

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through changing people's motivation. However, the HKASA can try to organize interesting programs to attract this population.

On the other hand, "Environment factor" was ranked the second reason. 25% of the interviewees who do not swim, have voted "No time" as their second major reason that not to participate in swimming activities. As an external factor, "no time" can be caused by the surrounded environment, such as over-time work, dating or trainings. And these reasons can reduce the sport participation of swimming.

To summarize, self-factors bring more influences than external factors on participation in swimming.

Factors influencing masters swimming participation

This study has surveyed 90 swimmers who registered as competitive participants in HKASA's Masters Swimming. Although 117 interviewees heard about Masters Swimming including both participating and not participating in Masters Swimming competitions, only 90 of them have actually participated in Masters Swimming Competition. At the same time, it is also important to realize factors that influencing the participation of current Masters Participants, so as to maintain the current numbers of participation and prevent the loss of them.

After the literature review, it was found that self-factors influence Masters Swimming's participation. Previous studies showed that Masters Swimmers participated in Masters Swimming competition because they enjoy the games and believe the games are competitive. Also, they would like to test their ability during the competitions. In order to find out whether the above self-factors can apply in Hong Kong or not, this study is presenting a comparison between previous studies and the actual environment of Hong Kong.

External factors

Actually, the structure of the HKASA, membership fee, competitions' operation, rules, scope of competitions and atmosphere are the external factors that may influence Masters Swimming's participation.

For the structure of the HKASA, 70% of the current Masters Swimmers think it is fair. When the Association's committees got the power to adjust programs and details of competitions, the structure of the HKASA can also affect the implementations on Masters Swimming competitions either negatively or positively. However, the survey's result pointed out a positive response from participants. A reduction on sport participation will not be happened by this factor as long as the HKASA maintain this structure (Table 9).

Table 9.
Evaluation from interviewees on the structure of the HKSAS

Evaluation	Number	Percentage (%)
Excellent	7	7.8
Fair	63	70.0
Poor	20	22.2

As all Masters Swimmers need to pay their membership fee for joining competitions, it could be a potential factor to affect their participation. Most of them thought the current membership fee is acceptable as the current fee is charged HK\$100. But there are still more than 30% interviewees asked for a lower membership fee. Most of their requests were HK\$50 or less (Table 10). This means the HKASA should not increase the fee but try to reduce it for keeping the participation. However, it is not essential for the HKASA to provide lower price when 60% current members accepted the current price level.

Table 10.

The most acceptable amount of membership fee of HKASA among interviewees' replies

Membership fee (HK\$)	Number	Percentage (%)
0	54	60.0
20	9	10.0
30	3	3.3
50	15	16.7
80	4	4.4
100	5	5.6





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To Masters Swimmers, the operations of competitions are highly related to their swimming performance, just like the rundown, actual timetable, smoothness and the waiting time between game plays. Thus, the result can directly reflect swimmers' willingness to keep participating in Masters Swimming competitions or not. The result showed that 67 current swimmers responded the operation was at average level or even worse. Almost 60% within the 67, commented about the operation was below average and unprofessional. It plays an important role in swimming competitions, the HKASA needs to improve it for providing better competition's environment to participants or she will loss them because of this critical factor.

For the rules and scope of competitions, 43 Masters Swimmers agree the rules are at average level and others 30 thought they are better than normal. Besides, more than 80% of the current Masters Swimmers think the scope of HKASA's competitions is aiming at the average and better. As there have not much organizations hold professional swimming competition in Hong Kong, Leisure and Services Department is the biggest organizer other than the HKASA. Due to the lack of competitors, this environment may positively point out the specialty of the HKASA. Therefore, Masters Swimmers may be willing to keep participating in the HKASA's Masters Swimming competition because of the professional rules and large scope of swimming

The competitions' atmosphere reflects swimmers' relationship within this Masters Swimming community. An exciting environment can create positive atmosphere and which may affirmatively enhance the aggressiveness of Masters Swimmers. To swimmers who come for testing their ability or challenging themselves, "Atmosphere" factor can attract their attention and increase their sports participation. In fact, there are more than 65% interviewed Masters Swimmers comment about the current competitions' atmosphere is better than average. It reflects the importance of the HKASA to maintain the games'

Therefore, the HKASA should maintain its organizational structure and the quality of competitions' rules, scope and atmosphere to retain its current Masters Swimmers. The membership fee could be reduced to attract more participants. The most important is to improve the competitions' operation as it is highly related to Masters Swimmers.

Self-factors

Instead of external factors which caused by HKASA, the internal factors of Masters Swimmers themselves, are also playing a major role on their participation on Masters Swimming competition: purposes of participating in the game, enjoyment inside the games, and ideas of competitions' characteristics. These three self-factors may affect their participation directly.

Based on the results, there has no significant difference by asking whether the Masters Swimmers were here to test their ability or not. When 44 of them said "Yes" and 46 of them said "No", the purpose of testing ability through the games is not able to be a factor that influences their participation on Masters Swimming competitions. Although previous studies found that Masters Swimmers join competitions because they want to test



their ability through the games, this study showed a different finding in Hong Kong.

For the enjoyment of participating in Masters Competitions, over 95% interviewed Masters Swimmers think they enjoyed the game. This result pointed out the possibility for the HKASA to increase the Masters Swimming participation by knowing what swimmers enjoy inside the games. Actually, this study has also surveyed the reasons of why do they enjoy the game. To those interviewed Masters Swimmers, the top 3 reasons of enjoying the competitions are "Fun", "Friends gathering" and "High competitiveness". Comparing to previous studies, this result shows the "enjoyment of participating in Masters Competitions" is also significant to Hong Kong.

Result showed that 18 within 86 swimmers classified their enjoyment of the game came from "Fun". Reasons include fun to join the game and fun to watch the game, which help "Fun" being the top reason. On top of that, this is reflecting the need for HKASA to pay attention on how to infect participants to feel the competitions are "fun", like staff's attitude or lanes arrangement.

Next, "Friends gathering" was ranked second when there were 16 within 86 swimmers selected this reason. In fact, results show that only 10% of 208 interviewees who experienced in aqua sport, chose "Friends gathering" as the reason to let them started swim. However, this reason drives Masters Swimmers to keep participating in Masters Swimming competitions as an



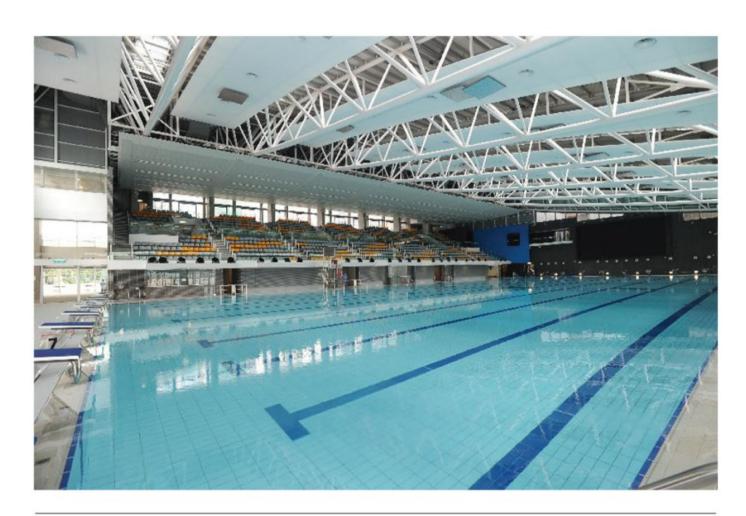
enjoyment. Although people may not aim to gather friends by participating in swimming at the very beginning, some of them appreciate to join Masters Swimming and gather Masters' friends during competitions. It reflects the inseparable connection within this community. HKASA should expand it for more participants. Moreover, a few comments about "Making friends" were the enjoyment inside the game. It carries out the fact of swimmers using the competitions as a channel and opportunity to benefit their social community.

Besides, the enjoyment from competition was selected as the third reason. Total 14 of the interviewees think they enjoyed the games because they are competitive. As I mentioned, the characteristics of competitions can motivate people to join an event as a self-factor. Although not many participants' responded their enjoyment came from competitiveness, more than 90% of interviewed Masters Swimmers agreed that the competitions are competitive. This means the "High competitiveness" of game is influential to be a self-factor. When previous studies indicated that the high competiveness of Masters Games can motivate Masters Swimmers to join competitions, HKASA may consider to enhance the games' competitiveness to attract more competitive swimmers.

As a result, the HKASA should study the potential purposes of participants. At the same time, the HKASA should pay attention on how to satisfy participants' enjoyment. Although there are internal factors of swimmers themselves and have no direct business to HKASA, it still needs to take a look at these reasons when they may either increase or decrease the participation rate indirectly.

Conclusion

To summarize, both external and self-factors can affect swimmers' participation on Masters Swimming competition. For external factors, a lower membership fee may be required for attraction when an improvement of competitions' operation is to prevent the loss of Masters Swimmers. For self-factors, the best way for HKASA to increase participation rate is to make participants enjoy the competitions. Instead of dealing with the factors which focus on Masters Swimmer, it is more essential to broaden the swimming community. Once there are larger numbers of swimmers, the possibility of increasing the Masters Swimming's participation could be increased.



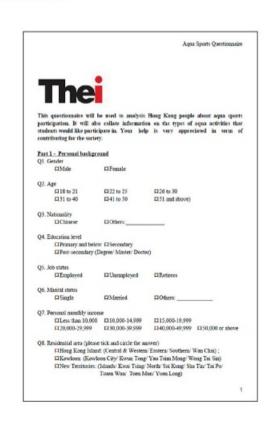
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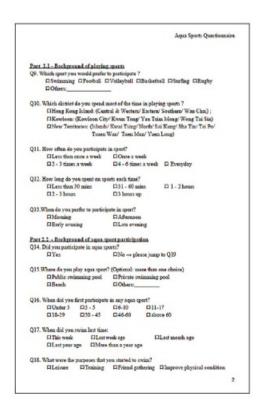
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Appendix A Raw Datasheet









		Aqua Sports Question
Q19. Which is the best descrip		mming level?
□No	Below average	
□ Average	Above average	
Q20. Do you want to improve	your swimming level?	
□Yes	□Ne	
Q21. Did you ever have swin	ening lessen in school time	47
□Yes	□No→(please ju	
-10	mino-in presse ju	and to den)
Q22. Did you like it?		
□Yes → (please jump	to Q24) ENo	
Q23. Do you want it added in	to merular physical educati	ion elass?
□Yes □No	or regular payment continu	Will Clarify.
Q24. Do you know what the b	sanofits of swimming are?	
□Yep	EN ₀	
Q25. Would you like to imper	ove your health by swimm	ing/other agua sports?
□Yes	□Ne	
Part 3.1 - Participate in swin	munine activities	
***Interviewee only need to		r poet 3.2
Q36.When do you swim?		
☐Morning	□ Afternoon	
Early evening	Elate evening	
Lightly evening	LILING STREET	
Q27.How often do you swize		
Lets than once a we	ek DOnce a week	□ 2-3 time: a week
□4-6 times a week	□ Everyday	
Q28.How long do you swim?		
DLess than 30 mins	□ 31-60 mins □1-2hour	rs CD2-Shours CD3hours up
Q29. Who do you swim with!	•	
□ Alone □ Family □	Priends Classmates C	Colleagues 🗆 Others:

		Aqua S	poets Questionnaire
	lowing factors that affect you to p		ming?
DPersonal factors (Pe	ssocial interests/ Release stress/	others:)
DSocial factors (Fries	ods' Family join with you' others)
Health factors (Rec	every/ Keep fit/ others:		
Competence (Enhan	nce the skills/ Competion/others:)
DOthers.			
	in swimming course telumrarily? se jump to Q33)		
Q32. Who is the organ	institute Course D		_
Q33. Why do you join	/ not to join swimming course v	obustarily?	
	pale in resimusing activities need to answer either part 3.1 c	or part 3.2	
tick more than one, a	lowing factors that lead you not to and please circle the suitable ite s (Bad wealth/ No time/ others:_	mt)	inming? (you can
DPersonal factors (La	ok of interest/ Afraid of being in	the water/ others;	
DSpeinl factors (Fries	ods/ Family not go with you/ othe	NSI)
D'Health factors (Disc	sane/ Impury/ others:		
DOthers:			

Fall 5 - Madris 5	Sprimming Competition
Do you have know	sledge about the HKASA? \rightarrow If no, please jump to Part 6.
Q39. When did yo	a start participating in masters awimming?
II Less that	n or 1 year ago
☐ More the	an 1 year but less than 5 years
□ More the	an 5 years
Q40. How to know	v masters swimming competition?
□ Friends	DFamily DMedia DOthers
Q41. What do you	think about the structure of the HKASA?
DExcellen	t DFair DPoor
Q42. What do you	think about the HKASA ?
□ Professi	onal DAbove average DAverage DBelow average DUnprofessions
Q43. Is the membe	ership fee (HK\$100) acceptable?
DYes D	ÑO
→ How m	uch do you pefer? HICDS
Q44. Do you think	there is enough promotion of Masters swimming?
□Yes	□No
Q45. Are you will	ing to know more about Masters awimming competition?
□Yes →	How do you want to receive the information?
ПNo	DSocial Media DPrinted media DE-mail

			crifee of	oorts Questionneis
Q46. Will you join in t	he future?			
□Yes □No				
Q47. Do/Did you join :	mosters swimming	competition	(Including volunt	ering)
□Yes □No -	→ If no, please jus	up to the Pa	rt 6.	
Q48. When did you joi	n the competition	for the first ti	me?	
Less than or	1 year ago			
□More than 1	year but less than :	years		
□More then 5	yeacs			
Q49. Are you here to te	est your ability?			
□Yes □No				
Q50. Do you enjoy the	game? Why?			
		IINo,		
			0	
Q5L What do you thin				
□ Professional	Above average	: Average	☐ Below average	Unprefessions
Q52. What do you thin				
☐ Professional	☐ Above average	Average	☐ Below average	□Unpredessions
Q53. What do you thin	k the atmosphere o	of competition	ns?	
DExcellent D	Good [INonnal	DNot good	□Bed	
Q54. What do you third	k the scope of com	petitions? (s.	g. no. of postioipass as	d ecent's items)
□ Professional	☐ Above average	Average	□ Below average	Unprofessional
Q55. Do you think the	games are competi	tive?		
□Yes □No				



Philosophical Perspectives of Leisure:

My Personal Reflections Belinda Creighton-Smith Faith Temple American Baptist Church, Iowa

Introduction

My life and identity was shaped by the era of the Civil Rights Movement in the United States and the American War in Viet Nam. My family and I watched headline after headline of marches, sit-ins, walkouts and nonviolent protests in which angry and fearfully evil people cursed, spat upon, shook their fists at, and threatened with clubs, guns, and water hoses and dogs the resistance of the protesters. While the civil rights demonstrations was taking place on the national screen, locally in the small city of Waterloo, Iowa, USA we experienced blatant racial attacks and discrimination; in response, demonstrated in by protesting the inequities in hiring practices, public accommodations and education. As a young girl, I was proud to participate in the boycotts and picketing. I was fully engaged in what I believed was the necessary agitation needed to bring about a change in our society.

