



Faculty of Medicine and Health Sciences

**PERCEIVED BODY IMAGE AND ITS RELATIONSHIP WITH BODY
MASS INDEX, SELF-ESTEEM, AND BODY CHANGE STRATEGY
AMONG RURAL ADOLESCENTS IN SAMARAHAN AND ASAJAYA
DISTRICTS**

Wong Liang Tung

Master of Public Health

2020

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BODY MASS INDEX, SELF-ESTEEM, AND BODY CHANGE
STRATEGY AMONG RURAL ADOLESCENTS IN
SAMARAHAN AND ASAJAYA DISTRICTS**

Wong Liang Tung

**A dissertation submitted in partial fulfilment of the requirement for the degree
of Master of Public Health**

**Faculty of Medicine and Health Sciences
UNIVERSITI MALAYSIA SARAWAK
2020**

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ACKNOWLEDGEMENT

All praises to the Almighty for the guidance and strength to complete this research of mine. I would like to my most profound appreciation to Professor Dr Md Mizanur Rahman for giving me the opportunity to conduct this research and provide support and guidance for the completion of this research. I would also like to extend my deepest gratitude to all the professors and lecturers who took an interest in my study and provided all mentorship until the completion of this research. I am deeply indebted to the academic officers of the faculty who provided their assistance for this research. I am also extremely grateful to my colleagues, who provided continuous encouragement and support through the research duration. This research would not have been possible without the support and nurturing of the community leaders and individuals in all the villages, who contributed directly or indirectly. Last but not least, I would like to extend my sincere thanks to my family, who encouraged and support me throughout my academic life in Universiti Malaysia Sarawak.

Wong Liang Tung

CONTENTS

DECLARATION OF ORIGINALITY	ii
ACKNOWLEDGEMENT	iv
CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
LIST OF APPENDICES	xi
ABSTRACT	xii
ABSTRAK	xiii
CHAPTER 1: INTRODUCTION	1
1.1 Background of the study.....	1
1.2 Statement of the problem	3
1.3 Research questions	5
1.4 Research objectives	5
1.4.1 General objective	5
1.4.2 Specific objectives	5
1.5 Research hypothesis	6
CHAPTER 2: LITERATURE REVIEW	7
2.1 Body image.....	7
2.1.1 Adolescents and body image	9
2.1.2 Body image studies in the context of Malaysia and Sarawak	10
2.2 Biopsychosocial model.....	12
2.3 Factors associated with perceived body image	14
2.3.1 Body mass index.....	14
2.3.2 Self-esteem	15
2.3.3 Smoking.....	18
2.3.4 Leisure activity and sports participation.....	18
2.3.5 Social-networking.....	19
2.4 Body change strategies	19
2.4.1 Body change strategies among female adolescents	20
2.4.2 Body change strategies among male adolescents	21
2.5 Conceptual framework	22
CHAPTER 3: METHODOLOGY	25
3.1 Study design	25
3.2 Study area	25
3.3 Study population.....	26
3.3.1 Inclusion criteria	26
3.3.2 Exclusion criteria	26
3.4 Duration of study.....	26
3.5 Sample size determination.....	27
3.6 Sampling procedure.....	28
3.7 Data collection instrument.....	30
3.8 Data collection procedure.....	36
3.9 Operational definition.....	37
3.10 Pre-test.....	38
3.11 Data entry and statistical analysis.....	39
3.11.1 Data entry and cleaning	39

