INDONESIAN HEALTHY LIVING INTENTIONS: SEGMENTATION STUDY INSIGHTS

Abstract

Obesity is a global epidemic. The very rapid growth rates of obesity prevalence observed in developing countries is alarming. Segmentation is under applied in social marketing and, when it is applied, it is based primarily on demographic data in samples drawn from developed nations. The current study adopts psychographic segmentation to understand lifestyle attitudes and intentions towards exercise and weight loss amongst an Indonesian sample. TwoStep cluster analysis (n= 499) identified four distinct segments (*At risk, Conscious healthy, Overweight. and Tryers*). The results of this study demonstrate that different groups exist in the larger population and that consideration of these groups may assist social marketers in creating service/intervention offerings that meet the needs of a broader range of people in the market, thus extending penetration of campaigns that address obesity.

Keywords: segmentation, obesity, theory of planned behaviour, Indonesia

Introduction

The World Health Organization (WHO) reported that one billion people are now overweight and more than 300 million people are obese (WHO, 2015). According to predictions by McKinsey Global Institute (2014), almost half of the global population will be clinically overweight and obese by 2030. Obesity is associated with various chronic diseases and metabolic disorders such as cardiovascular diseases, cancer (i.e. prostate, renal, bladder, and colon), arthritis and many more (Mokdad et al., 1999). Estimates suggest the global costs of obesity have reached US$2 trillion annually (McKinsey Global Institute, 2014).

Once a phenomenon that was limited to developed nations, the prevalence of obesity has been growing at an alarming rate in developing countries (Michalakis et al., 2013; Reisch and Gwozdz, 2011; Roemling, 2012). Significant changes in the diets in developing countries have taken place over the past 30 years, including increased consumption of fat and sugar (Bhurosy and Jeewon, 2014).

More than half of all obese people in the world live in just 10 countries (Ng et al., 2014), with only two of these being developed nations (USA and Germany) and the other eight developing nations (China, India, Russia, Brazil, Mexico, Egypt, Pakistan, and Indonesia) (Ng et al., 2014). Recent estimates indicate that 62 percent of people in developing countries are overweight and obese (ABC, 2014; Ng et al., 2014). Globally, the combined number of overweight and obese adults in developing countries is now over 900 million (Overseas Development Institute, 2014). Hence, the high prevalence and growth of obesity in developing countries warrants research attention.

Indonesia is the tenth most obese country and is the fourth most populous (225 million) nation of the world (CIA, 2015). Similar to many other developing nations, Indonesia has successfully reduced, though not eradicated, under- and mal-nutrition, while at the same time it has experienced a rapid increase in obesity prevalence rates (Faizal, 2012). Particularly concerning is the fact that the number of overweight and obese adults has doubled in the last decade (Ng et al., 2014; WHO, 2015). The rates of overweight in children is also rapidly rising with fourteen percent being overweight in 2010, up from three percent in 2007 (Usfar et al., 2010). Sedentary lifestyles are now prevalent in Indonesia, especially among children with parents from more affluent socio-demographic backgrounds.

The current study acknowledges that overweight and obesity is a complex multi-factorial problem (Foresight, 2007) that involves not only factors at an individual level, but also the multiple environments in which individuals live, from their immediate social and

built environments to the broader economic and political environments. Fighting obesity, therefore, requires initiatives that address factors at various levels of influence (Wymer, 2011; Hoek and Jones, 2011). Overall, efforts have focused predominantly on downstream interventions (e.g. school and community interventions to promote physical activity), and least on upstream approaches (e.g. effective food labelling and unhealthy-food marketing restrictions) (Stead et al., 2007). A focus on the individuals and the social influences surrounding them offers a cost effective means to deliver behavioural change and is the focus of the current study (Grier and Bryant, 2005; Mckenzie-Mohr, 2000).

A plethora of variables are related to an individual's ability to maintain a healthy weight (Foresight, 2007), including demographic variables such as age, gender, income, height and weight (e.g. Boslaugh et al., 2005; Bruwer and Lee, 2007; Formica and Uysal, 1995), psychographic variables such as attitudes and intentions towards weight loss (e.g. Dutta-Bergman, 2004), and exercise behaviours (e.g. Schuster et al., 2015). All are important variables that should be further explored (Boslaugh et al., 2005; Hogan et al., 2013).