On one occasion, we were picketing a franchise store located in the black community that refused to hire black employees. As I and a friend of mine walked the picket line in front of the store, a driver drove through the picket line. In terror, the two of us froze. I could not have moved if I wanted to. The adults assured us that the driver would not harm us nor drive the car into us. Sadly to say, they were wrong and she drove through the picket line, hitting us and continued to drive the car with me on the hood. One of the adult males in the group reached through her car window and depressed the brake pedal with his hand. She was driving slow enough that we were badly bruised but suffered no severe bodily injuries. Moments later the police arrived and arrested not the driver but the man who reached into the car to stop our assailant. He was arrested because his uninvited admittance to her car constituted assault.

In an effort to integrate all white schools in our community, I was one of the first group of African American students bussed across town to what was then called West Junior High, an all-white school. I shudder at the memories of this experience and recall the abject humiliation I felt when the 7th and 8th

grade English teacher read aloud to our class the book entitled. Lil Black Sambo. I shall never forget the salient story line of Sambo's "big ol black mammy." In dismay I collected the other scorned and humiliated students and staged major walk out. We told our parents and the other civil rights leaders in our community and organized a sit-in in which we occupied the Waterloo School Administration Building and Superintendent's office. One of our demands was that they remove all racially derogatory books from the required reading list, and discharge the teacher who read aloud Lil Black Sambo to her literature class as the students laughed at the black students in her classes.

These realities of my world afforded me different lenses through which to see life and influenced my philosophy of life and leisure. Lastly, I mention the day we watched the breaking news report that President Kennedy had been shot and killed in Texas. This horror sent our family into temporary panic. I could not understand a world that would do this to one whom my parents talked about with such affection and admiration. This President was an ally of oppressed people. He and Rev. Dr. Martin Luther King Jr. were going to "change our world." A few years later we were grieved the death of Rev Dr. Martin Luther King Jr. and shortly thereafter the death of Robert Kennedy. These were tumultuous years for this country and for those of us who grew up amidst the struggle for equality. While this may be the romanticized view held by a little girl, it shaped me, my philosophy just the same. It served in the formation of my understanding of life, the inequities, injustice and atrocities of the world in which we live, and yet how hope can be born anew.

What is Philosophy?

Goodale and Godbey's (1988) definition or explication of philosophy aligns with the process described above as well as my ongoing journey in a search for what it means to be human and how to interpret life and its relationships. The authors wrote, "Philosophy may be best understood not as a subject but an activity [italics mine] by which one seeks an understanding of



every fact, fiction and feeling and all relationships among them" (p. 2). This too is consistent with the original meaning of the word philosophy which was derived from the Greek word philosophia meaning "the search for the wisdom of life" or the "search for the meaning of life" (p. 2). It has also been defined as a "means or method" and a" goal or end" (Edginton, personal communication, 2014).

Parenthetically, the literal translation of the word philosophy is the "love of wisdom." If indeed, philosophy is a love of wisdom as Aristotle suggested, "schole," mind work, the love of contemplation and learning from life's experience; then it [philosophy] is forever undergoing metamorphosis, which is in agreement with Edginton who suggested, "No final end – no grand end…only personal goals or ends." And "it is a phenomenological pedagogy of the continuous cycle of praxis or "action [practice, application] and reflection (Edginton, personal communication, 2014). Dr. Iradge Ahrabi Fard has noted that "Philosophy is not static, it may change given circumstances, learning, experiences" (Ahrabi Fard, personal communication, 2014)

One's philosophy whether recognized or not, is said to encompass and influence family values, historical, cultural, religious and societal milieus. It is present in our teaching and learning – shaping how we view, hear and interpret our reality. Goodale and Godbey (1988) note, "There is no escape from one's or another's philosophy, whether one admits it or not everyone has a philosophy. And this [philosophy] "helps us to understand ourselves and our circumstances – to better handle our anxiety and uncertainty" (p. 2).

So, when asked by my professor, in my graduate Historical and Philosophical Foundations for Leisure, Youth and Human Services class Dr. Edginton on the first day of our, "What is leisure?" my response [in my mind that escaped my lips] was, "Oppressed people do not have leisure!" I had wrestled with this notion early in my graduate studies in leisure, questioning the notion of leisure as a reality for people who were disenfranchised and/or oppressed. I realize that for poor and oppressed people, each day is often consumed with work, stress and survival. For the segment of our community that work long hours to make ends meet, to feed and clothes their children, to fight with the utility company because the heat and electric has been shut off: the notion of leisure does not seem to exist unless it is considered as the time in which they sleep. This was the beginning of my exploration and excavation to discover the philosophy that helps me to make sense of life and to define the notion of leisure (Goodale & Godbey, 1988).

Definitions of Leisure

The framework of leisure as "freedom from" and "freedom to," was implied in my aforementioned understanding of leisure and the inability of oppressed people to experience leisure. According to this understanding of leisure, it is considered as "free time" and is of secondary importance given the other areas in which time is utilized such for survival and work (Goodale & Godbey, 1988, p. 5). This concept divides time into degrees of importance or usefulness based on what is needed to survive as human beings. The transformation of society from agrarian to industrial and currently service oriented resulted in a greater



amount of discretionary time. Edginton & Chen (2008) note that the transformation of society in America from one in which the lives of people were governed by their ability to control their environment, work the soil and survive given their capacity to do so, "they had the opportunity to think, live, act creatively; thus social progress occurred (p. 3). Social progress for some resulted in harsh living conditions for others. Therefore, it appeared that one who has the privilege of utilizing less time working to provide the basic necessities of life, have a greater degree of freedom and therefore more "leisure." While this concept is very limiting it is one held by many and must be understood in order to assist in the transformation of the notion of leisure amongst members of society.

"Freedom to" denotes that one has the freedom to do as one pleases as long as it does not infringe upon the freedoms of others. "Leisure ... becomes time with which we can choose what to do [with the time we have]..." (p. 6). According to this understanding there are those who have more leisure than others based on the resources and status that accompanies wealth. Goodale and Godbey (1988) write, "Leisure conceptualized as a periodic quantity of a certain kind of time has entered our dictionaries and conversations but it has not, and perhaps cannot, enter our experience" (p. 8). The authors continue to assert that it is important to conceptualize leisure in a more unifying way that does not divide our existence or lives. It is this notion of leisure that led to the overindulgence in drink and rivalry of the workers during the Industrial Revolution and led to the need for many of the social reforms. Goodale and Godbey (1988) quoted Altick (1958:45) as he described the weekends of the townsmen as a time when they became intoxicated in "public house, or to the accompaniment of a song; at a concert room or dancing saloon; he could visit a brothel...get into fistfight... or loaf in the streets. The teaming cities had virtually no provision for decent public recreation" (p. 109).

And yet, even today from some of the unskilled working poor I have heard the statement, "I work hard every day of my life, and I am going to do what I [explicative] when I get time off." While this may be justification for complete self-anesthetization via whatever activity or substance that works for them. This is termed "anti-leisure" and to others "purple leisure." "Activities undertaken compulsively, as a means to an end, from a perception of necessity, with externally composed constraints, with considerable anxiety..." (Godbey, 1989). This denotes leisure as "free time," "freedom from" and "freedom to" although it is a negative connotation of leisure. It

denotes the belief of leisure as "Freedom from the necessity of being occupied" but not as Aristotle intended. For him this leisure spanned a lifetime and was a lifestyle. And in Aristotle's notion of leisure it was better than work, it was the experience of life as happiness derived from one's "free choice." It was not a result of being forced to "let your hair down" as a result of having worked hard all week. It was a choice free from any coercion or impulse. "So the notion of free choice, so fundamental to our perception of leisure, is essential to Aristotle because it makes virtue [excellence of the soul] possible, and happiness possible" (p. 23).

And so again I am challenged by the idea that oppressed people can have "free choice," that results in leisure. Can the oppressed live "in relative freedom from external compulsive forces of one's culture and environment" (p. 9)? Is it possible for impoverished and disenfranchised people to experience leisure? When one considers leisure as something other than an activity or as related to unobligated time, and that the aforementioned may be conditions in which leisure occur but are not prerequisite to leisure then it may be possible for oppressed peoples to experience leisure.

When I began to consider the goal of leisure rather than the method, or the ends rather than the means, the concept and value of leisure for oppressed populations became more compelling and cogent for me. The first approach that aligns with my philosophy of life is leisure as "Divine Ends," in which "leisure is a part of God or a means of spiritual values of a religious and contemplative life" (Sylvester, 1984). Leisure perceived in this way suggests that it can be experienced regardless of the social, financial or other external constraints. That leisure lies within reach of the individual and yet, exposure to this notion is critical to reaching this goal.

Viewing leisure as the self-development and progress towards self-actualization, "the fulfillment of self through leisure" which includes the "creative work, personal development, intellectual activity, and harmonious living," is consistent with leisure as a state of being and mind. To conceive of leisure as a state of mind or being, rather than related to time or activity is most related and fitting to my philosophy of life and more encompassing than its goal. It is the means and the

ends. "In this sense, leisure is not an event, an activity, a program, and/or a service, but rather leisure occurs in the minds of individuals" (Edginton & Chen, 2008, p. 64). "Leisure is a combination of work, play, love and worship" and the harmony and union of the three. Edginton notes that, "this approach "perceives [leisure] recreation as a means of revitalizing the individual" (Edginton, personal communication, 2014). This philosophical attitude towards leisure resonated most with me and aroused within me the desire to challenge my understanding of leisure.

Defining leisure in this way is more inclusive of the work of the social reformers who were moved to improve the life of those less fortunate and who operated in "flow" (Csikszentmihalyi, 2004) as a result of meeting this difficult challenge every day of their lives. This autotelic experience is what made work, the struggle, the innovation and perseverance leisure for those inspired to be the miracle they wanted to see (Actor, Morgan

Freeman). This work is what made their life meaningful. Is this not somewhat implicit in the holy work and contemplation prescribed by Aristotle?

Values and Philosophy of Leisure

Other values embedded in philosophical attitudes driving leisure include the following:

- Preservation of natural resources, which means to keep our natural resources in their pristine state for future generations
- Conservation refers to use of the natural resources in a way that sustains them for the enjoyment and benefit for creation and generations to come
- Democracy, citizenship and freedom of choice suggests having the right and freedom to choose is essential to the leisure experience
- Human happiness, the joy, fun, pleasure, relaxation, self-gratification and inner-satisfaction that accompanies leisure
- Personal and intellectual growth and development
- Leadership and moral character development and leisure awareness and educating the community about the opportunities and benefits of leisure
- Enhancement of the quality of life (Edginton, personal communication, 2014).





And yet, the most compelling philosophical value and disposition of leisure for me are those that value equity, social justice, and the well-being of humankind and creation. Additionally, the "wise use of leisure" in which leisure as a way of life and state of mind is purposed for the "creative and spiritual development" as well as the "intellectual and physical advancement of civilization [as a whole]" (Edginton, personal communication, 2014). An illustration of such that resonated with me was the movie "Invictus." This was the dramatization of the period of the President of South Africa, Nelson Mandela when he utilized the sport of rugby during the team's advancement to the 1995 World Cup Championship to begin the healing of the nation. This was also an excellent example of the value of leisure as the "promotion and protection of human dignity which uses leisure as mediums to interact with people in a positive and reconstructive way".

In Edginton and Chen's (2008) book, Leisure as Transformation,) they contend that leisure service providers are to critique the social, cultural and economic structures that are predominate. It is their responsibility to promote social justice. They are quoted as saying, "The role of leisure service providers is to inquire critically as to the conditions of human kind" (p. 136). And the authors contend that it is the work of the leisure service provider "in encouraging social justice...to insure that individuals receive fair treatment and full benefits" (p. 137). The philosophical attitude of leisure as social justice and equity is represented in the ideas presented by these authors. The promotion of environmental justice in which aesthetic beauty and green spaces are available for all communities is another element of the social justice work of leisure. Leisure can serve to inspire cultural diversity and sense of pride in one's cultural identity and heritage and can serve to transform communities and build a sense of purpose and worth in less advantaged populations. An example of leisure as transformative and building a sense of pride is the annual Northend Festival held in Waterloo. This event is one that brings together local performing artists and visual artists to showcase their talents and pass on the history of the formation of the "North end" of town. The motive is to bring a sense of pride and exalt the heritage of a community often times talked about in a negative manner.

Philosophical Theories of Leisure

The major philosophical theories of leisure include:

· Classic Leisure as the contemplation of the good life based on values and the way in which one uses their leisure time. A much more contemporary classic theory of leisure is Nash's Pyramid of Leisure is a "reflective understanding of leisure that is based upon the value and purpose of the experience. This tiered value system ranks at the bottom of the tier activity that is harmful to self and others. These are acts against society and the progress of and are ranked "zero." The next level of the pyramid consist of activity within one participates to alleviate boredom. The value given this type of leisure is a one. As one progresses in the value of or significance of a leisure experience or activity, the number increases and the level of participation and benefit also increases. For example, the pinnacle of the pyramid denotes the "Creative participation" in leisure and one become the developer of their leisure experience. In this theory of leisure, leisure serves as a social instrument by which the participant freely chooses the level of involvement from detrimental or negative to passive and ultimately as creator of the leisure experience.

NASH'S PYRAMID OF LEISURE

Creativity 3: Active participation 2: Emotional participation 1: Entertainment, simple amusement 0: Ratardation of self-development SUBZERO: Acts performed against society

- Perennialism and leisure is the quest is to discover life's truth through "divine inspiration" and active engagement. This theory suggests that human beings are distinguished in creation due to their "ability to reason." This theory "builds on the belief that life is constant and unchanging, and that eternal truths exist [and are available to humankind (Edginton, personal communication, 2014). As a result, leisure experiences and activity influenced by this theory would focus on the development of reason, logic and searching for universal truths. These truths could be attained through "the mind or by divine inspiration" (Edginton, personal communication, 2014).
- Idealism and leisure implies that individuals find fulfillment in acting according to their beliefs and ideals. This is the philosophy that best fits my passion about leisure. This is the philosophy, I imagine, that fueled by American social reformers Jane Addams or individuals in Hong Kong such as Libby Wong or Dicken Yung. This construct in which Idealism and leisure suggest that for social interaction and value and degree of benefit from the experience.
- Realism and leisure denote that objects have existence independent of our consciousness. There is a natural order to the society, the world and the universe. It is evident that this theory was influenced by Aristotle whose natural order of society existed of the slave and the citizen and both were necessary. This theoretical underpinning of leisure realizes the limitations due to social, economic and cultural constraints. While I am rooted in this reality - it is not one that dictates my actions for I am perpetually striving for a reality that is closer to that called "the beloved community."
- · "Pragmatism and leisure" propose experiences that shape and develop the individual. This theory states that the world is changing and our experiences must test and determine the practical significance of the leisure experience. For example, how practical is bungee jumping? Will it be needful for the average human being? It may be helpful and needful for someone whose vocation is soldier, or who lives in rough and rugged terrain, but participating in an activity simply for the



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experience would not fall within the realm of pragmatic leisure.

