What Motivates Borneo International Marathon Runners?

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***Abstract*- The most obvious reason for participating in endurance or aerobic exercise is to obtain health and fitness benefits; however, marathon runners voluntarily expose themselves to stress and strain well beyond what is necessary to achieve these advantages. This study aims to examine the motivation of runner in marathon event. The instruments used in this study is The Motivations of Marathoners Scales (α=.71 to .86). It was administered to 240 runners (mean age 27.2 ± 7.3 years; mean BMI 22.76 ±4.21; 120 males and 120 females) who participating in Borneo Marathon 2018. Descriptive and Inferential statistics (t-test and one-way ANOVA) were employed to analyse the data. Psychological motives, Physical Health Motives, Social Motives and Achievement Motives were identified at a moderate level. No significant differences were observed between genders except Physical Health Motives. The value of the mean difference where showed that men Physical Health Motives were higher compared to women. There were significant differences were observed between race categories except Achievement Motive and also no significant differences were observed between race categories except Physical Health Motives. No significant differences were observed between BMI. In conclusion, the Physical Health Motives Future research should investigate the effectiveness of motivation interventions in enhancing community to participate in the future marathon event.**

***Keywords*: Marathon, runners, motivation, sport psychology.**

I. INTRODUCTION

The Results of the exercise benefits for physical and mental health have been documented in detail and physical training was recognized at the international level through improved infrastructure and recreational sports. Physical activity has been given great publicity and recognition followed some of the benefits of participation in sport, such as physiological, psychological and social benefits. Psychologically, sports participation is associated with a reduction in cardiovascular risk, avoid diabetes and prevent obesity. Psychologically, physical exercise is closely related to a decrease in anxiety and stress. Furthermore, sports participation heightens self-esteem and offers a tool for social contact (World Health Organization, 2010). These benefits are associated with a decline in medical care expenses, as well as with higher job productivity (Alexandris and Carroll, 1997).

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A mainstream of research has shown that the majority of individuals in the developed world are educated about the must of being active and have an impatience to be more active (Tsai, 2005).

Motivation of marathon runners has been broadly studied in order to identify toward what goals the runners are intrinsically oriented (e.g., Clough, Shepherd, & Maughan, 1989; Llopis & Llopis, 2006; Masters, Ogles, & Jolton, 1993; Ogles et al., 1993; Scholz, Nagy, Schüz, & Ziegelmann, 2008). In this sense, the Motivations of Marathoners Scales (MOMS) (Masters et al., 1993) has been greatly used in research and fit to other languages and sports (e.g., LaChausse, 2006; Loughren, 2010; Newcomer, 2009; Ogles & Masters, 2000; Ruiz Juan & Zarauz Sancho, 2011).

Suitable for the large amount of training time continuous over years, marathon runners probably show a larger obligation to the activity compared with other athletes (Carmack & Martens, 1979). Therefore, research has been also focused on the obsession to running (e.g., Clough et al., 1989; Masters & Lambert, 1989; Pierce, Rohaly, & Fritchley, 1997; Szabo, De la Vega, Ruiz-Barquín, & Rivera, 2013), assuming that obligation to running (see Carmack & Martens, 1979) in distance runners may be followed by negative an obsession to run (Sancho & Ruiz-juan, 2011). The social link, including fellow runners, co-workers, friends and family, may have a positive role related to social interaction during training, need for affiliation, self-actualization, need of exhibition, and self-esteem, especially in social-caused marathons or charity (Bennett, Mousley, Kitchin, & Ali-Choudhury, 2007; Fairer-Wessels, 2013).

II. RESEARCH PROBLEM

In the past era, the number of urban runners has noticeably raised, especially counting its health-related benefits (Baltich et al, 2014; Lopes et al, 2012). Mass participant sporting events have raised in reputation due to a selection of offerings that range from 5k running races to 42K run in marathons events. These events magnetize a mixture of participants and offer challenges for a multiple of skill levels and age groups. Murphy and Bauman (2007) recognize three categories of mass physical activity-related events: (1) major population-level health promotion events, (2) non-elite mass events with the likely for community expansive participation, and (3) elite sporting events. Added research on mass participant sporting events has shown these events can catalyse physical activity (Funk et al., 2011; Crofts, Dickson, Schofield, & Funk, 2012), offer benefits to the host

through active sport tourism (Kaplanidou, Jordan, Funk, & Ridinger, 2012), and provide economic impacts to the host (Coleman & Ramchandani, 2010). Subsequently, running events have become progressively well-liked, and the venue is becoming ever more congested, event organizers must segregate their offerings especially on their motivation motives.