Evidence indicates that behavioural change is more likely when more of the six social marketing benchmark criteria (see Andreasen, 2002 for criteria explanation) are applied in social marketing interventions (Carins and Rundle-Thiele, 2014). However, a recent umbrella review identified that the social marketing benchmark criterion of segmentation is rarely reported in social marketing interventions. Specifically, Dietrich et al. (2017) identified that 16% of 93 social marketing interventions aimed at reducing alcohol harm, promoting healthy eating, and increasing physical activity, reported use of segmentation. In the rare instances that segmentation was applied a dominant focus on demographic factors was noted (Dietrich et al. 2017), despite wider knowledge that other segmentation bases were available (see Tkaczynski et al., 2015). Furthermore, application of theory in segmentation is limited

despite documented benefits of theory use for segmentation (Thackeray and Neiger, 2000), and program design and planning more broadly (Lombardo and Leger, 2007).

This study aimed to contribute to an important issue, namely obesity prevention in a developing country context by examining whether meaningful segments can be identified to assist social marketing intervention planning and design. The purpose of this study was two-fold. First, to identify whether different segments emerge from an Indonesian study sample following application of the Theory of Planned Behaviour replicating and extending Schuster et al. (2015). Second, this paper seeks to examine how intentions towards achieving weight loss (i.e. healthy eating vs physical activity) differ and offers preliminary insights that can guide social marketing research and practice.

Literature Review

Theory of Planned Behavior

This study is underpinned by the Theory of Planned Behaviour (TPB) which was developed out of the earlier Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980). TPB has been widely used as a theoretical framework for explaining health behaviours (Ajzen and Fisbein, 1980; Andrews et al., 2010; Godin and Kok, 1996; Shifter and Ajzen, 1985; Ajzen, 1991). More recently TPB has been used as a theoretical base for social marketing segmentation (see Schuster et al., 2015). TPB was designed to help explain and predict people's intentions and behaviours by analysing their attitudes, subjective norms and perceived behavioural control (Ajzen, 2014). The primary antecedents of behaviour are not the individual's attitude towards, or social norms about the behaviour, but rather the intention to perform the behaviour (Norman and Smith, 1995). In this study, intention is considered an important precursor to behaviour (Ajzen, 1985; Beck and Ajzen, 1991). Use of intentions as a proxy for behaviour is consistent with other studies (Teo and Beng, 2010; Shah and Sayuti,

2011). TPB has been used for predicting exercising intention and behaviour among adolescents (Mummery et al., 2000; Hamilton and White, 2008) and adults (Godin, 1993; Lowe et al., 2002; Courneya et al., 1998; Rhodes and Courneya, 2005). Similarly, TPB has been fairly accurate in predicting individuals' intention to lose weight (Schifter and Ajzen, 1985; Ajzen, 2015). Extending beyond dominant demographic bases applied in segmentation in social marketing (e.g. Boslaugh et al., 2005; Milliman and Turley, 1993) and following recent empirical evidence supporting TPB as a guiding theoretical framework for segmentation (see Schuster et al., 2015) the current study aims to understand whether segments can be identified in a developing country context drawing on psychographic segmentation bases extending beyond dominant demographic approaches reported.

Segmentation

Market segmentation consists of three key steps (a) identifying homogenous segments within a larger heterogeneous population, (b) evaluating and selecting one or multiple segment(s), and (3) developing a program suited to the unique needs and characteristics of the target segment(s) (Donovan, Egger, and Francas, 1999). Segmentation is based on economic pricing theory and is underpinned by a philosophy of gaining increased efficiencies in resource allocation and increased return on investment (Dibb et al., 2002). Segmentation has been used extensively in commercial and social marketing contexts (see Dietrich et al., 2017 for detailed discussion of segmentation in social marketing). Tkaczynski and Rundle-Thiele (2013) used segmentation to segment based on motivations towards attending music festivals, while other researchers have segmented consumers based on their demographic information such as gender in wine consumption (Barber, 2009) and age in pro-environmental behaviours (Van der Kollmuss and Agyman, 2002). Demographic approaches often use information such as gender, age, and income as proxies for unobservable variables that can predict behaviour

(Ukenna et al., 2012; Mowen and Minor, 1998; Park and Lee, 2014). Yet, simply segmenting on demographic variables has received criticism (Dietrich et al., 2015b), as meaningful segments can be identified on the basis of at least four segmentation bases: demographic, psychographic, geographic, and behavioural variables (Kotler, 1980). Once segments are formed, a segment(s) that is the most measurable, accessible, sustainable, and substantial should be targeted for the best return on investment (Kotler, 1980).