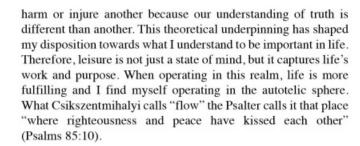
- "Experimentalism and leisure" encompasses the realm of discovery. Finding out "what works and what does not" in a world that is ever (Edginton, personal communication, 2014).
- Existentialism and leisure developed from the works of Kierkegaard and Nietzche which suggests that each individual is responsible for and to themselves and "only to themselves for their behavior." (Edginton, personal communication, 2014)
- Humanism and leisure focus is somewhat akin to existentialism in that the human being is the center of the universe. It is from this perspective that human beings consider themselves as having dominion over creation rather than living in ecological cooperation with the universe.

My Philosophical Theory of Leisure

My journey thus far has been governed by the philosophies of Perennialism and Idealism. Perennialism has shaped my existence from childhood. Reared in the Christian faith, God and the belief in a greater purpose for humanity has influenced the way I view the world. This has tempered my quest for truth and has made me critical of the oppressive manmade notions of what it means to be human. Therefore I have questioned, even the

interpretations of my faith tradition that did not fit what I believed God expected for human civilization and American society. For me, I believe that God deposited truths in all human societies and as human beings we have perverted and exalted our truths above others which have great meaning and purpose as well as ours.

Additionally, the internalization of the divine truths of all human beings created in the image of God, with purpose and worth serve to dictate my perception of what truth may really look like. Therefore, we must value the life of all human beings and not infringe upon the creative and innovative genius given each of us. Furthermore, we must not



The additional philosophical influence on leisure is an element of "Idealism." While it is not in the purest sense of the concept, striving for a more perfect existence of society for people that have historically been oppressed and disenfranchised is my life's purpose. As illustrated in the historical context of my formation

Concluding Comments

One's philosophical perspective is essential in shaping his or her relationship with those being served, their actions within the organization and to the profession as a whole. It is important to think through one's life journey and to develop a philosophy to guide ones actions. Such philosophies are often valued driven reflecting ones basic values beliefs and intentions. One's philosophy guides ones actions and can serve as a touchstone to assisting their professional behaviors and actions.



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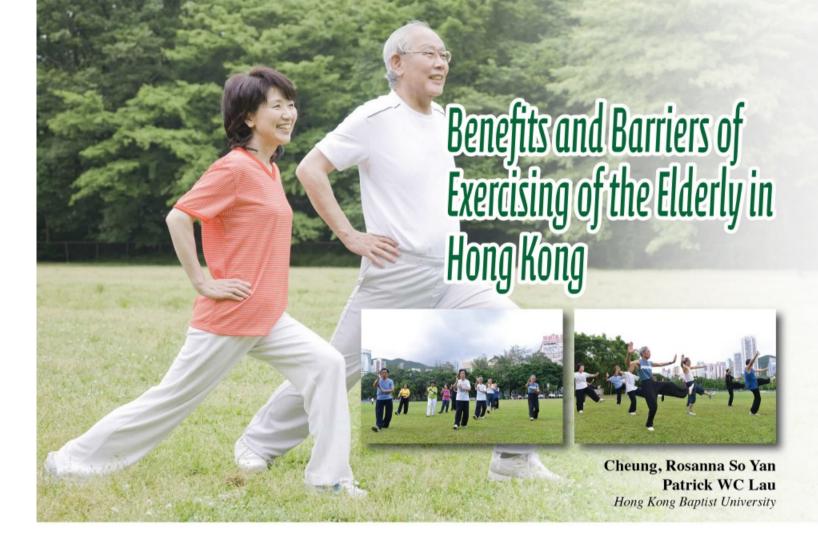
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Background of Study

The population nowadays in Hong Kong keeps growing progressively. However, the report of the Demographic Trends in Hong Kong 1981-2011 from the HKSAR government (2012) mentioned that the elderly, who aged over 65, holds a larger portion than the other parts as the fertility and mortality rate decrease. As the elderly in Hong Kong occupies a larger proportion of the population, the demands related to health are being focused. According to the survey of the HealthyHK (Department of Health of HKSAR, 2015), the top three causes of death were cancer, pneumonia and coronary heart disease (CHD). The death rate increased rapidly after aged 60 and the trend of people who was suffering is more likely in younger age (Centre for Health Protection, Department of Health of HKSAR, 2015), which caused the government kept increasing the financial budget for public health care system every year in order to meet the rapid aging problem. One of the risk factors leading to CHD was lack of physical activity (PA), thus, health promotion became the direction of the Department of Health which help reduce the medical expenses and increase the self-care ability of the elderly (Elderly Health Service, Department of Health of HKSAR, 2011).

In Hong Kong, the Leisure and Cultural Services Department (LCSD) (2015) encouraged the elderly to do different kinds of PA, especially the aerobic, balancing, stretching and muscle strengthening exercise. Those PA helped the elderly keep their wellness in a satisfied situation. For instance, improve the cardiorespiratory function and blood circulation, strengthen the muscle and slow down the aging

process, increase flexibility and balance, maintain a healthy body weight, relieve stress and extend social circle are beneficial to the elderly (Healthy Exercise for All Campaign, 2014). According to the Elderly Health Service (2016), walking, cycling, stretching, dancing, Tai Chi and several ball games like gate ball, bocce, are the major types of PA that the elderly in Hong Kong is doing. The physical fitness requirements of those PA are different, as the activity levels of the elderly are various. For some of elderly who are requiring using the assisting aids, such as walking stick or wheelchair, can only do some light intensity exercise, like walking. For those who are still physically active, they can still do some moderate intensity exercise, such as cycling and dancing.

Most of the PA recommended by the government is mainly focusing on the balancing and muscle strengthening exercise, which were crucial in reducing the risk of fall. The Centre for Health Protection (2013) reported that one from every five elderly experienced fall and 75% of them caused injuries in head and bone fracture. Once the elderly had the negative experience in fall, they might escape from doing PA to prevent falling. This was one of the situations that happening in about 20% of the elderly in Hong Kong which could be prevented by cultivating a correct understanding of doing PA and regular exercise habit.

To cultivate a regular exercising habit for the elderly in order to stay healthy and be independent, first we need to understand the benefits and barriers influencing their participation level in doing exercise as it would affect the participation level of the elderly in exercising. Most of the PA provided different kinds of benefits, including physiological,



psychological, social and environmental benefits. In the physiological aspect, PA helped reduce the risk of disease and performed as a proper rehabilitation after a severe disease (Steffen, Bleser, Weber, Stricker, Fradet & Marin, 2011).

On the other hand, barriers of the elderly in exercising were also classified into four major aspects: physiological, psychological, social and environmental.

As Schutzer and Graves (2004) mentioned that the PA level of the elderly declined because of the aging problem. Silveira, van het Reve, Daniel, Casati, and Bruin (2013) also found that the decline of the PA level would affect their balance, reaction time and cognitive capacity. As a result, fall became the most important issue to the elderly health and the greatest physiological and psychological barriers for them to do exercise (Wong & Cheung, 2002)

Lacking of time, money, facilities were part of the environmental factors which limited the participation level of the elderly (Nambaka, Kamau, Amusa, Goon & Ananje, 2011). As most of the sports required facilities and equipment, some of the elderly cannot afford as they had no income and did not want to spend the money given by their children. Moreover, the elderly nowadays are very busy. They have so many entertaining activities, such as listening Chinese opera, watching old movies or taking care of their grandchild. Exercise might not be the top preference among these daily activities.

According to the Elderly Commission, HKSAR (2016), by 2021, 15.7% of the population in Hong Kong will be over 65, and over 75% of them may suffer from one or more chronic diseases. These problems may affect the social atmosphere and government medical expenditures of the elderly. However, these problems are preventable if they can cultivate a regular exercising habit when they are young. As the elderly had better personal wellness, social problems can be minimized and the medical expenditure can also be reduced. Thus, in order to help the elderly cultivate an exercise habit, we should help them to understand more about the exercise benefits and barriers to them first.

Purpose of Study

The study intended to identify the exercise patterns, exercise benefits and exercise barriers of exercising of the elderly in Hong Kong. It examined the exercise benefits that influenced the participation level in exercising positively, and the exercise barriers that influenced their participation level in exercising negatively.

Methodology

Participants

In this study, 300 elderly age 60 or above were interviewed. They came from five elderly daily activity centers (60 participants of each center). They all obtained the membership and most of them were living closely to the centers they belonged to. The five centers provide both free and charged PA related programs for the elderly depended on the funding they received from their headquarter.

Instrumentation

This study was a quantitative research with using cross-sectional survey design. The Leisure Participation Involvement (LPI) and Exercise Benefits/Barriers Scale (EBBS) were used as the survey tools. These two surveys were used to examine the types of activity and factors that affected their decisions in participation. A demographic session was also included in the last part to determine the influence on leisure participation through several variables, such as age, gender, educational level, marital status and health conditions.

Leisure Participation Involvement (LPI) was developed by Ragheb and Griffith in 1982. Later on, it was modified by Lin (2003) as a 5-point Likert scale. The Cronbach's Alpha = 0.76 and the reliability of the survey was tested in Lin's study in 2003. The LPI shown the types of activity that the elderly participate in daily lives and the frequency they join. Below were the sample questions:

Circle the PA that you are currently doing or have done in the past year:
Outdoor Activities

	Never	Seldom	Occasionally	Frequently	Very often	Daily
Walking Hiking Excursion		2 times a year	Once a month	2 or 3 times a month	Every Week	
4. Fishing5. Cycling6. Other	0	1	2	3	4	5

According to the sample above, the interviewees had to circle the type of sport they had done in the past year, and circled the frequency (0-5) they had joined.

Exercise Benefits/ Barriers Scale (EBBS) was developed by Sechrist, Noble-Walker and Pender (1987) to provide a standardized method to measure the perceived benefits and perceived barriers of PA. There was total 43 items, including 29-item measuring perceived benefits of physical activity and 14-item measuring perceived barriers of PA. Both the benefit scale and barrier scale had good internal consistency by Cronbach's alpha= 0.954 and 0.866 respectively. The test-retest reliability were also good as well (r= 0.89 and 0.77) respectively (Sechrist et al., 1987). The whole scale was divided into four aspects: physiological, psychological, social and environmental variables. Below were the sample questions:

- (i) I enjoy exercise (psychological benefit)
- (ii) I will prevent heart attacks by exercising (physiological benefit)
- (iii) Exercise tires me (physiological barrier)

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- (iv) Exercising takes too much of my time (environmental barrier)
- (v) Exercising lets me have contact with friends and persons I enjoy (social benefits)

The questionnaire used to collect the information was translated into Chinese based on English version in origin. The questionnaire was divided into four parts: types of physical activities that the elderly participate in the previous year, benefits of participation in physical activities, barriers of participation in physical activities and demographic information.

The data collected would find out if any correlation between benefits to the participation level in exercising and barriers to the participation level in exercising.

First part was the types of PA that the elderly participated in the previous year. The original Leisure Participation Involvement survey was including outdoor activities, sports,

hobbies and indoor activities, cultural activities and entertainment, family and social activities and volunteer and services activities aspects to distinguish the common types of physical activities. However, in this study, only outdoor activities and sports items were relevant to the topic. Thus, only these two choices of participation were conducted. The rating scale was from 0 to 5, which represent never (0), seldom (1), occasionally (2), frequently (3), very often (4) and daily (5). Some examples were given in each category, like hiking and walking were the example of outdoor activities; taichi, swimming and gate ball were the examples in sports.

Second and third parts were the exercise benefits and barriers scales. It used the 4-point Likert scale, includes strong disagree (1), disagree (2), agree (3) and strongly agree (4). The last part was the basic information record, including gender, age, educational background, marital status and self-perception of health condition.

Statistical Analysis

The collected data analyzed in computer by using Statistical Package for the Social Sciences (SPSS) system. The basic descriptive statistics described the demographic characteristics of the subjects, covariates, dependent variable and independent variable. Multiple regression analysis was used to understand if the dependent variable (participation level in exercising) could be predicted by the independent variables (perceived benefits and perceived barriers). According to the EBBS instrument, the participation level in exercising analyzed in physiological, psychological, social and environmental barriers in regression analysis. However, with the limitation to the questions and avoid to affect the reliability and validity of the questionnaire, only physiological, psychological and social benefits were analyzed in regression analysis. No questions were added or amended for the environmental benefits.

Data Collection

The questionnaire was delivered to the participants at the elderly centers directly and a short briefing was given to explain the reason of conducting the study. The staff of the elderly centers were asked to assist the elderly if they are illiterate. The questionnaires were collected immediately. However, time had to be given for the staff to assist the elderly to fill in, as 60



questionnaires for each elderly day activity center was quite large. All questionnaires were checked before the elderly left to ensure they had answered all the necessary questions.

Results

Descriptive Statistics

The descriptive statistics were presented in Table 1. A total of 300 (male = 29.3%, female = 70.7%) elderly of 5 elderly centres was surveyed. Aged (1) 60-65 (= 11.3%), (2) 66-70 (= 29.3%), (3) 71-75 (= 17.7%), (4) 76-80 (= 17.3%), (5) 81-85 (= 13.0%), (6) 86-90 (= 9.3%) and (7) 91 or above (= 2.0%) of the targeted elderly were categorized with the 3.27 mean score. Being married (= 69.0%) and widowed (= 23.3%) were found to be the major marital status of the elderly. 47.3% of the elderly with primary school level and 39.3% of them did not received any education and. 59.7% of the elderly believes their health condition level was average, while 30.0% was above average and 10.3% is worse than average.

In the LPI scale, only outdoor activities and sports categories are chosen to analyse their participation frequency. The mean score of outdoor activities is 3.58 and sport is 3.70. Physiological, psychological and social benefits and physiological, psychological, social and environmental barriers were conducted to examine the participation level in PA.

For the physiological benefit (n = 16), the overall means for each benefit ranged from "improving the quality of work" (M = 2.55) to "improving physical endurance" (M = 3.30). "Improving the muscle strength" (M = 3.29) and "stamina" (M = 3.29) were the second most influencing factors for their PA participation. "Improving cardiovascular system functioning" (M = 3.25), "overall body functioning" (M = 3.24), "muscle tone" (M = 3.21), "flexibility" (M = 3.19), "live longer" (M = 3.14) and "keeping from having high blood pressure" (M = 3.07) were above the mean score. The mean scores of the other items in physiological benefit were between 2.55 - 2.91.

For the psychological benefit (n = 11), the overall means for each benefit ranged from "improving the disposition" (M = 2.60) to "enjoy doing exercise" (M = 3.48). "Feeling relaxed



through exercise" (M=3.39) was the second most important factor influencing the participation level in PA. "Improving mental health" (M=3.29), "decreasing feeling of stress and tension" (M=3.27), "exercise as a good entertainment" (M=3.18) and "increasing the acceptance by others" (M=3.05) were above the mean score. The mean scores of the other items in psychological benefit were within 2.60 - 2.98.

For the social benefit (n = 2), the overall means for each benefit ranged from 2.93 which stated "exercise being a good way to meet new people" to 3.00 which stated "exercise allowed the subject to contact with friends and persons".