These prolonged race events (e.g., 2 hours race) place great physiological demands on the participants, demonstrated through decreased force production, altered excitation-contraction coupling, and neuromuscular fatigue (Martin et al., 2010; Millet et al., 2002; Millet and Lepers, 2004; Millet et al., 2011). Due to the rigorous nature of a marathon, it is not surprising that psychological techniques such as mental preparations, self-talk, imagery, and attentional focus strategies are adapted during these events (Simpson, et al., 2014). Motivation, a driving force to achieve personal goals (Dosil, 2004) has been linked to exercise adherence and to the capacity of keeping a healthy life (Azofeifa, 2006; Stonerock & Blumenthal, 2017). Many investigations have been conducted to study running motivations across runners (Ruiz-Juan & Zarauz, 2012; Zarauz, Ruiz-Juan & Flores-Allende, 2014; Zarauz & Ruiz-Juan, 2012) through different domains, such as health, personal goals, self-esteem, competition; founding a tendency from internal towards external factors among different experienced runners (Ogles, Masters & Richardson, 1995; Masters, Ogles & Jolton, 1993). Even though running is an easily accessible activity, the knowledge of underlying motivational factors among runners could enhance promotion of physical activity participation, regarding that urban life may reduce an individual's motivation for pursuing a better physical lifestyle. Therefore, the purpose of this study was to analyse motivations for sustaining a consistent running routine in different runner populations in Borneo Marathon 2018 using the Motivations of Marathoners Scales (MOMS-34). This is the first study examining the specific values of motivation in different runner groups in Borneo Marathon 2018.

Despite the psychological and physiological demands of these long runs, research that identifies factors that improve performance is limited. A better understanding of what motivates participants to compete in different sporting events will lead to more effective marketing communication, enhance the event experience and identify the key components participants base their decisions on (Kruger et al., 2011; Kruger et al. 2012; Kruger & Saayman, 2013) especially in promoting health. The current study aims to evaluate the motivation of marathon event runner's motives and the difference in gender, Body Mass Index (BMI) and race categories of runner's motivation motives.

III. LITERATURE REVIEW

The Motivations of Marathoners Scale (MOMS), developed by Masters, Ogles, and Jolton (1993), is one of the most comprehensive and widely used scales for measuring endurance event participant motives. Although many leisure motives apply to these event types (Beard & Ragheb, 1983), Masters et al. (1993) suggested a comprehensive measure was needed to assess the specific motives of individuals participating in and training for running events. Based on previous distance running research (Carmack & Martens, 1979; Masters & Lambert, 1989; Curtis & McTeer, 1981), Masters et al. (1993) identified four broad categories of running motives, each containing two or more sub dimensions: (1) physical health (i.e., general health orientation and weight concern), (2) social motives (i.e., affiliation and recognition), (3) achievement (i.e., competition and personal goal achievement), and (4) psychological motives (i.e., psychological coping, self-esteem, and life meaning).

Masters et al. (1993) found the motives for health, personal achievement, and self-esteem to be more important than social motives for event participation. Subsequent research using the MOMS has continued to provide evidence of the validity and reliability of the related motives (Masters & Ogles, 1995; Ogles, Masters, Richardson, 1995; Ogles & Masters, 2000, 2003; Havenar & Lochbaum, 2007), but researchers have yet to empirically examine the nuanced differences among different event types. Ogles and Masters (2000) found that marathon runner motives differed based on age, where older runners were more motivated by health concerns and affiliation, while younger runners were more motivated by achievement. Later, Ogles and Masters (2003) discovered that runners could be grouped into similar clusters based on motivation, and these clusters differed based on running experience, training patterns, and demographics. Havenar and Lochbaum (2007) used the MOMS to assess differences among first-time marathoners and found social motives to be higher for individuals who dropped out of competition compared to event finishers.