Social marketing program designers have begun to apply segmentation theory to understand group differences in study populations in diverse fields including obesity (McLeay and Oglethorpe, 2013; Olds et al., 2013), alcohol (Dietrich et al., 2015a; Dietrich et al., 2015b), and physical activity (Rundle-Thiele et al., 2015). Segmentation has been considered as a key ingredient for designing more targeted social marketing programs (Rundle-Thiele et al., 2015; Andreasen, 2002; Lefebvre and Flora, 1988). Within the social marketing literature it has been determined that between two (e.g. Atlantis et al., 2009; Polymeros et al., 2015) and four (Fairburn et al., 2007; Rundle-Thiele et al., 2015) segments are the most frequently identified number of validated segments. The current study aims to understand whether segments can be identified.

Methods

Participants and Procedures

Researchers distributed the survey to staff members in a large private hospital in Surabaya, Indonesia. In addition, the survey was distributed by research assistants to faculty members and students of a large university in three different cities in Indonesia (Surabaya, Yogyakarta, and Solo). A total of 575 surveys were collected. Incomplete surveys with no weight and height information (n=76) were removed as this did not allow BMI calculations, leaving a

total of 499 usable questionnaires. Table 1 summarizes the demographic profile of the study sample.

INSERT TABLE 1 ABOUT HERE

Measures

Psychographic variables informed by TPB (Ajzen, 1991) were collected and used for the TwoStep cluster analysis. We also collected demographic information of respondents including their height and weight, which was used to calculate their Body Mass Index (BMI). The sample was divided into three BMI levels (Normal = 18.5-24.9; overweight = 25-29.9; obese = ≥30). Six attitudinal items toward losing weight (*e.g. for me to lose weight in the next six month is; 1=bad; 7=good*) were adapted from Ajzen (1991). Subjective norms (SN) were measured using 3 items (e.g. *People who are important to me think I should lose weight*; 1=*strongly agree; 7=strongly disagree*). Perceived behavioural control (PBC) was measured using 3 items (e.g. *How easy or difficult would it be for you to lose weight in the next six months; 1=extremely easy; 7=extremely difficult*). However, PBC had to be removed from the analysis due to poor reliability scores ($\alpha = 0.49$). Furthermore, respondents were asked to report on their intentions to lose weight (3 items, e.g. *I intend to lose weight in the next six months; 1=strongly disagree; 7=strongly agree*), their intention exercise (3 items, e.g. *I intend to exercise in the next 7 days; 1=extremely unlikely; 7=extremely likely*), and their intention to eat healthfully (3 items, e.g. *intend to eat more healthfully in the next 7 days; 1=extremely unlikely; 7=extremely unlikely*). All intention items were adapted from Ajzen (1991). The use of different time frames for intention to lose weight (six month) and intention to exercise and eat healthfully (7 days) recognised that intention to lose weight is a long term effort, while exercise and eating healthfully are immediate efforts that an individual can undertake. Wing and Hill (2001, p. 325) defined successful long-term weight loss

maintenance as 'intentionally losing at least 10% of initial body weight and keeping it off for at least 1 year. In addition, respondents were asked for demographic information such as their gender and income and they were asked whether they were currently smokers or not.

The measurement instruments in this study were assessed using Confirmatory Factor Analysis (CFA). The goodness-of-fit indicator for the measurement instrument (BBNFI = 0.944, BBNNFI = 0.969, CFI = 0.975, IFI = 0.975, RMSEA = 0.038), easily exceeded the commonly accepted critical values (Andersen and Gerbing, 1988) and are reported in detail in (authors name withheld to ensure anonymity during the review process). Table 2 summarizes the factor analysis results.

INSERT TABLE 2 ABOUT HERE

Data Analysis

A TwoStep cluster analysis was conducted. The analysis produced a sample (N=499) with a silhouette measure of cohesion and separation of 0.3. A silhouette of more than 0.0 is needed for the within-cluster distance and the between cluster distance to be valid (Norusis, 2011). A cross validation was carried out by dividing the total sample (n=499) in half and repeating identical analysis on each sample half (Punj and Steward, 1983). A four segment solution with a total of six segmentation variables was accepted as the final solution. Then, individual variable predictor importance scores (ranging from 0 = least important to 1= most important) were assessed. The BMI index was the most distinguishing factor in terms of predictor importance scores (1.0), followed by attitude towards losing weight (0.61), intention to lose weight (0.50), subjective norm about losing weight (0.41), intention to exercise (0.01), and intention to eat healthy (0.01) as the least important. Finally, chi-square analysis was used to explore differences in the demographics between the four clusters.