For the physiological barrier (n = 2), "exercise fatigues the participant" has a mean score of 2.32 and "exercise made the participant feel like a hard work" had a mean score of 1.82.

For psychological barrier (n = 3), "exercise clothes look

funny" had the highest mean score of 2.27. "Exercise tires the participant" (M = 2.09) and "the participant felt embarrassed" (M = 1.74) were the second and third important items.

For social barrier (n = 4), "exercise takes too much time from family relationships" showed the highest mean score of 2.11. "Exercise takes too much time from family responsibilities" (M = 1.93) and "family members discourage the participant to do exercise" (M = 1.86) ranked the second and third

For environmental barrier (n = 5), "exercise facilities schedule was inconvenient for the participant" had the highest mean score of 2.08, while "too few places for exercising" (M = 2.03), "exercise occupies too much time" (M = 1.97), "exercise venue too far away" (M = 1.97) and "exercise cost too high" (M = 1.85) were ranged from 1.85 to 2.03.

Table 1. Descriptive Statistics for the Demographic Information and Independent Variables to Predict the Participation Level Physical Activities (N=300)

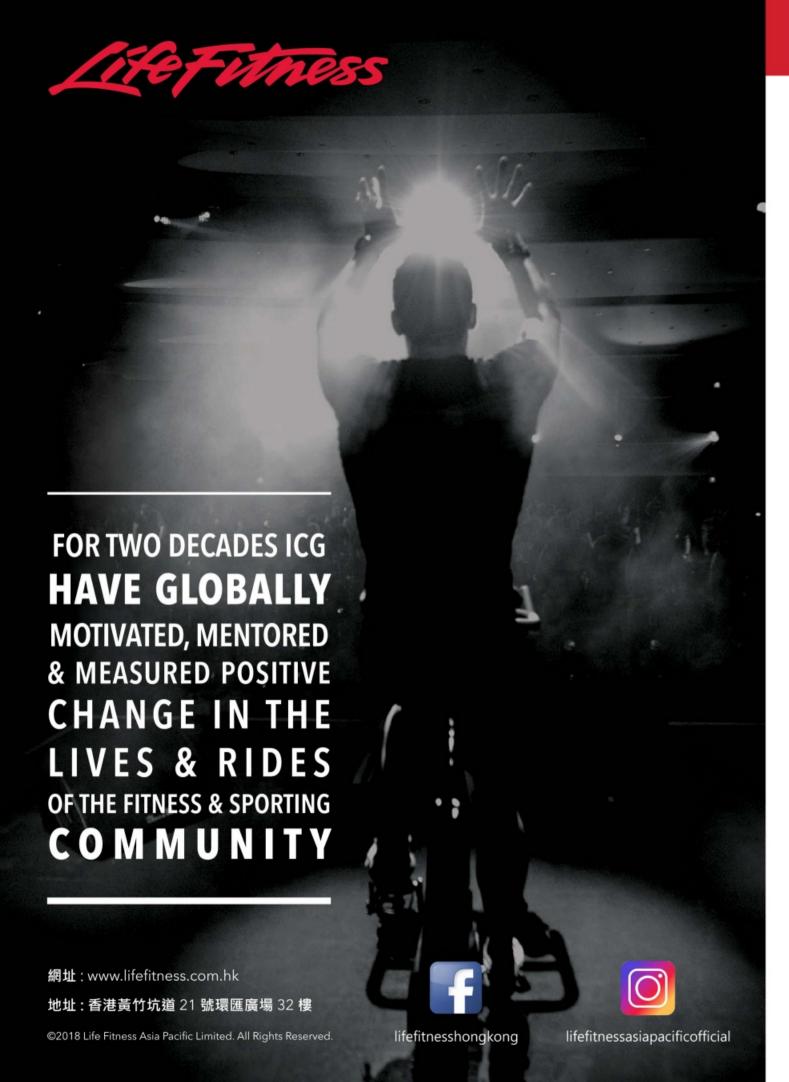
Demographic Information	Mean	SD	Minimum	Maximum
Gender	1.71	0.46	1	2
Age	3.27	1.59	1	7
Educational Level	1.77	0.76	1	4
Marital Status	3.11	0.66	1	4
Health Condition	2.20	0.61	1	3
Variables	Mean	SD	Minimum	Maximum
Physiological Benefit				
5. I will prevent heart attacks by exercising.	2.86	0.97	1	4
7. Exercise increases my muscle strength.	3.29	0.58	1	4
13. Exercising will keep me from having high blood pressure.	3.07	0.61	1	4
15. Exercising increases my level of physical fitness.	2.86	0.93	1	4
17. My muscle tone is improved with exercise.	3.21	0.54	2	4
18. Exercising improves functioning of my cardiovascular system.	3.25	0.56	1	4
20. I have improved feelings of well being from exercise.	2.91	0.95	1	4
22. Exercise increases my stamina.	3.29	0.55	1	4
23. Exercise improves my flexibility.	3.19	0.59	1	4
26. Exercising helps me sleep better at night.	2.85	0.93	1	4
27. I will live longer if I exercise.	3.14	0.61	2	4
29. Exercise helps me decrease fatigue.	2.65	0.87	1	4
31. My physical endurance is improved by exercising.	3.30	0.53	2	4
 Exercise allows me to carry out normal activities without becoming tired. 	2.66	0.93	1	4
36. Exercise improves the quality of my work.	2.55	0.91	1	4
41. Exercise improves overall body functioning for me.	3.24	0.55	2	4
Psychological Benefit				
1. I enjoy exercise.	3.48	0.56	1	4
2. Exercise decreases feelings of stress and tension for me.	3.27	0.63	1	4
3. Exercise improves my mental health.	3.29	0.64	1	4
8. Exercise gives me a sense of personal accomplishment.	2.67	0.94	1	4
10. Exercising makes me feel relaxed.	3.39	0.54	1	4
25. My disposition is improved with exercise.	2.60	0.94	1	4

0.70 32. Exercising improves my self-concept. 2.98 34. Exercising increases my mental alertness. 2.78 0.82 38. Exercise is good entertainment for me. 3.18 0.83 4 3.05 0.60 39. Exercising increases my acceptance by others. 2.86 0.69 43. Exercise improves the way my body looks. 4 Social Benefit 3.00 0.90 11. Exercising lets me have contact with friends and persons I enjoy. 4 30. Exercising is a good way for me to meet new people. 0.94 2.93 4 Physiological Barrier 19. I am fatigued by exercise. 2.32 0.84 4 40. Exercise is hard work for me 1.82 0.68 **Psychological Barrier** 0.87 6. Exercise tires me. 2.09 1.74 0.66 12. I am too embarrassed to exercise. 28. I think people in exercise clothes look funny. 2.27 0.87 4 Social Barrier 999 290.95 453.27 21. My spouse (or significant other) does not encourage exercising. 24. Exercise takes too much time from family relationships. 2.11 0.82 4 0.84 1.86 4 33. My family members do not encourage me to exercise. 37. Exercise takes too much time from my family responsibilities. 1.93 0.60 **Environmental Barrier** 1.97 0.83 4. Exercising takes too much of my time. 9. Places for me to exercise are too far away. 1.97 0.88 14. It costs too much to exercise. 1.85 0.69 0.79 16. Exercise facilities do not have convenient schedules for me. 2.08 2.03 0.90 42. There are too few places for me to exercise.

In Table 2, the frequency of both outdoor activities and sport categories were shown. The highest frequency was 4 (n = 103), which indicated participating in outdoor activities weekly, and the second was 5 (n = 88), which indicated participating in outdoor activities every day. For the sport category, the highest frequency was 4 (n = 126), which indicated participating in outdoor activities weekly, and the second was 5 (n = 84), which indicated participating in sport every day.

Table 2. Participation Frequency of Outdoor Activities and Sports

Outdoor Activities Frequency	Frequency	Percent
Never	8	2.7
2 to 3 times a year	29	9.7
Once a month	23	7.7
2 to 3 times a month	49	16.3
Every week	103	34.3
ery day	88	29.3
Total	300	100.0
Sports Frequency	Frequency	Percent
Never	3	1.0
2 to 3 times a year	31	10.3
Once a month	12	4.0
2 to 3 times a month	44	14.7
Every week	126	42.0
ery day	84	28.0
Total	300	100.0



2017 回顧

PRODUCT UNVEILING NIGHT

Life Fitness 香港 於 2017 年 11 月 17 日假香港君悅酒店舉辦了產品發佈會。在場有過百名客戶出席並一起見證及體驗 Life Fitness 最新 Integrity 系列有氧器械、ICG 室內健身單車及應用了 VR科技的 Life Fitness 健身單車。請掃描以下 QR Code 重溫當晚精彩內容。





發佈會相片



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ICG 室內健身單單



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過去 50 年·Life Fitness 為不同人士提供度身訂造的 專業健身器材及方案。未來,我們會繼續為不同類型 的客戶提供更多元化、更全面的產品和服務選擇,以 滿足他們不同的需要,成為他們身邊最值得信賴的合 作伙伴。

聯絡我們

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In Table 3, LPI scale was used to analyze the types of PA that the participants did. Choices of the PA were modified to match with some already known popular PA in Hong Kong. About the outdoor activities, walking was chosen by 199 subjects (= 66.3%), while hiking was 94 (= 31.3%), excursion was 73 (= 24.3%), cycling was 29 (= 9.7%) and fishing was 8 (= 2.7%). In sport category, Taichi was chosen by 109 subjects (= 36.3%), while jogging was 76 (= 5.3%), swimming was 75 (= 25.0%), dance was 44 (= 14.7%), Chi Gong was 33 (= 11.0%), table tennis was 31 (= 10.3%), gate ball was 27 (= 9%) and bocce was 17 (= 5.7%). 29 subjects (= 9.7%) chose "other", which including morning stretching exercise, Ba Duan Jin and Luk Tung Kuen.

Table 3. Types of Physical Activities Participated in the Previous Year (N = 300)

Outdoor Activities	Number of subjects participated in previous year	Percent (%)
Walking	199	66.3
Hiking	94	31.3
Excursion	73	24.3
Fishing	8	2.7
Cycling	29	9.7
Other	0	0
Sports	Number of subjects participated in previous year	Percent (%)
Taichi	109	36.3
Chi Gong	33	11.0
Dance	44	14.7
Swimming	75	25.0
Jogging	76	25.3
Table Tennis	31	10.3
Gate Ball	27	9.0
Bocce	17	5.7
Other	29	9.7

Multiple Linear Regression

Multiple linear regression analysis was used to develop models for predicting elderly participation level in PA from exercise benefits and exercise barriers.

In Table 4, the social benefit (p = 0.006) and psychological benefit (p = 0.000) were significant (p < 0.05) to predict the outdoor activities participation level. The value of R square was 0.31 and adjusted R square was 0.30, which explained 30.4% of the variance in outdoor activities participation level.

Table 4. Multiple Regression Analysis of Outdoor Activities Participation Level with Exercise Benefits

Variable	В	SE B	β	1	p
Physiological Benefit	0.11	0.30	0.04	0.38	0.70
Psychological Benefit	0.78	0.28	0.27	2.79	0.01*
Social Benefit	0.49	0.11	0.31	4.35	*00.0

Note: $R^2 = 0.31$; Adjusted $R^2 = 0.30$, * p < 0.05

In Table 5, social benefit (p = 0.000) was significant (p < 0.05) to predict the sports participation level. The value of R square was 0.41 and adjusted R square was 0.40, which explained 40.2% of the variance in sports participation level.

Table 5. Multiple Regression Analysis of Sports Participation Level with Exercise Benefits

Variable	В	SE B	β	t	p
Physiological Benefit	0.29	0.26	0.12	1.16	0.25
Psychological Benefit	0.36	0.24	0.13	1.50	14
Social Benefit	0.65	0.10	0.45	6.82	*00.0

Note: $R^2 = 0.41$; Adjusted $R^2 = 0.40$, * p < 0.05

In Table 6, psychological barrier (p = 0.000) and social barrier (p = 0.000) were found to be negative but significant (p < 0.05) to predict the outdoor activities participation level. The value of R square was 0.41 and adjusted R square was 0.40, which explained 40.3% of the variance in outdoor activities participation level.

Table 6. Multiple Regression Analysis of Outdoor Activities Participation Level with Exercise Barriers

Variable	В	SE B	β	t	p
Physiological Barrier	-0.11	0.13	-0.05	-0.80	0.42
Psychological Barrier	-0.56	0.16	-0.23	-3.47	*00.0
Social Barrier	-1.09	0.15	-0.46	-7.23	*00.0
Environmental Barrier	0.10	0.17	0.04	0.59	0.55

Note: $R^2 = 0.41$; Adjusted $R^2 = 0.40$, * p < 0.05

In Table 7, psychological barrier (p = 0.024) and social barrier (p = 0.000) were found to be negative but significant (p < 0.05) to predict the sports participation level. The value of R square was 0.39 and adjusted R square was 0.38, which explained 38.2% of the variance in sports participation level.

Table 7. Multiple Regression Analysis of Sports Participation Level with Exercise Barriers

Variable	В	SE B	β	1	p
Physiological Barrier	-0.16	0.12	-0.08	-1.32	0.19
Psychological Barrier	-0.34	0.15	-0.15	-2.27	0.02*
Social Barrier	-0.82	0.14	-0.38	-5.77	*00.0
Environmental Barrier	-0.25	0.16	-0.11	-1.60	0.11

Note: $R^2 = 0.39$; Adjusted $R^2 = 0.38$, * p < 0.05

Discussion

In this study, all the participants were the members in elderly centres, which implied that they were somehow physically active than those who were not the members. The subjects were willing to spend times outside their homes. Thus, very few of them were neither participating in outdoor activities nor sports.

Viewed in exercise benefits, psychological benefit and social benefit were moderately associated with outdoor activities participation level. Similar with other researches (Tokarski, 2004; Lee & Hung, 2012; Zhao & Chen, 2013), this study indicated that psychological benefit and social benefit increased the participation level in outdoor activities, especially walking, hiking and excursion. They enjoyed in doing exercise as it would improve their mental health, made them feeling relaxed and could contact with their friends. The result shown that engaging in PA helped maintain mental health, especially who were just retired (Tokarski, 2004; Lee & Hung, 2012). The younger elderly felt frustrated and lonely right after their retirement as they had not explored the elderly world yet, or they might feel become a burden of the family. Besides, the result shown that family or spouse support was also a crucial factor to increase their participation level in PA (Nambaka, Kamau, Amusa, Goon and Andanje, 2011; Dorgo, King & Brickey, 2009).

Although the exercise benefits as a whole predicted participation level, physiological benefit could not solely and significantly predicted participation level, which is different from other studies (Greenlund, Keenan, Clayton, Pandey & Hong, 2012; Lübcke, Martin & Hellström, 2012; Bocksnick, 2004; Nambaka, Kamau, Amusa, Goon & Andanje, 2011). The elderly was no doubt to know the physical benefit that



exercising could bring them. However, this was not the main reason for them in choosing to do exercise or not. The key issue they concern most was that PA brought them enjoyment and opportunity in socialization (Zhao & Chen, 2013). As most of them were retired, they felt bored and loneliness and wanted to spend their leisure time to get rid of the negative feelings.