3.11.2 Statistical analysis.....	40
3.11.3 Data presentation	40
3.12 Ethical consideration	41
3.13 Working framework	42
CHAPTER 4: RESULTS.....	43
4.1 Socio-demographic characteristics.....	43
4.2 Perceived body image.....	46
4.3 Body mass index	48
4.4 Self-esteem	48
4.5 Body change strategies.....	50
4.5.1 Food practices.....	50
4.5.2 Food supplement.....	51
4.5.3 Body change strategies to lose weight.....	52
4.5.4 Body change strategies to increase weight	53
4.5.5 Body change strategies to increase muscle tone.....	54
4.5.6 Body change strategies to increase muscle size.....	55
4.6 Associated Factors of Perceived Body Image.....	56
4.7 Gender-stratified correlation between perceived body image and selected variables.....	58
4.7.1 Correlation between Perceived Body Image with selected variables among female	58
4.7.2 Correlation between Perceived Body Image with selected variables among male.....	61
4.8 Factors affecting perceived body image: Stepwise multiple linear regression analysis	63
CHAPTER 5: DISCUSSION	65
5.1 Socio-demographic characteristics of rural adolescents	65
5.2 Perceived body image among rural adolescents.....	66
5.3 Body mass index of rural adolescents	67
5.3.1 Relationship between perceived body image and BMI	68
5.4 Self-esteem level among rural adolescents	68
5.4.1 Relationship between perceived body image and self-esteem.....	69
5.5 Body change strategy among rural adolescents.....	70
5.5.1 Relationship between perceived body image and body change strategy... ..	70
5.6 Associated factors of perceived body image	72
5.6.1 Smoking status.....	72
5.6.2 Leisure activities participated	72
5.6.3 Sports participation.....	73
5.6.4 Social network usage	73
5.7 Limitation of the study	74
5.8 Strength of the study.....	75
5.9 Implications of the study	75
CHAPTER 6: CONCLUSION AND RECOMMENDATION	77
6.1 Conclusion.....	77
6.2 Recommendation.....	77
6.2.1 Public health research	78
6.2.2 Public health practices and administration	78
6.2.3 Health promotion	79
REFERENCES	80
APPENDICES	93

Appendix A: Participant Information Sheet (Adolescents) – English and Malay version	94
Appendix B: Participant Consent Form (Adolescents) – English and Malay version	98
Appendix C: Guardian/caretaker Information Sheet – English and Malay version	100
Appendix D: Guardian/caretaker Consent Form – English and Malay Version ..	104
Appendix E: Questionnaire – English and Malay Version	106
Appendix F: Gantt chart	122
Appendix G: Ethical Approval Letter	123

LIST OF TABLES

Table No.	Title	Page No.
Table 3.1	Reliability analysis	39
Table 4.1	Percentage distribution of the respondents by socio-demographic characteristics	44
Table 4.2	Item-wise percentage distribution of Perceived Body Image	47
Table 4.3	Percentage distribution of respondents by Perceived Body Image level	48
Table 4.4	Percentage distribution of respondents by BMI-for-age	48
Table 4.5	Item-wise percentage distribution of Self-esteem	49
Table 4.6	Percentage distribution of respondents by Self-esteem level	50
Table 4.7	Item-wise percentage distribution of Food Practices	51
Table 4.8	Item-wise percentage distribution of Food Supplement	52
Table 4.9	Item-wise percentage distribution of Body Change Strategies to Lose Weight	53
Table 4.10	Item-wise percentage distribution of Body Change Strategies to Increase Weight	54
Table 4.11	Item-wise percentage distribution of Body Change Strategies to Increase Muscle Tone	55
Table 4.12	Item-wise percentage distribution of Body Change Strategies to Increase Muscle Size	56
Table 4.13	Percentage distribution of the respondents by Associated Factors of Perceived Body Image	58
Table 4.14	Correlation between perceived body image and selected variables among female respondents	60
Table 4.15	Correlation between perceived body image and selected variables among male respondents	62
Table 4.16	Predictors of Perceived Body Image	64

LIST OF FIGURES

Figure No.	Title	Page No.
Figure 2.1	Example of a Biopsychosocial Model of Health (Levy-Storms et al., 2017)	13
Figure 2.2	Conceptual framework of perceived body image and its relationship with socio-demographic characteristics, BMI, body change strategy, self-esteem and other associated factors among adolescents	23
Figure 3.1	Sampling procedure	29
Figure 3.2	Working framework	42

LIST OF ABBREVIATIONS

APA	American Psychological Association
BIBCQ	Body Image and Body Change Questionnaire
BMI	Body Mass Index
BPSM	Biopsychosocial Model
MCMC	Malaysian Communications and Multimedia Commission
MOH	Ministry of Health
NHMS	National Health and Morbidity Survey
RSES	Rosenberg Self-esteem Scale
SD	Standard deviation
SPSS	Statistical Package for Social Science
UNIMAS	University Malaysia Sarawak
WHO	World Health Organization

LIST OF APPENDICES

Appendix No.	Title	Page No.
Appendix A	Participant information sheet (Adolescents)	94
Appendix B	Participant consent form (Adolescents)	98
Appendix C	Guardian/caretaker information sheet	100
Appendix D	Guardian/caretaker consent form	104
Appendix E	Questionnaire	106
Appendix F	Gantt chart	122
Appendix G	Ethical approval letter	123

ABSTRACT

Background: Body image is a complex and multifaceted construct with multiple associated factors determining its perception among adolescents. The present study aims to determine the perceived body image and its relationship with body mass index, self-esteem, and body change strategy among rural adolescents.