Further, the MOMS has been used to assess motivation in a variety of other sporting contexts including cycling (LaChausse, 2006), 5k running (Bell & Stephenson, 2014), ultra-running (Krouse, Ransdell, Lucas, & Pritchard, 2011), adventure races (Doppelmayr & Molkenthin, 2004), and triathlons (Rundio, Heere, & Newland, 2014). Although other scales have been developed to measure motives related to sport participation, the MOMS is the most comprehensive and applicable to running events. Other scales measuring sport participant motivation such as the Leisure Motivation Scale (Beard & Ragheb, 1983), the Sport Motivation Scale (Pelletier, Fortier, Vallerand, Tuson, & Bilas, 1995), and the Behavioral Regulation in Sport Questionnaire (Lonsdale, Hodge, and Rose, 2008) are quite general and fail to adequately measure motives related to health, weight loss, goals, and competition. Recently, Rundio et al. (2014) compared the motives of participants from cause-related events and no cause related events using the MOMS. The authors revealed that cause-related event participants rated motives related to self-esteem, personal

goal achievement, competition, and recognition/approval significantly higher than the participants from the non-cause related events.

Interestingly, the limited significance of social motives uncovered in previous research (Havenar & Lochbaum, 2007; Ogles & Masters, 2003; Masters et al., 1993) may be indicative of long-time participant samples in which attitudes toward participation were directly tied to competitive preferences (e.g., winning and best times). Recent shifts in participant motivation factors have suggested a need to re-examine this complex element of sport participant psychology. Based on the lack of research on participant sport events and the need to better understand participant motivation for Borneo Marathon, the following research questions were developed to guide the study: RQ 1: What are the participation motives among Borneo Marathon runners? RQ 2: What are the differences participation motives between genders, BMI and race categories?

IV. RESEARCH OBJECTIVES

The objectives of this study are listed below in order to achieve the aim:

1. To identify the participation motives among Borneo Marathon runners.
2. To compare the participation motives between genders, BMI, status, and race categories.

V. METHOD

Participants

A sample of 240 runners in Borneo Marathon 2018 (aged M=27.2 years, SD=7.3, BMI M=22.8, SD=4.2, 132 males and 108 females) participated in this study. From them, 7.1% underweight, 72.1% Normal weight, 18.3% overweight, 2.1% obese and 4 % severely obese. Procedure Ethical approval was sought and granted by the institution of the authors for the present and subsequent studies. During the one days prior to the race, runners were contacted at the expo while they were requesting their bibs, and were asked to respond to a questionnaire. Runners were provided with all relevant information relating to the nature and methodology of the study and voluntarily accepted to participate. Participants were informed that there were no right or wrong answers and were encouraged to respond candidly. Complete confidentiality was assured.

Measures

The questionnaire was comprised of two main sections: (1) demographics and (2) participant motivation items. Event data were collected at Borneo Marathon 2018. Demographic items were used to assess participant gender and body mass index and event category. Finally, Participant motivations were measured using the multidimensional MOMS comprising 56 items under nine motivational factors (Masters et al., 1993): health orientation (six items), weight concern (four items), affiliation (six items), recognition (six items), competition (four items), personal goal achievement by (six items), psychological coping (nine items), self-esteem (eight items) and life meaning by (seven items). All of the items were rated on a seven-point scale (1 = not a reason to 7 = most important reason), as to the degree the participant considered the item a reason for event participation. Adequate internal consistency (Cronbach's alpha range .71 to .86) and retest reliability (intraclass R range .71 to .84).

Statistical Analysis

Mean and standard deviations (SD) were calculated for each variable. Differences in genders of the participants were analyzed separately using an independent t-test. While differences in BMI and race categories were analyzed using one-way ANOVA. Statistical significance was accepted as $p \leq 0.05$. All statistical analyses were completed using SPSS 20.0 (SPSS Inc., Chicago, IL).