Similar with the results of outdoor activities participation level, sport participation level was positively associated with social benefit. As most of the sports had to be learned, socializing occurred in this situation. Both Deforche and De Bourdeaudhuij (2000) and Eldred (2007) mentioned that the participation level would be higher if those activities were organized exercise program or group exercise. Besides, Nielsen, Wikman, Jensen, Schmidt, Gliemann and Andersen (2014) also mentioned that elderly liked participating in team sports as these activities provide them an opportunity to have social contact with peers. Nevertheless, in this model, physiological and



psychological benefits were not applicable to predict the increasing participation level in sports. When they were considering participating in exercising or not, social benefits came to the first priority.

Results indicated that psychological and social barriers were moderately associated with the decreasing participation level in outdoor activities. Both of them were significant to explain why they influenced the participation level negatively. The elderly might worry that participating in outdoor activities made them mentally tired as they had to prepare the necessary equipment, worried about the weather or the physical incapability in performing the activities. Reducing time to take family responsibilities and relationship was also another factor that preventing them to participating in outdoor activities (Nambaka, Kamau, Amusa, Goon & Ananje, 2011).

As they were retired and should be "free" all the times, family members felt that the elderly should be able to spend all of their times in handling family issues. It became a burden of them and avoided them to join the outdoor activities. Moreover, the psychological trauma caused by fall might be another barrier that reducing the participation level of the elderly (Wong & Cheung, 2002). The values of physiological and environmental barriers were not significant, thus, they could not explained the participation level of outdoor activities in this model. According to the findings, few of the participant's expressed PA made them tired or fatigue. The result also shown that the participant s disagreed that participating in PA preventing them in taking responsibility and spending time in family, and there were adequate exercise facilities nearby. Thus, those physiological and environmental barriers would not affect their decisions in participating in PA.

The decrease in sport participation level could be explained by the psychological and social barriers. The elderly more or less worried about their physical fitness, felt embarrassed in performing sport skills or techniques in front of the others or unwilling to reduce the times in handling family issues. In addition, the experienced of fall caused by playing sports also prevented the elderly to participate again (Centre for Health Protection, 2013). They knew that if they played the sport again, that means they had to perform the same movement that led them fall again. It was not easy for them as they had the psychological trauma already.

Both physiological and environmental barriers' values were not significant in this model and could not explain the negative influence of participation level in sports. Playing sports required more facilities and resources, like equipment or course fee. However, as most of the participant s stated that there was no lacking in facilities and there were so many elderly centres in Hong Kong (Social Welfare Department of HKSAR, 2015), environmental barriers might not be a significant factor that affected their participation decision in PA.

Future Research

This study provided the picture of the exercising patterns and shown the partial exercise benefits and barriers that both increasing or decreasing the PA participation of the elderly in Hong Kong. Future research should examine different segment of the elderly in Hong Kong. For instance, the elderly who are not the members of elderly centres or younger elderly, like aged 55-60, in order to get a wider range of data to explain the participation trend and understand different reasons that influence their PA participation. Finally, the long-term target should use exercise benefits to eliminate exercise barriers and enhance, maintain the PA participation of the elderly in Hong Kong.











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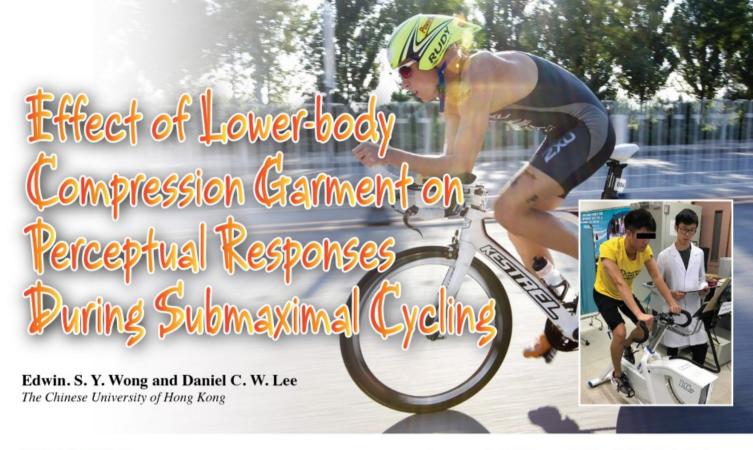
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Introduction

The use of compressive garments such as commercially available sports compression tights, sleeves and stockings has become widely adopted among athletes and coaches. Compression garment has been known for treating circulatory and lymphatic disorders as stated in the medical literature (Ramelet 2002). Besides its efficacy as a treatment in the medical field, the popularity of using the compression garments has increased significantly over the past decade among professional and recreational athletes (MacRae, Cotter & Laing, 2011), as commercial companies profess that the associated benefits can be applied to enhance exercise performance and recovery. Compression garments are believed to improve venous return when graduated compression is applied to the limbs from proximal to distal (Lawrence & Kakkar, 1980; Bochmann et al., 2005).

Along with better blood flow, studies have shown that the performance improvement may be related to a lot of potential mechanisms, including boosted proprioception (Perlau, Frank & Fick, 1995), enhanced oxygen delivery and perfusion (Bochmann et al., 2005), improved heat tolerance (Doan et al., 2003), and reduced muscle oscillation during exercise (Kraemer et al., 1998). However, there are limited published studies supporting that lower-body compression garments provide perceptual benefits assertions in submaximal cycling performance setting.

Studies have shown that wearing lower-body compression garments during endurance cycling results in a higher mean power output (Scanlan, Dascombe, Reaburn & Osborne, 2008; Driller & Hanson 2013). Driller & Hanson (2013) deemed that the compression garment assists performance through enhanced blood flow and redistribution of blood flow as they found that wearing compression garments results in a lower heart rate at the same given work intensity. However, many published studies have not reported any difference in heart rate when wearing

compression garments (Ali, Creasy & Edge, 2011; Chatard et al., 2004; Scanlan et al., 2008). Previous studies mainly used incremental trial, when performance was significantly improved, it was always difficult to delineate the reason of improvement. In current study, the perceptual changes had been monitored throughout trials with the aim of figuring out any positive effect from wearing sports compression tights duringcycling performance trials. To eliminate physiological factors caused by sports compression tights, the cycling trials of both sports compression tights (LBCG) and loose-fitting shorts (CON) had kept constant loading.

Different researches expose that wearing compression garments have little effect on the rate of perceived exertion (RPE) during various running or repeated sprinting protocols (Bringard, Perrey & Belluye, 2006; Sperlich et al., 2010; Ali, Caine, & Snow, 2007). Nonetheless, those published studies only use RPE, comfort and feel ratings as indicators on perceptual responses. There are two studies that report perceived activation (felt arousal scale, FAS) and affective valence (feeling scale, FS) of wearing compression garments. However, researchers have found that there are no differences in perceptions of pleasure–displeasure, activation and exertion between wearing and not wearing compression garment during running trials (Ali et al., 2007; Ali, Creasy & Edge, 2010) but, limited study investigates the FAS and FS during submaximal cycling in healthy young males.

Therefore, the aim of this study is to investigate the perceptual responses in healthy young males with affective responses (FAS & FS) and RPE, during cycling performance test with the application of sports compression tights.

Method

Participants

Twelve healthy young males (mean \pm SD; age = 21 \pm 1.5 years; stature = 172.7 \pm 4.6 cm; body mass = 65.0 \pm 7.5 kg;



percent Body fat = 14.1 ± 3.7 %; Peak Power Output = $253.5 \pm$ 31.2 W) without history of unexplained syncope and leg pain were recruited to participate in this study. Participants were provided with verbal and written information of the experiment and signed informed consent statements prior to any testing. The participants attended two testing trials in two separate days, both at daytime between 0800 and 1200) in an isolated air-conditioned room. Each participant was asked to refrain from strenuous exercise for at least 24 hours before each trial. also caffeine and alcohol 12 hours prior to each trial, and to participate each session in a fully rested and hydrated state (consume 500 mL of water the night before). Participants were given a standardized breakfast upon arrival at the laboratory, with 15 mins of sitting quietly before undertaking the experimental procedures. The standardized breakfast was an energy bar (Soyjoy, Almond & Chocolate) and 245ml of electrolyte drinks (Pocari Sweat), other food was prohibited before the visits. The protocol was reviewed and approved by the local institutional ethics committee in accordance with the latest version of the declaration of Helsinki and all participants gave written informed consent.

Study Design

The current study consisted of three separate testing sessions over two-week period. At the beginning, participants completed an incremental cycling test on an electromagnetically braked cycle ergometer (Monark LC7, Stockholm, Sweden) to establish peak power output (PPO) of each participant. After the PPO test, two separate experimental trials on sports compression tights (LBCG) and normal sport pants (CON) respectively were then performed in a randomized crossover design separated within 5 days.

Visit 1 – Informed Consent, Anthropometric measurement, *Peak Power Output (PPO) test*

Participants had an anthropometric measurement, measuring body mass and stature in order to get suitable LBCG, followed by anthropometric measurements and a PPO test. In the course of testing, participants rode to exhaustion in an incremental cycling test, which started at 80 watts for ten minutes and increased in power output by 25 watts every minute until volitional exhaustion on a cycle ergometer (Monark LC7, Stockholm, Sweden). Participants should maintain a pedaling frequency at 70 repetitions per meter (rpm) or above during the incremental test, then the PPO was determined using the following formula:

PPO = watts completed + (time/60 x 25)

The PPO formula used in the current study was adapted from previous studies (Driller & Halson 2013), in which stated that "watts completed" is the power output for the last full workload completed, "time" is in seconds that the last unfinished workload was sustained, 60 is the number of seconds in each stage and 25 is the workload increase in watts.

Peak power output was recorded, and heart rate was recorded with a heart rate monitor (Garmin heart rate belt, data showed on Monark LC7) during the PPO test. The state of exhaustion would be validated by the reaching of maximum workload that participants could not maintain 70 rpm for 15 seconds consistently.

Felt Arousal Scale (FAS), Feeling Scale (FS) and Rating of Perceived Exertion (RPE) were assessed after 10 minutes warm up, then after every 3 minutes, as well as immediately at the end of exercise. Participants underwent a familiarization of FAS, FS and RPE during the PPO test, with a view to getting used to the perceptual feelings scales and minimizing the error in experimental trials.

Visit 2 & 3 – LBCG Pressure Measure, Experimental Trials

The LBCG used in the current study was the men's full-length compression tights (2XU Elite Compression Tights), which comprised of 80% polyamide (Nylon) and 20% elastane (Spandex). The LBCG wrapped the medial malleolus of the ankle to the iliac crest. Each LBCG fitted the participants according to manufacturer's size guidelines on height and weight. During the CON trial, participants wore loose-fitting shorts and there was no possible compression pressure related to the shorts. Throughout the exercise tasks for both trials, participants wore the same shirts, socks and shoes to avoid perceptual variations associated with the clothing worn.

The exerted pressure (EP) by the LBCG was measured with a pressure monitor (PicoPress 35020 Ponte S. Nicolò PD – Italy) with 4 transducers of 50 mm diameter at four different landmarks along the right leg (Figure 1). Landmarks were based on previous studies on sports CG (Brophy-Williams et al. 2013), which divided the lower limb into four sections and effectively measured the graduated compression. The four landmarks of EP were measured while participant is standing with their feet shoulder-width apart and their weight evenly distributed. The 4 transducers were placed between the skin and LBCG above the calf (medial mid-point of medial malleolus to lower border of patella), posterior position of knee, low-thigh (lower 3/4 of anterior superior iliac spine to upper border of patella) and mid-thigh (anterior aspect of the thigh, the mid-point between the inguinal crease and the superior-posterior border of the patella). Each landmark was measured twice and the mean was taken. If the difference between the measurements was greater than 1 mmHg, a third measurement would be conducted and the median would be taken.

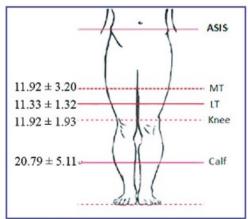


Figure 1. Mean ± SD on exerted pressure (mmHg) at mid-thigh, lower-thigh, knee and mid-calf of LBCG used in this study.

Likert scales were used to monitor the feel of wearing LBCG in a standing position before the experimental trial (Ali et al., 2007). To assess the feelings of wearing the compression tights, three 10-point rating scales were used to measure comfort, tightness, and any pain associated with wearing the compression tights. Responses for each variable ranged from 1 "very uncomfortable" to 10 "very comfortable", 1 "very slack" to 10 "very tight", and 1 "no pain" to 10 "very painful" respectively.

Prior to the start of visit 2, to wear compression tights or loose-fitting shorts were determined by throw of dices randomly. If the result was an odd number, participants would wear lower-body compression garments, and if the result was an even number, participants would wear control garments (loose-fitting shorts). If participants wore compression garments during visit 2, then they should wear normal shorts during visit 3, and vice versa.

These visits included a 10-min rest and standardized breakfast, a 10-min warm up (5 mins each at 40% and 50% of peak power output) then a tiring exercise (5 min each at 60% and 85% of peak power output) (Ménétrier et al., 2013). Participants were required to obtain a pedaling frequency around 70 –75 rpm.

The perceptual responses (FAS, FS, RPE), lactate and heart rate were recorded before the trial, after every 5 minutes, at end-exercise during the trial and 3 minutes after the trial. The point scales of FAS, FS and RPE were placed in front of the participants during the trial for reporting precisely.

Besides lactate and heart rate, perceptual responses including participants' rate of perceived exertion (RPE; Borg, Ljunggren & Ceci 1985), perceived activation (felt arousal scale, FAS: Svebak & Murgatrovd, 1985) and affective valence (feeling scale, FS; Hardy & Rejeski, 1989) were recorded (Lee et al. 2017) before the trial, after every 5 minutes of the trial, at end-exercise during the trial and 3 minutes after the trial. The FS scale consisted of an 11-point single item scale ranging from +5 (very good) to -5 (very bad) was used to quantify pleasure and displeasure (affective valence) while cycling performance. The FAS measured participants'

perceived activation and how "worked up" individuals felt. This scale was a six-item scale ranging from 1 (low arousal) to 6 (high arousal). The RPE was quantified using the CR10 Borg-scale (Borg et al., 1985). This was a ten-item scale ranging from 1 (rest) to 10 (maximal).

A visual plot of the mean of the FS and FAS ratings during the 6 periods of the trial (pre-cycling, 5min 40%, 50%, 60% and 85% PPO, and post-cycling; Figure 3) used a circumplex model (Russell, 1980). Perceived ratings of arousal/activation were represented on the vertical axis with ratings of affect (pleasure–displeasure) on the horizontal axis.

Lower limb soreness was assessed before and after the experimental trials using an algometer (Force Dial FDK 60, Wagner Instruments; Greenwich, CT) to apply pressure and measure changes in sensitivity. Six anatomical landmarks were selected to quantify muscle soreness based on previous studies (Ali et al., 2010), including vastus lateralis (VL) muscle 20 cm above distal end of the lateral aspect of the femur; vastus medialis (VM) muscle 10 cm above distal end of the medial aspect of the femur; biceps femoris (BF) muscle 20 cm above the popliteal line; center of the medial gastrocnemius (MG) muscle belly; center of lateral gastrocnemius (LG) muscle belly; and tibialis anterior (TA) muscle 10 cm above proximal aspect of lateral malleolus. Measurements were provided while participants were sitting on the ergometer.