Methods: This study was conducted using a cross-sectional study design. Multistage random sampling was used for this study. A total of 318 adolescents aged between 10 and 19 years old from rural communities of Samarahan and Asajaya district in Sarawak were recruited for this study. A self-administered questionnaire was used for data collection. Data analysis was done using SPSS version 22.0. A p-value of <0.05 was considered statistically significant.

Results: The mean (SD) age of adolescents was 14.6 (2.7) years old, with a minimum of 10 and a maximum of 19 years old. Gender was almost equal, with males at 52.2% and females at 47.8%. Most of the respondents were Malays (54.4%), followed by non-Malay Bumiputras (35.2%) and Chinese (10.4%). For perceived body image, 37.4% of the respondents were satisfied with their body image, and 17.3% were dissatisfied with their body image. The remaining 45.3% were neutral with their body image. Regression analysis revealed that gender of respondents, body mass index and strategy to increase weight were able to predict perceived body image among adolescents. However, self-esteem was found not to have any correlation with perceived body image.

Conclusion: The prevalence of body image dissatisfaction was lower among rural adolescents compared to other studies in Malaysia. However, it can still pose a threat to adolescents' health. Public health practitioners should take note of this problem and address it with appropriate approaches.

Keywords: Body image, Body change strategy, BMI, Self-esteem, Sarawak, Malaysia

Tajuk: Persepsi Imej Badan Dan Hubungan Dengan Indeks Jisim Badan, Harga Diri, Dan Strategi Penambahbaikan Imej Badan Di Kalangan Remaja Luar Bandar Dalam Daerah Samarahan Dan Daerah Asajaya.

ABSTRAK

Pengenalan: Imej badan merupakan satu konstruk yang kompleks dan mempunyai pelbagai aspek. Ia merangkumi pelbagai faktor yang dapat menentukan persepsinya di kalangan remaja. Kajian ini bertujuan untuk menentukan persepsi imej badan dan hubungkaitnya dengan ciri-ciri socio-demografi, indeks jisim badan, harga diri, dan strategi penambahbaikan imej badan di kalangan remaja luar bandar.

Kaedah: Kajian ini telah dijalankan dengan menggunakan reka bentuk kajian melintang. Persampelan rambang pelbagai peringkat telah digunakan untuk kajian ini. Sejumlah 318 remaja berumur antara 10 dan 19 tahun dari kawasan luar bandar daerah Samarahan dan Asajaya di Sarawak telah direkrut untuk kajian ini. Soal selidik telah digunakan untuk mengumpul data. Analisa data telah dibuat dengan menggunakan SPSS versi 22.0. Nilai $p < 0.05$ dianggap sebagai signifikan secara statistik.

Keputusan: Purata umur (SD) remaja adalah 14.6 (2.7) tahun dengan minimum 10 dan maksimum 19 tahun. Jantina remaja adalah hampir sama, di mana lelaki merangkumi 52.2% dan perempuan merangkumi 47.8%. Kebanyakan responden adalah bangsa Melayu (54.4%), diikuti dengan Bumiputra bukan Melayu (35.2%) dan Cina (10.4%). Untuk persepsi imej badan, 37.4% responden berpuas hati dengan imej badan mereka, manakala 17.3% tidak puas hati dengan imej badan mereka. Selebihnya (45.3%) adalah neutral dengan imej badan mereka. Analisa regresi menunjukkan bahawa jantina, jisim indeks badan dan strategi meningkatkan berat badan dapat mempengaruhi persepsi imej badan di kalangan remaja. Walau bagaimanapun, harga diri didapati tidak berkaitan dengan persepsi imej badan.

Kesimpulan: Masalah ketidakpuasan imej badan adalah rendah di kalangan remaja luar bandar berbanding dengan penemuan kajian lain. Walau bagaimanapun, ia masih dapat menimbulkan masalah untuk kesihatan remaja. Pakar kesihatan awam harus mengambil berat tentang isu ini dan menanganinya dengan intervensi yang sesuai.