Results

Segments

The results produced four segments (see Tables 3 and 4). The first segment (*At Risk*) comprised of 20.3% of sample respondents, most of who were of normal weight. Well over half *At Risk* respondents were aged 18-34 years of age (60.2%). Most of respondents' incomes were less than 20 million rupiah (equal to US$1494 as of 23 February 2016). Significantly, this segment expressed a much lower intentions to lose weight (M=1.51, SD=0.83) and the most negative attitudes toward weight loss in comparison to other segments (M=2.05, SD=1.11). Moreover, this segment had the highest subjective norms score, indicating less influence from people who are close to them. The *At risk* segment had the lowest intention to exercise (M=4.55, SD=1.97) as well as the lowest intention to eat healthfully (M=4.86, SD=1.91).

INSERT TABLE 3 AND 4 ABOUT HERE

The second segment *(Conscious Healthies*) was the largest (39.4%) and comprised of individuals with predominantly normal weight. Over half of this segment was in the 18-24 year age bracket (59.5%), but had a higher ratio of individuals aged 25 and above (compared to segment 1). This segment reported higher income levels than segment 1 (*At Risk*) with 29.8% having an income between 41-80 million rupiah (US$2987- US$5974 as of 23 February 2016) and 18.2% had an income above 81 million rupiah. The *Conscious Healthies* had significantly more positive attitudes and intentions to lose weight (M=5.78, SD=1.46) as well as significantly more positive attitudes toward weight loss (M=5.83, SD=1.01) compared to other segments. The *Conscious Healthies* had the lowest subjective norm score (M=2.48, SD=1.35) compared to other segments, indicating that people who are important to the *Conscious Healthies* expect them to maintain a healthy body weight. Interestingly, this

segment had only a marginally higher intention to exercise (M=4.55, SD=1.97) compared to the *At risk* segment. Lastly, the *Conscious Healthies* had the second highest intention to eat healthfully score (M=5.01, SD=1.78).

The third segment (*Overweight*) was the second largest group (24.7%). In terms of its demographic profile, it included a larger number of individuals aged over 25 years. The *Overweight* had the second highest positive attitudes toward weight loss (M=5.83, SD=1.11) and intentions to lose weight (M=5.63, SD=1.53) after segment 2 (*Conscious Healthies).* Similar to the *Conscious Healthies*, this segment perceived a high level of social support/pressure from important others to maintain a healthy body weight (M=2.71, SD1.64). However, similar to segment 1 (*At risk*), the *Overweight* segment had lower intentions to exercise (M=4.75, SD=1.63) as well as lower intentions to eat healthfully (M=4.87. SD=1.83).

The final segment (*Tryers*) included 15.6% of sample respondents, the majority of whom were obese and aged 35-44 years. Relative to the other segments, the *Obese* included the highest number of individuals aged over 45, and more people reporting an income above 80 million rupiah. This segment included the highest proportion of males compared to all other segments. Analyses of psychographic data found that this segment had lower intentions to lose weight (M=5.20, SD=1.61) and less positive attitudes toward weight loss (M=5.55, SD=1.19) compared to segments 2 and 3. Furthermore, the *Tryers* had significantly lower subjective norms scores (M=2.64, SD=1.42) compared to the *Conscious Healthies* and the *Overweight*, suggesting less perceived social pressure to lose weight from people closest to them. However, on average the *Tryers* had significantly higher intentions to exercise (M=5.05, SD=1.62) and significantly higher intentions to eat healthfully (M=5.12, SD=1.76) relative to other segments.

Discussion and Implications for Social Marketers and Non-profit Organisations

Consistent with Schuster et al. (2015), theory and specifically TPB was used to underpin segmentation analysis. In the current study, the constructs of intentions, attitudes, and subjective norms from the Theory of Reasoned Action (Fisbein and Ajzen 1977) were reliably measured and served as bases for segmentation. Use of theory in social marketing research has been called for given that theoretically informed programs are more effective (Thackeray and Neiger, 2000; Lombardo and Leger, 2007). Application of theory to derive segment formation may inform our understanding of the phenomenon under investigation and subsequently, assist us to understand which construct to focus our social marketing campaigns on.