Participants were asked to verbally indicate when the force caused them 'pain' and those values were recorded before the cycling test (Ali et al., 2010). Following the cycling test, participants were required to give ratings of their perceived LMS on a scale of one (no soreness) to ten (very sore) comparing to the LMS before cycling test (Thompson et al., 1999). Ratings were recorded immediately pre and post cycling test.

Statistical Analysis

Data was analyzed using SPSS (SPSS Version 20, Chicago, IL). Two-way repeated measures ANOVA were used to explore the differences between garments (CG, CON), and perceptual feelings. Paired samples t-tests were used to compare the differences in the change of leg muscle soreness and comfort scale between CG and CON trials. Statistical significance was set at P < 0.05. Data was presented as mean \pm SD unless otherwise specified. To compare the practical relevance and meaningfulness of the various findings, effect sizes were calculated using the conventional procedure proposed by Cohen; effect sizes (d) of 0.20, 0.50 and 0.80 were regarded as small, medium and large, respectively (Cohen 1988).

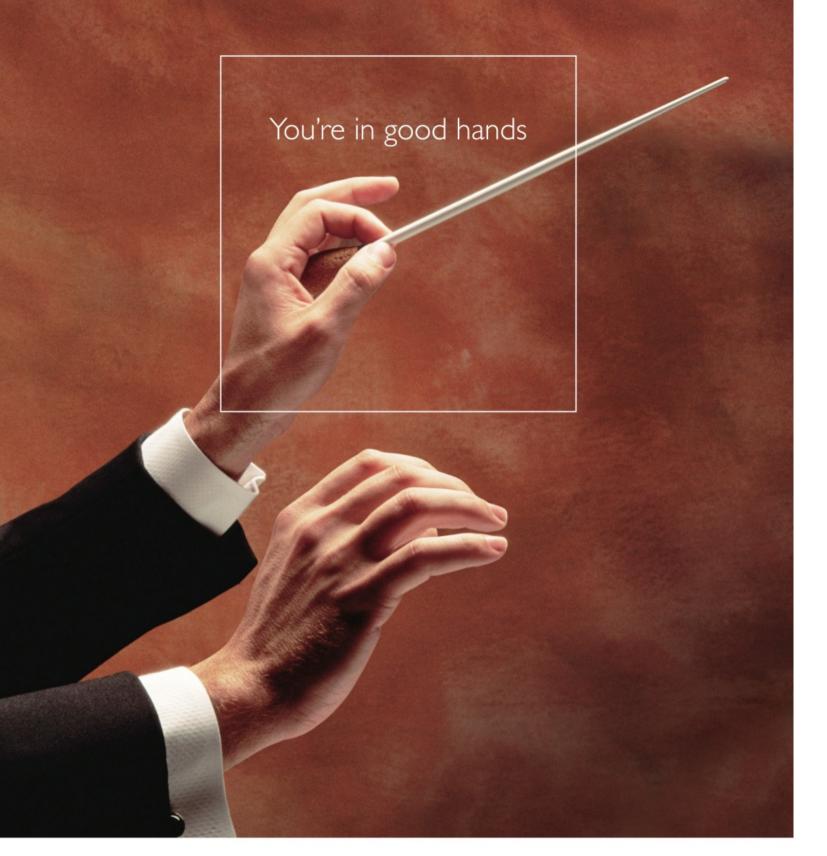
Results

There were no significant differences on three perceptual responses, in FAS (P > 0.05), in FS (P > 0.05) and in RPE (P > 0.05), between LBCG and CON trials (Table 1). There was a main effect of time*LBCG among FAS (P < 0.05).

Table 1. Mean \pm SD of FAS, FS and RPE at pre-cycling, 5min 40%, 50%, 60% and 85% PPO, and post-cycling.

Time point	1	2	3	4	5	6
FAS						
LBCG	2.2±1.1	2.5±0.8	2.8±0.8	3.3±0.6	3.4±1.2	3.3±0.9*
CON	2.6±1.1	2.6±1.0	2.9±1.0	3.1±0.9	3.5±0.8	2.4±0.9
FS						
LBCG	0.6±1.1	0.8±1.1	0.8±1.1	0.7±1.7	0.6±2.0	1.3±1.4
CON	0.8±1.1	0.7±1.1	0.9±1.1	0.6±1.2	0.7±1.3	1.1±1.1
RPE						
LBCG	1.1±0.3	3.6±1.1	5.2±1.1	6.5±1.0	8.5±1.2	4.6±2.0
CON	1.1±0.3	3.5±1.3	4.7±1.1	6.3±1.3	8.3±1.4	4.3±2.7

Note: Time point 1 = Pre-cycling; 2 = 5 min 40% PPO; 3 = 5 min 50% PPO; 4 = 5 min 60% PPO; 5 = 5 min 85% PPO; 6 = Post-cycling; FAS = Felt arousal scale; FS = Feeling scale; RPE = Rate of perceived exertion; LBCG: Lower-body compression garment; CON: Loose-fitting shorts. *Significantly difference when compared to CON (P < 0.05).



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The feeling of wearing the LBCG and CON in a standing position had significant difference. The comfort of wearing LBCG (7.00 \pm 1.71) was lower than CON (8.5 \pm 1.45, P < 0.05; Cohen's d: 0.95); the tightness of wearing LBCG (7.08 \pm 1.00) was higher than CON (2.67 \pm 1.61, P < 0.05; Cohen's d: 3.29) and any pain associated of wearing LBCG (1.25 \pm 0.45) was higher than CON (1.00 \pm 0, P < 0.05; Cohen's d: 0.79) (Figure 2).

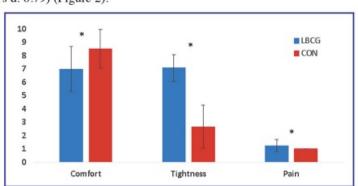


Figure 2. The comfort, tightness and pain responses from participants. *Significant difference (P < 0.05) between LBCG and CON.

There was a significant improvement (P < 0.05) in leg muscle soreness (LMS) before the trial, shown by the pre-muscle soreness of VM, BF, MG, LG, as they decreased in the LBCG condition when compared to the control condition (-9.0 N; -12.8 N; -13.3 N) (Table 2).

Table 2. Mean \pm SD of leg muscle soreness (LMS) on different landmarks at pre- and post-cycling from one (no soreness) to ten (very sore).

	Pre	(N)	Pe	ost
	LBCG	CON	LBCG	CON
VL	67.7±14.5	59.7±21.4	2.2±1.6	2.3±1.4
VM	63.2±19.7*	54.2±18.1	3.3±2.1	2.6±1.7
BF	84.7±19.9*	71.9±23.3	2.8±2.5	2.7±2.0
MG	65.6±18.2*	53.8±20.4	3.8±3.1	3.4±2.6
LG	75.3±20.4*	62.0±24.4	2.1±1.6	2.6±1.4
TA	85.0±23.3	79.6±31.7	1.7±1.6	2.3±1.9

Note: LBCG: Lower-body compression garment; CON: Loose-fitting shorts; VL = Vastus lateralis; VM = Vastus medialis; BF = Biceps femoris; MG = Medial gastrocnemius; LG = Lateral gastrocnemius; TA = Tibialis anterior. * Significantly higher LMS than CON (P < 0.05)

Discussion

The aim of this study is to examine the effectiveness of LBCG on perceptual responses in healthy males during submaximal cycling performance. The results demonstrated no significant differences in activation (FAS), affective valence (FS) and RPE between trials. In this cohort, LBCG did not have an impact on arousal during submaximal cycling exercise and the perception of pleasure–displeasure was similar between trials. Although there was a main effect of time on LBCG among FAS, the pairwise comparisons demonstrated that there were no significant differences between each time point. In addition, RPE in LBCG and CON trials had no differences, this might be due to the equal workload of both trials.

There was a significant difference (P < 0.05) in comfort, tightness and pain associated of wearing LBCG and CON. However, there were only small differences in comfort (1.5 scale point) and pain (0.25 scale point difference) in the LBCG condition when compared to the control condition. The Likert scales ranged from 1 "very uncomfortable" to 10 "very comfortable", and 1 "no pain" to 10 "very painful" respectively. The comfort associated with LBCG tended to be high and the

pain associated with LBCG tended to be very low accordingly (Figure 2).

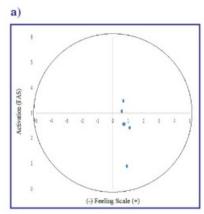
As reported in previous published study, placebo effects are difficult to control in compression garment research, since it is always difficult to delineate any performance effects (Driller & Hanson, 2013). Thus, the current study had fixed performance levels and conditions, and to investigate the effects of LBCG on FAS and FS

Results demonstrated no significant differences in activation (FAS), affective valence (FS) and RPE. The current results supported previous data, which reported compression garment having no effect to the perceptions of pleasure—displeasure, arousal/activation and exertion between wearing and not wearing compression garment on running performance (Ali et al., 2007).

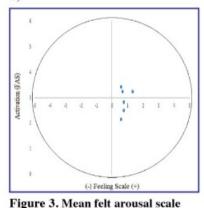
Combining the results from both FAS and FS scales ("circumplex model"; Russell, 1980), it illustrated a more comprehensive understanding of the subjective exercise experience (Backhouse, Bishop, Biddle & Williams, 2005) as anticipated. The model applied to the data from the current study demonstrated a participant in the LBCG trial to have higher activation and similar pleasure state compared to the CON trial (Figure 3A & 3B). This showed that throughout the 6 periods of the trial (pre-cycling, 5min 40%, 50%, 60% and 85% PPO, and post-cycling), the participants in the LBCG trial were 50% of the time in the "high-activation, pleasure" quadrant and 50% in the "decreased activation, pleasure" quadrant, while there were only 33.3% of the participants who belonged tothe "high-activation, pleasure" quadrant and 66.7% in the "low activation, pleasure" quadrant in the CON trial.







b)



(FAS) and feeling scale (FS) values during 6 time point of cycling performance shown as Cartesian coordinates in a circumplex model. a) Lower-body compression garment (LBCG) trial; b) loose-fitting shorts

The "high activation, pleasure" quadrant wass associated with energy, vigour, excitement and revitalization, whereas "low activation and pleasure" quadrant wass associated with calmness, relaxation, tranquility and serenity (Ekkekakis, Parfitt, & Petruzzello, 2011). From the circumplex model, it showed that people with LBCG were likely to experience energy, vigour, excitement and revitalization than people with normal shorts. Therefore, current findings suggested that wearing LBCG during cycling performance had beneficial effects in perceived activation and pleasure state and improved the "feel-good" characteristics of cycling when compared to loose-fitting shorts.

Limitation

A limitation of the current study was that data could only be applied to healthy males performing lab-based cycling exercise when wearing LBCG. Future research on participants from different population such as leg pain patient is warranted. Also, higher compression level of LBCG can be used in future studies, since previous study has shown that different grades of graduated compression stockings have different ratings of perceived comfort and pain. (Ali et al., 2011)

Conclusions

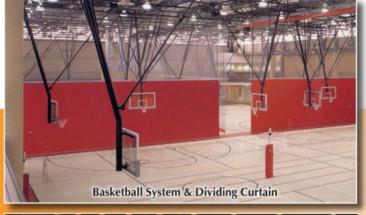
There are limited published studies that compare the perceptual effects of wearing LBCG on cycling performance relative to a normal short, involving activation (FAS) and affective valence (FS) as indicators. Wearing LBCG had no perceptual effect on submaximal cycling performance for healthy males. In addition, participants rated CON as more comfortable than LBCG, less associated pain and with lower tightness; therefore, people considering better perceptual response for submaximal cycling should not wear LBCG. However, the level of comfort associated with LBCG tended to be high and the pain associated with LBCG tended to be very low when observed alone. The effects of wearing of LBCG on exercise and recovery performance should be further investigated not only for the physiological benefits but also the psycho-perceptual effects.



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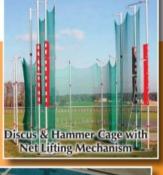
























Starting Blocks

















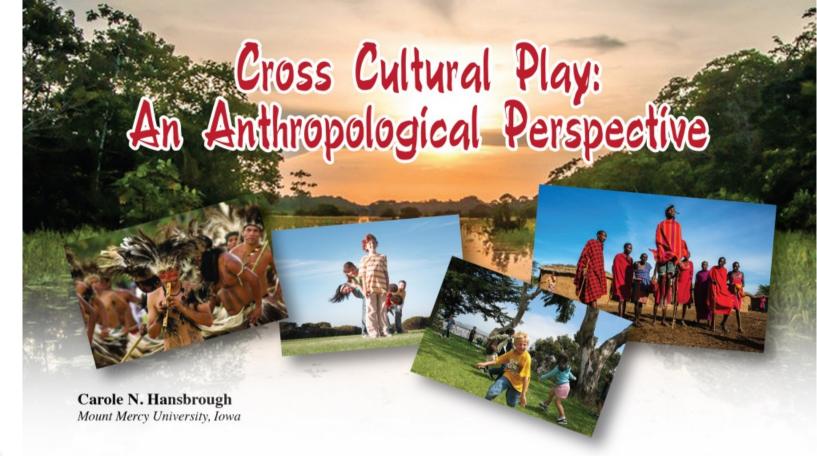






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Prologue

I spent the better part of my twenties journeying throughout Asia. I made my way to Hong Kong, Korea, and Japan several times and ended one of my excursions with an unplanned trip to Thailand. While in Thailand I lived on a communal housing compound that stood on the edge of a jungle with several rural Thai families. The compound was surrounded by a cement wall, and I was sleeping on an old dusty mattress on the ground. While there I trekked through the jungles, and visited a pastoral elephant farm, exciting local markets and several sacred temples. One day I asked my host, if there was an orphanage or school nearby. On the back of his vintage motorbike we made our way down a dusty old road, and I found myself standing in the middle of a dirt courtyard that resembled a semi-arid grassland, encased by several dormitories. For a moment, I stood there alone looking at the buildings, my eyes inspecting each doorway and window that surrounded me. Suddenly, the doors of the dormitory flung open and about 100 Thai

children flooded the courtyard and began to embrace me, laughing, smiling and clasping tightly at my wrinkled khaki shorts and t-shirt. There was pure spontaneity, elation and delight in the children as they grasped at me.