Kata kunci: Imej badan, Strategi penambahbaikan imej badan, Indeks jisim badan, Harga diri, Sarawak, Malaysia

CHAPTER 1: INTRODUCTION

1.1 Background of the study

The term body image is defined as:

“a person’s perceptions, thoughts, and feelings about his or her body”

(Grogan, 2017, p. 4).

This definition includes psychological concepts as well as both positive and negative aspects of perceived body image. It is a complex and multifaceted construct (Thompson, 2004), which can be examined through various elements, such as appearance satisfaction and appearance orientation (Cash, 2016).

Body image is closely related to adolescents’ growth and development (Markey, 2010). During the adolescence phase, adolescents are subjected to physical, cognitive, psychosocial, and social developments. These developments can result in either body image satisfaction or body image dissatisfaction (Clay et al., 2005). Male and female adolescents generally have different body image preferences. Males typically prefer muscular body size and shape, while females usually sought for body thinness (Bratland-Sanda & Sundgot-Borgen, 2012; Hoffmann & Warschburger, 2017; Jankauskiene & Baceviciene, 2019; McCreary & Sasse, 2000; Zhang et al., 2016). For female adolescents, pubertal changes result in weight gain, which can lead to body image dissatisfaction (O’Dea & Abraham, 1999). For male adolescents, pubertal changes that lead to muscle development will promote body image satisfaction (O’Dea & Abraham, 1999).

The study by Mooney et al. (2009) found that body image among adolescents can be caused by factors such as peer pressure, media influences as well as celebrities influence. These factors, especially media influences, usually portrayed female having thin body figure and male having muscular body shape. As such, adolescents who do not have the portrayed body image may become dissatisfied with their body image.

In Malaysia, few studies had been done to assess perceived body image and its relationship with various associated factors, such as disordered eating behaviour, physical activity and self-esteem (Cheah et al., 2017; Farah Wahida et al., 2011; Japil et al., 2018; Khor et al., 2009; Omar Dev et al., 2009; Soo et al., 2008). All these studies were conducted among secondary schools' students, with the majority of it being done in Peninsular Malaysia. The prevalence of adolescents who were dissatisfied with their body image was between 33% and 78%. These studies also found that a higher percentage of female adolescents were dissatisfied with their body as compared to male adolescents. The highest percentage of body image dissatisfactions was reported by Farah Wahida et al. (2011), whereby up to 82% of its female respondents were found to have body image dissatisfaction. This percentage was similar to the findings of Maezono et al. (2019), whereby 85.2% of Japanese adolescents and 77.2% of Finnish adolescents were found to be dissatisfied with their body image. In Sarawak state, the study by Cheah et al. (2017) which was conducted in Kuching city found that 44.1% and 33.7% of the adolescents were dissatisfied with their body parts and body weight respectively. These findings were the lowest among all the studies conducted in Malaysia.

1.2 Statement of the problem

Adolescents are easily affected by body image due to the causes mentioned above, especially among female adolescents. Body image dissatisfaction is sometimes dangerous. It is found to be associated with disordered eating behaviours, unhealthy weight control behaviours, low physical activity, and exercise, lower self-esteem and suicidal ideation (Allen et al., 2016; del Mar Bibiloni et al., 2013; Cruz-Saez et al., 2018; Gaddad et al., 2018; Lee & Lee, 2016; Mitchison et al., 2017; Schuck et al., 2018; Wichstrøm & von Soest, 2016). By identifying the factors associated with perceived body image, relevant authorities will be able to address this issue among adolescents accordingly. Apart from peers, celebrities and media influences that were identified by Mooney et al. (2009), there are other factors associated with perceived body image as well. These factors include body mass index and self-esteem (Rezali et al., 2012; Wichstrøm & von Soest, 2016).

Body mass index measures a person's nutritional status (World Health Organization, n.d.). It also portrays a person's overall body size and shape. Male adolescents with normal BMI were found to be more satisfied with their body image as compared to male adolescents who were underweight or overweight (Kantanista et al., 2017). On the other hand, female adolescents who were underweight are more satisfied with their body image in comparison with normal-weight and overweight female adolescents. Abdul Latiff et al. (2018) found that almost 80% of the overweight adolescents were dissatisfied with their body image while less than 60% of normal-weight and underweight adolescents had body image dissatisfaction. However, Canpolat et al. (2005) found contradicting results whereby all BMI groups had similar body image

satisfaction level among adolescents. As such, this study aims to determine the relationship between perceived body image and BMI among adolescents.