VI. RESULTS

Demographic and Anthropometric Characteristics

The group had a mean age of 27.2±7.3 years and BMI mean of 22.76 ±4.21. Demographics and anthropometric characteristics of participants are displayed in Table I.

TABLE I: DEMOGRAPHIC AND ANTHROPOMETRIC CHARACTERISTICS OF THE PARTICIPANTS

Characteristics	Males (n=132)	Females (n=108)	All Participant (n=240)
Age	28.20±7.87	25.97±6.27	27.19± 7.27
Weight (kg)	63.14±8.30	56.11±13.41	59.98 ±11.42
Height (cm)	167.05±8.16	156.62±6.61	162.36 ±9.12
BMI	22.70±3.15	22.83±5.25	22.76 ±4.21

Mean and Level of MOM

Psychology Motives, Physical Health Motive, and overall Motivation Motive are at the high level but Social Motive and Achievement Motive are in the Intermediate level. General Health Orientation is the highest meanwhile competition is the lowest benefit contributor to motivation motive. Mean and Level of MOM are displayed in Table II.

TABLE II: MEAN AND LEVEL OF MOM

Categories or Scales	Mean	Level
Psychology Motive	4.9417	High
• Psychological Coping	4.7046	High
• Self-Esteem	5.2880	High
• Life Meaning	4.8506	High
Physical Health Motive	5.4600	High
• General Health Orientation	5.8701	Very High
• Weight concern	4.8448	High
Social Motive	4.4750	Intermediate
• Affiliation	5.0056	High
• Recognition	3.9444	Intermediate
Achievement Motive	4.3400	Intermediate

• Competition	3.7573	Intermediate
• Personal Goal Achievement	4.7285	High
Overall Motivation Motive	4.8254	High

The Motivations of Marathoners Scale Between Genders

No significant differences were observed between gender for any of the categories or scales of the MOMS except Self-Esteem ($t = 2.572$, $df = 238$, $p<.05$). Physical Health Motives ($t = 2.968$, $df = 238$, $p<.05$), General Health Orientation ($t = 3.067$, $df = 238$, $p<.05$), Weight Concern ($t = 1.968$, $df = 238$, $p<.05$) and Recognition ($t = -2.434$, $df = 238$, $p<.05$). The value of the mean difference was showed that men Self-Esteem, Physical Health Motives, General Health Orientation and Weight Concern were higher compared to women except for Recognition. Table III displays the results of the MOMS between genders.

TABLE III: MOM INDEPENDENT SAMPLES TEST BETWEEN GENDERS

Categories or Scales	**F**	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**
Psychology Motives	.081	.776	.780	238	.436	.09526
• Psychological Coping	4.218	.041	.087	238	.931	.01291
• Self-Esteem	2.503	.115	2.572	238	.011	.33849
• Life Meaning	1.042	.308	-.536	238	.593	-.07684
Physical Health Motive	1.613	.205	2.986	238	.003	.39192
• General Health Orientation	2.995	.085	3.067	238	.002	.39520
• Weight concern	1.467	.227	1.968	238	.050	.38699
Social Motive	1.258	.263	-.866	238	.387	-.11700
• Affiliation	.065	.799	1.231	238	.219	.20090
• Recognition	1.875	.172	-2.434	238	.016	-.43490
Achievement Motive	5.669	.018	-1.047	238	.296	-.17643
• Competition	4.680	.032	-1.314	238	.190	-.28977
• Personal Goal Achievement	5.752	.017	-.618	238	.537	-.10087
Overall Motivation	4.121	.043	.264	238	.792	.02864

The Motivations of Marathoners Scale Between Race Categories

There were significant differences were observed between race categories for the categories or scales of the MOMS (Table IV) except Achievement Motive [F (df = 3,236, $p>.05$) = 2.630] and Competition [F (df = 3,236, $p>.05$) = 7.202]. Table IV displays the results of the MOMS between race categories.