For a moment I was overwhelmed, and consciously aware that these children perhaps thought I had come to adopt one of them. I was only 25 at the time, and was in no position to adopt a child. I thought silently to myself, what do I possibly have to offer these children? I have no clothes, no toys or trinkets, no money, and I can't possibly take a child home with me at this point in my life's journey. All I had to share was my personal affection, playfulness and ability to lead games. I had a minor in recreation and leisure from the University of Oregon and had been a camp counselor with Camp Adventure Child and Youth Services for several years, and so without delay, I spent the next 3 hours organizing

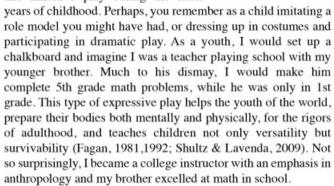
the children playing every new game I could think of from Stella Ola Ola to Freeze Tag. We competed, cooperated, teased, joked and excitedly laughed together. Concurrently, we used animated facial expressions, wild gestures, exaggerated movement and motion to communicate, rapidly adapting to one another. The children did not speak a word of English, nor I a word of Thai and yet we were able to share and participate in hours of cooperative fun, pure joy, laughter, and free-spirited play. This was to become one of the most memorable encounters of my life. As I went on to become an anthropologist later in life, this single event helped me to understand a fundamental concept about the human experience, and the fact that we are universal in so many ways. It doesn't matter where you are in the world, whether you speak the language or understand all the customs and traditions of a particular culture, childhood play is universal. The expressions of happiness, joy and the experience of unstructured extemporaneous play is something that all cultures





Introduction

Play is a universal quality of the human experience, and in most cultures is accepted as a birthright of childhood. Edginton, Jordan, DeGraaf and Edginton (2008) describes play as an activity that is freely chosen, self-directed and intrinsically motivated. This free and structured play can not only increase a child's originality and creativity, but allows children to overcome the limitations of experience, age and maturity through imagination. What begins with sensorimotor development in the earlier years evolves to more complex forms of socio-dramatic, or symbolic and imitative play during the latter



Anthropology can be thought of as the study of human societies and cultures. As play is a part of all human societies and cultures, a study of its various elements can be valuable in understanding our own condition. In this article, play and its relationship to cultural transformation will be discussed. In addition, the article will focus on play and gender, and age grades and their relationship to childhood play. Furthermore, the paper will discuss how environment influences play behaviors. Lastly, examples from a number of indigenous cultures will be discussed including the Dobe Ju Hoansi, Maasai, Inuit and Yanomami. All of these indigenous societies have unique play traditions and practice related to their respective adaptation to their environments.

Even more than representing the development of a child socially, physically and intellectually, more importantly play helps children to share cultural rules, motivations, perceptions, values and beliefs. Culture as in shared norms, values, symbols, mental maps of reality, objects and structures of power. From birth, children are learning their culture continuously. Culture creates pathways of response through play for historical, and social determinants. "Play is an expression of a particular culture; play is an important context or vehicle for cultural learning/transmission" (Roopnarine, Johnson & Hooper 1994, p.5). Extemporaneous activity play can be affected by cultural context and different values are demonstrated according to the cultural environments. Play in a sense, becomes an informative space for the natural flow of cultural values, and allows a rehearsal for reality. Furthermore, (Sutton-Smith 1998 p. 7)



report that "play with toys has a particular role in this picture and is vital for enhancing and fostering symbolic knowledge. Toy making is part of the process of culture change in both industrial and nonindustrial societies."

Play and Cultural Transformation

The evolution of cultural change through innovation, expression, and natural spontaneity can also be transformative in nature, and play can facilitate this (Shultz & Lavenda, 2009). "Moving from everyday reality requires a radical transformation of perspective" (p. 170). Play facilitates new interpretations to cope with change and helps create a more satisfying life in the face of crisis and revision. Dynamic play can not only help maintain a system of relationships (Geertz, 1973), but it can also "contribute to a change in those relationships through its envisagement of alternative possibilities" (Sutton-Smith, 1977, p. 230).

This interplay between culture and human development is significant, and culture can influence the degree to which child's play is fostered. Play can be influenced by time and space, attitudes, frequency and duration (Gosso, Almeida, & Carvalho, 2013). Games such as cat's cradle, hopscotch, kick ball, and kite-flying, while analogous around the world are modified within cultures. Play becomes culturally relative to the goals that society and individuals create (Shultz & Lavenda, 2009) p167. Edginton and Chen (2009) confirm the idea that play is directly related to not only ones transformation, but the change of community life and nations as a whole.

Play and Gender Socialization

Gender patterns are reflected in social norms and the way that humans organize their lives. They become a powerful invisible framework that determines behavior and social roles, as assigned by an individual culture. These expectations are often reflected in cultural play. Gilmore (1990) suggests that "regardless of other normative distinctions made, all societies distinguish between male and female; all societies also provide institutionalized sex-appropriate roles for adult men and women." There is also statistical frequency of gender patterning around the world, and gender typecasting has a significant effect

on patterns of play cross culturally. In many indigenous cultures men tend to hunt, clear lands for cultivation, and build houses. Women on the other hand, care for crops, children, clean house, fetch water and cook. It has been suggested, this universal division of labor is due to man's body mass along with the inclination for women to avoid things that are not compatible with child care. Men tend to participate in activities that offer more risk, and prove masculinity. In the "manhood puzzle" by anthropologist Gilmore (1990), men have the need to prove their "manhood". Many cultures such as the Maasai who consider themselves fierce warriors execute painful rites of passage to prepare their young men to become warriors.

The hazing that occurs in fraternities in the West not only serves to secure fraternal membership, but can be considered a rite of passage into manhood. Women, on the other hand, who are needed for reproduction are protective, cautious, don't want to jeopardize themselves, or their children and tend to stay closer to home. Female rites of passage likely involve carrying on tasks of the mother, while male rites of passage ensure delivery into manhood and reaffirm maleness.

There are exceptions to these norms; however, and in some African cultures women are known to hunt and serve as fierce warriors (Ferraro, 2006), and in the Hopi Indian cultures men are the weavers (Guest, 2016). In the Juchitan, of Oaxaca, Mexico an indigenous Zapotec society who are matriarchal it is the women who dominate the family, businesses and the economy.

We see gender identity directly affecting childhood play in all cultures. In the Dobe Ju hoansi culture girls are required to keep little siblings alongside when they play, and are not afforded the same freedom as the boys. In addition, typically in most cultures girls are socialized to be more nurturing (Nanda & Warms, 2014), and to play quietly in domestic or socially related play activities. Girls tend to be more involved in conversations and repetitive activities, also occupy more restricted spaces, and play closer to their homes in smaller groups. (Ember, 1981; Freedman & De Boer, 1979). Girls, also tend to be more obedient, responsible and industrious, and pretend play themes are more varied among girls than boys.

Ember 1981; Freedman & De Boer, 1979), suggests that boys tend to inhabit larger spaces, play in groups and venture farther distances away from home. In addition, they participate in play that involve gross motor movements. Boys in many cultures are also encouraged to run, climb, jump, are more aggressive, and self reliant. In some South American Indian communities, boys often play bow-and-arrows, however both sexes play with natural objects in their pretend activities (i.e. sand, stone, wood, bone, plants)(Gosso, Almeida, & Carvalho, 2013). When in larger groups, subgroups are usually formed by children of the same gender. Regardless of cultural context, gender differences can also be illustrated by similar proclivities for play activities. In a comparative study conducted between a Sri Lanka village and a British preschool children, girls participated in responsible or productive work, like child care, housework, and gardening, while boys spent their time playing (Prosser et. al, 1986).

Play and Age Sets/Grades

Age grades also help to define play. In cultures such as the Maasai status is not only defined by age, but young boys and girls move through a series of gender related corporate groups or life stages. These age grades include rules for appropriate dress, behaviors, rituals, and initiations. The age grade system provides a framework for assigning responsibilities, tasks and resources and determines the timetable of events, such as marriage (Ndagala, 1992; Talle, 1988). Age sets determine who they may associate and interact with, which significantly affects their leisure time, play and activities in their youthful years. In Maasai, age grade males move from boyhood, to warrior to elder (Bodley, 2005). Initiations are often daring, heroic, competitive and aggressive. (Haviland, 2008).

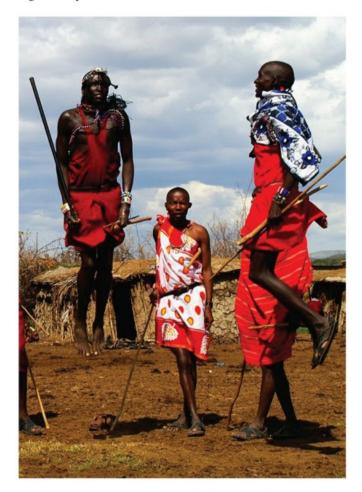
Play and Environmental Adaptation

Most importantly, play is influenced by how people have adapted to their environment. Social structure, livelihood, and cultural identity are interlaced in a number of ways with survival in a particular environment. The Dobe Ju Hoansi, or !Kung of the Kalahari desert live a semi-nomadic life as hunters and gatherers on the semi arid savanna. According to Lee's (1968) affluence hypothesis, as a group a person may spend about 12-19 hours a week in the pursuit of food leaving a good deal of time for leisure activities, The !Kung have no schools, and children are not expected to contribute to subsistence, other than occasionally collect water. Children are often left in the village while mothers collect food and play at the encampment in a secure and socially vibrant environment. Many of the children's games are "imitations of adult activities, such as hunting, foraging, trapping small animals, singing, trancing, playing house, playing parenthood and marriage." (Shostak, 2014 p.97).

Boys and girls play together and share most games, in a society that is egalitarian in nature. The children are not segregated by sex, and there is little or no competition. Draper (1976) suggests, with limited numbers of children in the group competitive games would also be challenging to organize. Furthermore, there is no ranking or need for status, honor or reward. There is quite of bit of space and time for inventive, free and energetic play (Shostak, 2014). One of the favored games of the !Kung children is called Zeni. In this game the children use a stick to throw and catch weights attached to feathers, and again it is not competitive (Draper, 1976). Here, play imitates adult action. The !Kung are hunters and gathers, semi- nomadic, egalitarian and non-combative. In reviewing conflict management, if a band member has a discrepancy that can't be resolved the person simply moves away. Play is reflective of these cultural attributes.

The Maasai culture of East Africa is constructed on a cattle complex which governs their social, political and religious social structure. Living on the Great Rift Valley, the Maasai have been successful nomadic pastoralists for 5,000 years (Bodley, 2004), and live a transhumance lifestyle that requires them to be flexible, and cooperative while herds are continually moved for optimum grazing conditions. The Maasai also share a detailed knowledge of the environment and can be proud and independent (Miller, 2009). Through age sets, adolescence becomes a time of gender solidarity and young men are trained for cattle raiding and warfare. Men have three age grades; ilayiok or "uncircumcised boys," ilmurran or "circumcised young men", and ilpayiani or "elders". Elders are further subdivided into junior, senior, and

ancient elders) (Ndagala, 1992, p. 87; Talle, 1988, p. 93). As the young males of the tribe, their main duties are to protect people and livestock from raiders and animals, water and care for the livestock, track down lost or stolen livestock and complete tasks regulated by the elders.



Young Maasai girls live a relatively carefree life, but do assist their mothers with a variety of chores. Women have two age grades; "intoyie or uncircumcised girls and inkitok or women" (Ndagala, 1992, p. 87; Talle, 1988, p. 94). Girls assist their mothers with domestic chores such as drawing water, milking cows, cleaning the home, gathering firewood, and repairing roofs (Homewood & Rodgers, 1991; Ndagala, 1992; Talle, 1988).

Along with mancala, a popular board game, additional games played by the Maasai children include rain chanting rituals and playing "sheep and goats". Older boys can also be playful and mischievous, putting cows in the doorways that people have to "knock down". Along with protecting the livestock, past warrior traditions included cattle stealing from neighboring tribes. This is reflected in three traditional games of the Maasai children. One game Nairo aya, Nairo Miy, a call and response, game involves a protector and a catcher who tries to steal children who wander off from the protector. The second game includes a catcher, or a lion who attempts to capture a child who is then out of the game (Mesiaki Ole Sululu, 2012). A third game, Nyama, which means "meat" in Swahili is another favorite East African game for children. The children form a circle, with

the leader in the center. The leader mentions an animal that can be eaten and the children jump up in response.

In Nyansongo, Kenya, in the Western African highlands, children often combine play with work and there is little role playing games. Boys will make plows and hurdles out of sticks and have a few simple homemade toys, such as slingshots. Children are known to play tag and have dirt throwing contests. Furthermore, boys play in streams and waterholes where the cattle are watered, and build play dams (Whiting, Edwards & Edwards, 1992). Both, Maasai and Nyansongo games reinforce cultural identity, teamwork, and leadership, all enduring elements of survival in groups.

The Inuit, the indigenous people of northern Canada and parts of Greenland and Alaska, live in an inhospitable environment, relying on creative survival strategies such as fishing and hunting seal, caribou, musk, oxen, polar bears, and whale. Members must be in a constant state of alertness and share an experimental way of living that involves the ability to problem solve and act quickly. Emotional restraint cooperation and physicality, additionally are important elements of survival (Nanda & Warms, 2014).

In these arctic regions, children must be strong, robust, vigorous and agile to survive. Eye hand coordination, problem solving, physical strength and endurance are all necessary skills. Games, which are often played in the dark and on long journeys, stress the body and test physical and psychological endurance preparing children for the rigorous Arctic environment (Nanda & Warms, 2012). During times of food shortages, games also served as a distraction and as amusement. Physical games such as kneel jump, knuckle hop, leg wrestle, back push and high kick developed as necessary skills. Inuit children learn through observing, followed by practice and testing. There is little confrontation and adults combine serious and playful actions when solving problems of conflict. (Eckert & Newmark, 1980). One such trial is an activity called the ear pull game. A thin loop of leather is placed behind the ear and the two children pull in opposite directions. The child that gives into the pain loses. Goals of such examinations are "prize, reason, judgement and emotional control". (Nanda & Warms, 2012 p.27-29).

The Yanomami of the Amazon Rainforest in the Orinoco River basin, between northern Brazil and southern Venezuela share unique settlement patterns, as well as a distinctive social, religious and political structure. Approximately 35,000 Yanomami are dispersed throughout the region in villages that range from 40-250 people (Ross, 1993). The Yanomami diet comes from gardens prepared through slash and burn agriculture (swidden), and hunting and gathering from the tropical broadleaf forest. Possessing a complex relationship with their natural environment, the Yanomami are great observers and they relay on a wide variety of resources from the rainforest to survive. As a culture they are animistic, believing that all natural phenomena (rivers, animals, rocks, and wind ect.) have a spiritual essence, and can communicate intuitively. It takes the Yanomami approximately 4 hours or less to acquire subsistence leaving them abundant time for leisure and socializing. Hunting is repaid through balanced reciprocity, and when a male hunter is successful in catching prey he apportions it among his family and friends.

Women are accountable for domestic activities, gardening, and foraging. Women also manage the gardens, and are responsible for child rearing, while the men hunt in the rainforest. Yanomami women tend to be subordinate, and the society is patriarchal and dominated by the males. At age eight the boys become the responsibility of the male members of society (Scupin, 1998).