Self-esteem is the degree to which a person holds his or her attitudes of acceptance or rejection toward himself or herself (Rosenberg, 1962). Self-esteem is often associated with body image (Makinen et al., 2012; Singh et al., 2015; Wichstrøm & von Soest, 2016). A majority of the studies were able to determine that current perceived body image can predict future self-esteem (Morin et al., 2011; Paxton, Neumark-Sztainer, et al., 2006; Tiggemann, 2005; Wichstrøm & von Soest, 2016). However, only two studies were able to determine that self-esteem can predict future perceived body image (Paxton, Eisenberg, et al., 2006; Wichstrøm & von Soest, 2016). Other similar studies found that this relationship to be non-significant. As such, this study aims to determine the relationship between perceived body image and self-esteem.

Body change strategies are methods used by a person with body image dissatisfaction to improve his or her body image (McCabe & Ricciardelli, 2001). The commonly used methods for body change are excessive exercise, disordered eating behaviours and use of medication (Kaewpradub et al., 2017; Moore, 1988). Few studies had been conducted in Malaysia, which assess the disordered eating behaviour among adolescents (Cheah et al., 2017; Soo et al., 2008). However, only one study in Malaysia surveyed the muscle increasing strategies used by adolescents to improve body image, especially among males (Mellor et al., 2010). All these studies do not represent the rural population which may have different preference of body change strategies. This research aims to provide a more in-depth understanding of the body

change strategies used by rural adolescents as well as the relationship of body change strategy with perceived body image.

1.3 Research questions

1. What are the socio-demographic characteristics of rural adolescents?
2. What is the perceived body image level among rural adolescents?
3. What is the Body Mass Index (BMI) of rural adolescents?
4. What is the self-esteem level among rural adolescents?
5. What are the body change strategies undertaken by rural adolescents?
6. Is there any relationship between perceived body image with BMI, self-esteem, and body change strategies?

1.4 Research objectives

1.4.1 General objective

To determine perceived body image and its relationship with body mass index, self-esteem, and body change strategy among rural adolescents in Samarahan and Asajaya district.

1.4.2 Specific objectives

1. To determine the socio-demographic characteristics of rural adolescents;
2. To determine perceived body image among rural adolescents;
3. To determine the BMI of rural adolescents;
4. To determine the level of self-esteem among rural adolescents;
5. To determine the body change strategy undertaken by rural adolescents;
and
6. To determine the relationship between perceived body image with body change strategies, BMI, and self-esteem.

1.5 Research hypothesis

1. Adolescents with body image satisfaction are related to BMI.
2. Adolescents with body image satisfaction are positively related to the level of self-esteem.
3. Adolescents' perceived body image is directly related to body change strategy.

CHAPTER 2: LITERATURE REVIEW

Adolescence is part of a human being's life cycle. Oxford dictionary defines adolescence as the period in a person's life when he or she develops from a child into an adult (Oxford Learners Dictionaries, n.d.-a). World Health Organization (WHO) defines adolescence as any human being whose biological age falls between ten and nineteen-year-olds (World Health Organization, 2019). During this period, adolescence will experience various changes as their body is preparing them towards adulthood. These changes include physical, cognitive, and psychosocial development (Martin & Collin, 2015; Rosen, 2004). It is also in this period that adolescents develop adaptive and functional skills and competencies, and establish self-identities that prepare them to fulfil adult societal roles and expectations (Chulani & Gordon, 2014).

2.1 Body image

Paul Schilder first introduced the term body image with the definition of

“the picture of our own body which we form in our mind and the way in which the body appears to ourselves” (Schilder, 1950 p. 11).

Throughout the years, various studies used the term “body image” with a different definition from the original version. One author found that there are up to 16 different definitions of “body image” used in various studies (Thompson et al., 1999). However, Grogan (2017) defines body image as *“a person's perceptions, thoughts, and feelings about his or her body”* as the most comprehensive definition. This definition includes psychological concepts as well as both positive and negative aspects of perceived body image as intended by the author. Few studies have adopted this definition in their studies (Kamaria et al., 2016; Wong, 2013).