Psychology Motives

There was a statistically significant difference between groups as determined by one-way ANOVA (F (3,236) = 10.806, $p<.05$). A Tukey post hoc test revealed that the Psychology Motives was statistically significantly higher in other race categories (5.11-5.16) compared to the 5K participants (4.38). There was no statistically significant difference between the 10K, 21K and 42K participants ($p>.05$). There was also a statistically significant difference between groups as determined by one-way ANOVA for Psychological Coping [F (df = 3,236, $p<.05$) = 6.478], Self-Esteem [F (df = 3,236, $p<.05$) = 9.194] and Life Meaning [F (df = 3,236, $p<.05$) = 8.103]. A Tukey post hoc test revealed that the Psychological Coping, Self-Esteem and Life Meaning was statistically significantly higher in other participant compared to the 5K participants. There was no statistically significant difference between the 10K, 21K and 42K participants ($p>.05$).

Physical Health Motives

There was a statistically significant difference between groups as determined by one-way ANOVA (F (3,236) = 36.088, $p<.05$). A Tukey post hoc test revealed that the Physical Health Motive was statistically significantly higher in other race categories (5.46- 5.87). compared to the 5K participants (4.47) There was no statistically significant difference between the 10K, 21K and 42K participants ($p>.05$). There was also a statistically significant difference between groups as determined by one-way ANOVA for General Health Orientation [F (df = 3,236, $p<.05$) = 12.714] and Weight concern [F (df = 3,236, $p<.05$) = 38.989]. A Tukey post hoc test revealed that the General Health Orientation and Weight Concern was statistically significantly higher in other participant compared to the 5K participants. There was no statistically significant difference between the 10K, 21K and 42K participants ($p>.05$).

Social Motives

There was a statistically significant difference between groups as determined by one-way ANOVA (F (3,236) = 36.088, $p<.05$). A Tukey post hoc test revealed that the Social Motive was statistically significantly higher in other race categories (4.48-4.73) compared to the 5K participants (3.96). There was no statistically significant difference between the 10K, 21K and 42K participants ($p>.05$). There was also a statistically significant difference between groups as determined by one-way ANOVA for Affiliation [F (df = 3,236, $p<.05$) = 12.714] and Recognition [F (df = 3,236, $p<.05$) = 38.989]. A Tukey post hoc test revealed that the Affiliation and Recognition concern was statistically significantly higher in other participant compared to the 5K participants. There was no statistically significant difference between the 10K, 21K and 42K participants ($p>.05$).

Achievement Motives

There was no statistically significant difference between groups as determined by one-way ANOVA but there was only a statistically significant difference between groups as determined by one-way ANOVA for Personal Goal Achievement [F (df = 3,236, p<.05) = 7.202]. A Tukey post hoc test revealed that the Personal Goal Achievement concern was statistically significantly higher in other participants (4.65-5.18) compared to the 5K participants (4.19). There was no statistically significant difference between the 10K, 21K and 42K participants (p>.05).

Overall Motivation Motives

There was a statistically significant difference between groups as determined by one-way ANOVA F (df = 3,236, p<.05) = 11.899. A Tukey post hoc test revealed that the Overall Motivation Motive was statistically significantly higher in other race categories (4.92 -5.05) compared to the 5K participants (4.31). There was no statistically significant difference between the 10K, 21K and 42K participants (p>.05).

TABLE IV: MOM ANOVA TEST BETWEEN RACE CATEGORIES

Variables	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Psychology Motives	25.520	3	8.507	10.806	.000
• Psychological Coping	23.850	3	7.950	6.478	.000
• Self-Esteem	26.341	3	8.780	9.194	.000
• Life Meaning	27.210	3	9.070	8.103	.000
Physical Health Motive	79.442	3	26.481	36.088	.000
• General Health Orientation	33.947	3	11.316	12.714	.000
• Weight concern	184.092	3	61.364	38.989	.000
Social Motive	23.431	3	7.810	7.835	.000
• Affiliation	36.551	3	12.184	8.405	.000
• Recognition	18.645	3	6.215	3.303	.021
Achievement Motive	13.046	3	4.349	2.630	.051
• Competition	1.892	3	.631	.215	.886
• Personal Goal Achievement	31.651	3	10.550	7.202	.000
Overall Motivation	21.940	3	7.313	11.899	.000

The Motivations of Marathoners Scale between Participants BMI

There was no statistically significant difference between groups as determined by one-way ANOVA but there was only a statistically significant difference between groups as determined by one-way ANOVA for Weight Concern [F (df = 3,236, p<.05) = 3.383]. A Tukey post hoc test revealed that the Weight Concern was statistically significantly higher in overweight participant (5.28) compared to the underweight participant (3.97). Table V displays the results of the MOMS between participants BMI.