The men of the Yanomami tribe strive to achieve a reputation for fierceness, or "waitiri" which has ... "a semantic range from brave, courageous, daring, fearless to savage, wild aggressive and fierce, depending mainly on the context of the situation" (Lizot, 1975 p. 89). They may demonstrate fierceness through club fighting where the proponent must bare a blow stoically to the top of his head (Chagnon, 1998). According to Lizot (1985) the Yanomami can be fierce aggressive and violent, but this violence can be intermittent and they can also be peaceful, and caring. This high degree of conflict, hostility and acts of aggression towards other villagers and neighboring villages can be separated by long periods of serenity and peace (Lizot, 1985). Shortages of eligible women result in the raiding other villages to obtain wives for reproductive success. Polygamous families are comprised of a large patrifocal family unit based on one man, and smaller matrifocal subfamilies. This deficiency of women along with disparities in trade resources, result in over half of the deaths of the Yanomami males caused by violence, raiding and warfare. Furthermore, there is a preference of practicing infanticide against female children. Violence is both instrumental and expressive in nature, however wars are not interminable, and rarely lasts more than two years (Ferguson,1995).

The Yanomami share an militant and combative ideology, socializing boys to be aggressive at a young age. Parents encourage their children to be assertive and slapping, punching and striking with objects is not uncommon. Children learn to withstand pain, and develop tremendous physical endurance. Every blow must be returned with a counter blow. (Warrior of the Amazon, Nova 1997). In there youth boys, are known to use bows and arrows to hunt lizards and wrestle, and engage in rough and tumble play. Girls, on the other hand participate in domestic chores close to their mothers, such as tending to crops and making baskets. The Yanomami children usually play games in the jungle associated with battle through play-fighting which prepares them to become warriors and deal with the adult world

of endemic warfare. Children may play tug of war, participate in ritualized punching games and there is often storytelling, chanting and singing. Chagnon's (1974), documentary films Arrow Game, and Magical Death both demonstrate Yanomami children at play. Magical Death illustrates children imitating their shaman fathers, and Arrow Game presents a group of boys shooting blunt arrows at one another, as well as dodging them.

Concluding Comments

Unfortunately, free spirited play in contemporary western society is being limited due to safety concerns, and time limitations, a growing aspect of Western culture. Parents prefer to keep their children close to home playing video games or watching TV. Studies suggest when television is not available children use their time in the occurrence of play. Children in rural areas of the world without television seem to have more "freedom" in playful pursuits. In contrast, children in urban settings are often restricted to "safe areas" to play or a home environment. Again, temporal space indicates the nature of play.

Play as noted is a universal phenomenon. It is influenced by one's culture and in turn influences culture. Play is reflected and embedded in the norms, customs, symbols and rituals of every society. Play as an activity reflects the opportunity for individuals to freely express themselves; explore roles; engage in social interaction and bonding and gain an awareness and appreciation for basic behavioral concepts such as cooperation, collaboration and competition. We think of play as an activity of one's childhood however, adults play. The play of children is very spontaneous and the play of adults is more highly structured and organized. Nonetheless, all are engaged in play activities and behaviors. This article has offered perspectives for understanding play as an anthropological construct. Anthropology involves the study of human societies and their development. Play is a part of human culture and worthy of examination. The framework of this paper has emphasized the nature of play as it relates to culture, transformation, gender, age sets/grades, as well as the environment. In addition, the article has offered examples of play from various cultures and societies. Understanding the distinctions of these elements of play allows the opportunity for greater insight into our own play traditions, practices and



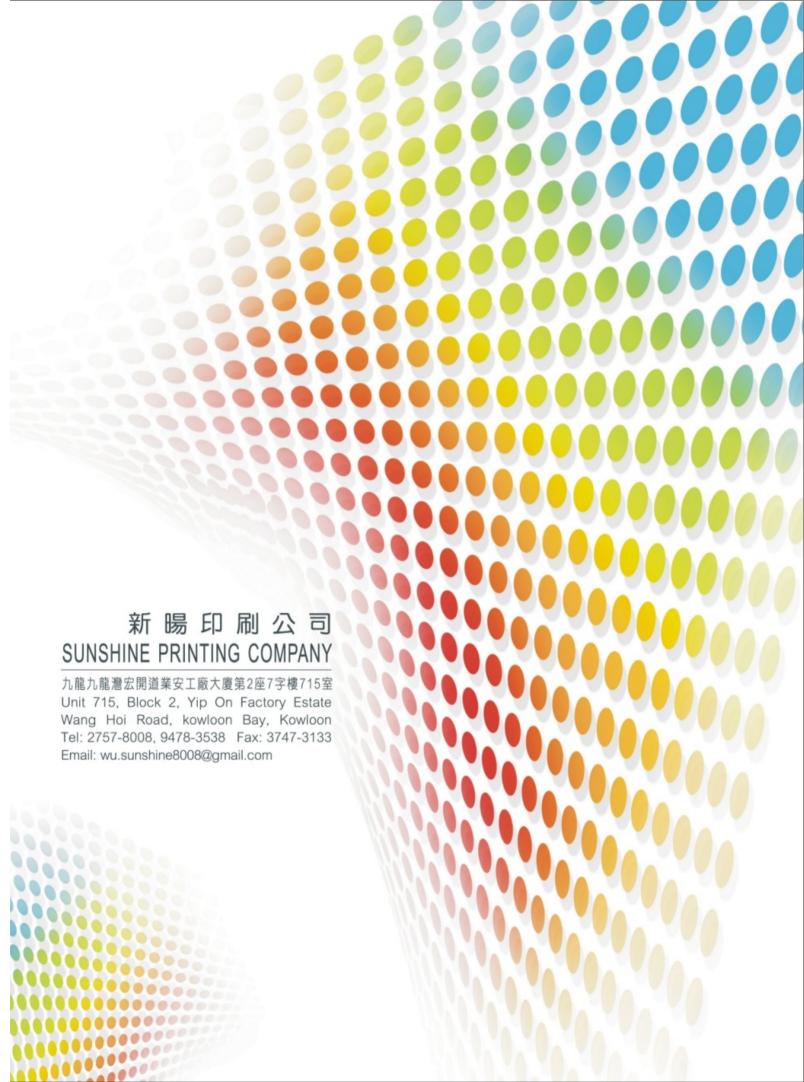


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HONG KONG RECREATION MANAGEMENT ASSOCIATION

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The objects of the Association are:

- a. To provide a forum of meeting for members of the Association to exchange information, experience, ideas and concepts on the principles and practice of recreation management in Hong Kong and abroad.
- b. To promote, support and encourage education in recreation management and where necessary to conduct lectures, training courses and seminars, to publish articles on the principles and practice of recreation management, to conduct examinations and to grant certificates.
- c. To develop the science and techniques of recreation management and to formulate standard of knowledge, training, conduct and experience which are desirable in the practice of recreation management.
- d. To do all or any of the above things as principals, agents or otherwise and by or through agents or otherwise, and either alone or in conjunction with others.
- e. To do all such other lawful things as are incidental or conductive to the attainment of the above objects or any of them.

本會宗旨

- a. 提供平台予康樂管理從業員作工作經驗交流,使其認識本港及海外相關之工作,以促進本港康樂管理的 專業發展;
- b. 推動、支援及促進康樂管理專業教育,舉辦相關訓練課程、研討會及講座,出版業界刊物,主理康樂管 理專業考試;
- c. 發展康樂管理專業科研工作,訂立相關專業知識、培訓、操守及經驗等準則,以達至與時並進的實際需 要;
- d. 與相關機構或團體建立緊密的聯系;
- e. 透過本會法定地位,持續推動康樂管理專業發展,以達至上述宗旨。

Categories	Categories Requirement		Subscription (per annum or part thereof)
Full Member	Universities or Institutes		HK\$100
Life (Full) Member			HK\$500
Student Memb	and Life (Full) Members shall have the right to elect, be elected, propose, vote and recall; er: Full-time students in recreation management and related field from recognized local Universities or ee of Full Member or Life (Full) Member, who is transferred from Student Member, shall be waived.	Institutes.	
Associate Members	Persons who are directly or indirectly involved in recreation management		HK\$100
Life (Associate) Members			HK\$500
Corporate Member	Associations, institutions, firms, companies or other corporate bodies.	HK\$500	HK\$250
Student Member	Full-time students in recreation management and related field from recognized local Universities or Institutes.	HK\$50	
	omit the completed Membership Application Form / Corporate Membership Application Form together with a long Recreation Management Association) of the prescribed payment to the Association's mailbox for the convenor.		

類別	資 格			
基本會員	本會員 凡於本港或海外大專學院修讀康樂管理及有關學科的畢業生,可申請為基本會員。		港幣\$100	
永遠 (基本)會員				
	基本會員及永遠(基本)會員可享有選舉、被選、建議、投票及罷免的權利; 學生會員在轉為基本會員及永遠(基本)會員時,將可豁免繳交入會費。			
贊助會員	助會員 八直接或間接從事康樂管理工作,經本協會執行委員會批准。		港幣\$100	
永遠(贊助)會員	7、直接以间接促争原来自注工作,提举励首刊11安良首批准。	港幣\$100	港幣\$500	
、司會員 凡社團、大專院校、商號、公司或其他法人團體、經本協會執行委員會批准。		港幣\$500	港幣\$250	
學生會員	生會員 凡於本港大專院校修讓康樂管理及有關學科的全職學生,可申請為學生會員。			
申請人須填妥會	· 員入會申請表 / 公司會員入會申請表連同劃線支票「抬 頭人為香港康樂管理協會」寄回才	協會會員小	組收。	
會員資格申請經	本協會執行委員會批准及繳付所需費用後,其會員資格方可生效。			

Correspondence: All correspondences should be directed to the Hong Kong Recreation Management Association

Mail: P. O. Box 9044, General Post Office, Hong Kong

Website: http://www.hkrma.com.hk

通 訊 處: 來信請寄往香港郵政總局郵政信箱9044號香港康樂管理協會收 網址: http://www.hkrma.com.hk



HONG KONG RECREATION MANAGEMENT ASSOCIATION













http://www.hkrma.com.hk

MEMBERSHIP APPLICATION FORM 會員申請表格

The information provided in this form will be used for the HKRMA membership record and related matters. For correction of or access to personal data collected by means of this form, please contact the HKRMA

(P.O. Box 9044, General Post Office, Hong Kong or email admin@hkrma.com.hk)

申請人所提供資料將用於本會會員資料紀錄及有關事宜上。提交申請表後,如更改或查詢個人資料,請與本會 (郵寄香港郵政總局郵政信箱9044 號 或 電郵 admin@hkrma.com.hk) 聯絡

English Name 英文姓名	* Mr./ Miss/Mrs. 先生/小姐/女士	Chinese Name 中文姓名		
Date of Birth 出生日期	DD / MM / YYYY	I.D. Card No. 身份証號碼	()	Recent Photo
Company 公司名稱		Job Title 職 位		近 照
Contact No. 聯絡電話		Email 電 郵		1.5" x 1.5"
Correspondence				
	Qualifications 學 歷 (Please	e attach copies of certificates fo	or reference 請提供	証書副本)
	Qualifications 學 歷 (Please	e attach copies of certificates fo	or reference 請提供	証書副本)

V. Fee Attached 繳 交 費 用 * Full 基本會員 / Associate Member 贊助會員	
Pull 宏平曾頁 / Associate Member 頁助曾頁	HK\$200
Student Member 學生會員	HK\$50
* Full (Life) Member 基本(永久)會員 / Associate (Life) Member 贊助(永久)會員	HK\$600
Cheque should be made payable to "The Hong Kong Recreation Management Association".	支票抬頭為「香港康樂管理協會」
Please delete as appropriate 請刪去不適用	

Date 日期	Signature 簽名

For Office Use Only

V.4/2014

Description	Date	Handled By		Remarks	
Confirmation			Membership No.		
Subscription Paid			Cheque No.	Bank	

Mailing Address : P. O. Box 9044, General Post Office, Hong Kong

郵奇地址: 香港郵政總局郵政信箱9044號 Email 電郵: admin://www.hkrma.com.hk





HONG KONG RECREATION MANAGEMENT ASSOCIATION











http://www.hkrma.com.hk

CORPORATE MEMBERSHIP APPLICATION FORM 公司會員申請表格

The information provided in this form will be used for the HKRMA membership record and related matters. For correction of or access to personal data collected by means of this form, please contact the HKRMA

(P.O. Box 9044, General Post Office, Hong Kong or email admin@hkrma.com.hk)

申請人所提供資料將用於本會會員資料紀錄及有關事宜上。提交申請表後,如更改或查詢個人資料,請與本會 (郵寄香港郵政總局郵政信箱9044號 或 電郵 admin@hkrma.com.hk) 聯絡。

	Particulars 公司資料			
Corporation 公司名稱		中文		
Address 地 址				
B.R. No. 商業登記號碼		Fax No. 傳真號碼		
Authorized Signa	ature 負責人簽署			
Date 日期		Corporation	Chop 公司印鑑	
Date [198]		Corporation	Onop Z O D D	
	ompany Representative 公司			
English Name 英文姓名	* Mr./Ms/Mrs. 先生/小姐/女士	Chinese Name 中文姓名		
Date of Birth 出生日期		I.D. Card No. 身份証號碼		Recent Photo 近 照
Contact No. 聯絡電話		Job Title 職 位		1.5" x 1.5"
Email 電 郵				
English Name 英文姓名	* Mr./Ms/Mrs. 先生/小姐/女士	Chinese Name 中文姓名		
Date of Birth 出生日期		I.D. Card No. 身份証號碼		Recent Photo 近 照
Contact No. 聯絡電話		Job Title 職 位		1.5" x 1.5"
Email 電 郵				
*Please delete as appl	ropriate 請删去不適用			
III. Fee Attache	ed 繳 交 費 用 HK\$750			
Cheque should b	e made payable to "Hong Kong Recre	eation Management Ass	sociation". 支票抬頭為	3「香港康樂管理協會」

For Office Use Only

Description	Date	Handled By	Remarks
Application Received			
Application Approved			Membership No.
Subscription Paid			Cheque No. Bank

Mailing Address: P. O. Box 9044, General Post Office, Hong Kong

郵寄地址: 香港郵政總局郵政信箱9044號 Email 電郵: admin://www.hkrma.com.hk

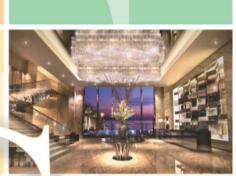
V.3/2014



康業服務有限公司 Hong Yip Service Company Ltd.

新鴻基地產集團成員 Member of Sun Hung Kai Properties Group









康業為新鴻基地產集團成員,是香港最具規模的物業及設施管理公司之一, 目前所管理之物業約 1,600幢,總樓面面積達 1.1億平方呎, 物業類型包括私人屋苑、高級住宅、工商貿樓宇、購物商場 及學校設施等,為業戶提供最優質的物業管理服務。

Established as a member of Sun Hung Kai Properties Group, Hong Yip is one of the largest property and facilities management companies in Hong Kong, managing around 1,600 individual building blocks, representing 110 million sq.ft in total ranging from private estates, luxurious houses, commercial and industrial buildings, shopping centres to school facilities.







16/F, World Tech Centre, 95 How Ming Street, Kwun Tong, Kowloon Tel: (852)2828 0888 Fax: (852) 2827 6300 Web Site: www.hongyip.com

E-Mail: hongyip@hongyip.com

