Perceived body image is a complex and multifaceted construct (Thompson, 2004). It can be examined through various aspects, for example, appearance satisfaction, appearance orientation, body areas satisfaction, overweight preoccupation (Cash, 2016). Multiple studies have come up with different measurements in the form of questionnaires and silhouette techniques to assess a different aspect of the perceived body image of a person. Some studies also used a qualitative research method for the assessment of perceived body image as well (Frisen & Holmqvist, 2010; Mooney et al., 2009). Some of the aspects that are evaluated using these techniques include evaluation of body shape, size, muscle or weight and the perceived discrepancy between current perceived body image and ideal body image (Cash & Szymanski, 1995).

Body image questionnaires are designed to provide a quantitative measure for body image assessment. The respondent would be asked to complete designated questionnaires, and researchers analysed it based on the answers provided. Questionnaires from the early days were designed to study women with eating disorders, for example, Body Shape Questionnaire (Cooper et al., 1987). Lately, more questionnaires were developed to examine a broader aspect of body image, for example, Multidimensional Body-Self Relations Questionnaire (Cash, 2016; Cash & Szymanski, 1995) and Body Self-Image Questionnaire (Rowe et al., 1999).

For the silhouette technique, respondents are given a series of figures with different body sizes and shapes and are asked to rate their current and ideal body image base on the figures. Body image dissatisfaction would be calculated based on the discrepancy

between the current and ideal body image. Some example of silhouette techniques includes Figure Rating Scale and Contour Drawing Rating Scale (Stunkard et al., 1983; Thompson & Gray, 1995).

2.1.1 Adolescents and body image

Perceived body image is closely associated with adolescents' growth and development (Markey, 2010). During the adolescence phase, adolescents are subjected to physical, cognitive, psychosocial, and social developments. These developments will cause changes to adolescents' minds and body which can result in either body image satisfaction or body image dissatisfaction (Clay et al., 2005).

Male and female adolescents have different body image preferences with males preferring muscularity, while thinness is most sought after among females (Bratland-Sanda & Sundgot-Borgen, 2012; Hoffmann & Warschburger, 2017; Jankauskiene & Baceviciene, 2019; McCreary & Sasse, 2000; Zhang et al., 2016). For female adolescents, pubertal changes often result in weight gain, which can lead to body image dissatisfaction (O'Dea & Abraham, 1999). For male adolescents, pubertal changes that result in muscle development will lead to high body image satisfaction, especially among post-pubertal male adolescents (O'Dea & Abraham, 1999).

A qualitative study had been done to look for the reasons affecting perceived body image among adolescents (Mooney et al., 2009). Some of the causes identified in this research include influence from celebrities that they aspired to be, peer pressure, and influenced by media. These influences often emphasise thinness for female and muscularity for male. Since female adolescents gain more fat during puberty, their

body size and shape might deviate from the ideal body image portrayed by media and celebrities. This will cause them to be more dissatisfied with their body image. On the other hand, puberty helps male adolescents to develop their muscle further. Their muscle will increase in size and tone during puberty, leading them closer to the ideal body image portrayed by media and celebrities. Thus, this will cause them to be more satisfied with their body image.

Body image dissatisfaction during the adolescence period can sometimes lead to severe health impacts on adolescents. Various studies had found that body image dissatisfaction is associated with mental health problems. These mental health problems include disordered eating behaviour, depression and suicidal ideation (Cruz-Saez et al., 2018; Lee & Lee, 2016; Mitchison et al., 2017; Schuck et al., 2018). Some studies also found that body image dissatisfaction will cause adolescents to use unhealthy weight control behaviours such as fasting or eating one food diet (Allen et al., 2016; Lee & Lee, 2016). These practices will cause nutritional imbalance and eventually lead to other health problems such as osteoporosis and anaemia (Sagar, 2005).

2.1.2 Body image studies in the context of Malaysia and Sarawak

In Malaysia, adolescence represents 20% of the total national population-based on the Population and Housing Census of Malaysia, 2010 (Department of Statistics Malaysia, 2010). Few studies had been done to assess perceived body image among them as well as its relationship with eating behaviour, physical activity and self-esteem (Cheah et al., 2017; Farah Wahida et al., 2011; Japil et al., 2018; Khor et al., 2009; Omar Dev et al., 2009; Soo et al., 2008). All these studies were conducted among secondary schools'