TABLE V: MOM ANOVA TEST BETWEEN PARTICIPANTS BMI

Variables	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Psychology Motives	1.833	3	.611	.689	.560
• Psychological Coping	4.464	3	1.488	1.136	.335
• Self-Esteem	1.705	3	.568	.537	.658
• Life Meaning	3.507	3	1.169	.958	.413
Physical Health Motive	4.824	3	1.608	1.531	.207
• General Health Orientation	.528	3	.176	.171	.916
• Weight concern	22.904	3	7.635	3.383	.019
Social Motive	.066	3	.022	.020	.996
• Affiliation	1.188	3	.396	.248	.863
• Recognition	1.869	3	.623	.319	.812
Achievement Motive	3.637	3	1.212	.716	.543
• Competition	9.995	3	3.332	1.151	.329
• Personal Goal Achievement	3.866	3	1.289	.814	.487
Overall Motivation	.546	3	.182	.258	.856

VII. DISCUSSION

Health-orientation was the dimension with the highest score and presents a great opportunity for promotion and encouragement to maintain adherence to exercise. On the other hand, the competition was always the dimension with the lowest score, which implies that there is a low achievement motivation. Different from previous studies, our research included a broad spectrum of runner categories and not only marathon runners. In the present study, we did not observe any significant differences in the MOMS analysis across age. In regards to genders, the MOMS results demonstrated that men were more concern for physical benefits (i.e., health and weight) achieved through marathon running event than women. As for the male, the present findings are in agreement with others who demonstrated males were more motivated by health orientation (Doppelmayr and Molkenthin, 2004; Stoll et al., 2000).

Previous findings also showed health orientation was the strongest motive for participation for both male

and female in the marathon. In the past decade, the number of urban runners has considerably increased, especially considering its health-related benefits (Baltich, et al, 2014; Lopes et al, 2012). Referring to General Health Orientation, the runners probably want to improve health, prolong life, become more physically fit, reduce the chance of having a heart attack, stay in physical condition and prevent illness. They also want to control body weight and to stay physically attractive. This finding is particularly salient in light of the Ziegler (1991) that studied gender differences. He examined the perceived benefits of marathon running in males and females, reported that men perceived running to be more beneficial than did women.

We also observed that the men more concern for Self-Esteem benefits but women were more concern about Recognition benefits. Men were more concern to feel more confident about themselves, positive emotional experience, proud, sense of achievement and like a winner. Meanwhile, women want to earn the respect of peers, make family or friends proud of her and rings me recognition. Different from previous studies by Ziegler (1991), women felt that running had a positive effect on self-image and that their lives were richer because of running more so than men. Deaner et al (2011) compared marathon performance as a predictor of competitiveness and training between men and women. Their results showed that the males reported significantly greater competitiveness than the females. Krouse et al (2011), study with female marathoners found that health orientation along with personal goal achievement was the strongest forms of motivation.

We reported there were significant differences in MOMS between race categories except for Achievement Motive and Competition. Psychological Motives, Physical Health Motives, and Social Motives were statistically significantly higher in 10K, 21K and 42K participants compared to the 5K participants. Participants in 10K, 21K and 42K categories want to compete with others, to see how high he or she can place in races, to get a faster time than their friends and to compete with themselves. Weight Concern was statistically significantly higher in overweight participant compared to the underweight participant. Underweight participant wants to control their body weight, reduce body weight, to look leaner and to stay physically attractive.

VIII. IMPLICATIONS

Knowing runner's habits and behaviours could help health-related professionals in choosing strategies that promote physical activity through running. A better understanding of what motivates participants to compete in different sporting events will lead to more effective marketing communication, enhance the event experience and identify the key components participants base their decisions on especially in promoting health.

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DISCLOSURE STATEMENT

The authors declare that they have no conflict of interest.

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