This study contributes more broadly by presenting insights into obesity in a developing country context drawing on one convenience sample involving more than 400 respondents. Most obesity studies are in western, developed country contexts (Alonso et al., 2012; Basset et al., 2008; Patterson et al., 2004; Kromeyer et al., 1999) and this study extends into the developing country context showing that segmentation can and should be applied in formative research on overweight and obesity. The initial results presented in the current study indicate that a similar pattern between individuals from developed and developing countries may exist. Studies in developed countries found that low socioeconomic status is positively related to obesity and chronic disease (Bhurosy and Jeewon, 2014; Kumanyika et al., 2002). The results of this study reveal that the SES and obesity relationship in developing countries bears a similarity to relationships observed in developed countries. A result, which may surprise given many associate overweight and obesity in developing nations with wealth and high incomes.

Four segments - *At Risk*, *Conscious Healthies*, *Overweight*, and *Tryers* were identified within this Indonesian sample. The profiling of segments provided interesting insights into different groups that from a public health or social marketers' perspective raise concern. For segmentation to be relevant, chosen segments need to be assessed based on size, access, responsiveness, and level of need (Dietrich et al., 2017). The *At risk* segment consists of mostly healthy individuals who are at risk of being overweight in the future due to very negative attitudes, very low intentions to maintain a healthy lifestyle, and less social pressure to maintain a healthy lifestyle. *Conscious Healthies,* on the contrary, were healthy and motivated to maintain their healthy lifestyle. The *Overweight* segment consisted of individuals who were already suffering from weight problems, and were less motivated to improve their eating and exercise habits. Finally, the *Tryers* segment consisted of individuals who were obese, but had more positive intentions to exercise and to eat healthfully than all other segments. This finding suggests that this segment may deliver the best return on investment, and be the priority target if limited funding is available.

Studies have indicated that women are more likely to be concerned about their weight when compared to men (Sanchez-Villegas et al., 2001; Swami et al., 2010). Specifically, perceptions of overweight and attempts to lose weight are highest in Asian countries indicating that culture and norms could moderate people's attitude toward weight (Wardle et al., 2006). In line with prior research, the results of the current study indicated that expectations and pressure from others may help people maintain their healthy body weight. The *Conscious Healthy* also had more people that were important to them expecting them to maintain their healthy body weight. The *At Risk* segment did not seem to have this social support network or external expectation/pressure.

The results show the importance of collective efforts to maintain a healthy lifestyle, suggesting that social marketing programs would benefit from involving groups of family

members and/or friends who can encourage and support each other to adopt a healthier lifestyle. Moreover, a clear upstream approach is needed in curbing sugar consumption in developing countries. First, government and social marketers may negotiate with schools and universities to reduce the availability of sugary products within their premises. Second, imposing a tax on drinks with added sugar may assist to curb sugar consumption impacting the affordability of sugary drinks hence shifting consumers' preference toward healthier options. Third, social marketers may create campaigns to increase consumers' awareness of the amount of sugar or fat in various products.

Limitations and Future Research

This study does have limitations. First, the study used one convenience sample from one large city in Indonesia, which has more access to healthier food options as well as exercise facilities when compared to other settings. Future studies should expand on this study's sample and also collect data from people living in rural areas, low income families, and extend collection to measure more men. Second, this research employed a cross-sectional design. Future research employing a longitudinal research approach to examine the long-term effects of healthy living intentions (e.g. reduction of tobacco consumption, increase in exercise) at a later period (e.g. six months) is recommended. Further research would assist to understand if the segments are exhaustive, replicable and can be used over time.

Behavioural variables (e.g. exercise and eating habits) were not collected. Future research needs to extend on this study's questionnaire and explore behaviours relating to exercise and weight loss permitting both geographic and behavioural segmentation bases to be included in future studies. Although this study used important precursors to behaviour such as attitudes (Andrew et al., 2010; Miller and Miller, 2010) and intentions (Courneya et al., 1998; Rhodes and Courneya, 2005) additional behavioural data may provide further in-

depth insights into the identified segments. Studies show exercise alone is insufficient, and dieting efforts are required to maintain a healthy weight (Curioni and Lorenco, 2005; Woo et al., 2004).

Moreover, this study did not use perceived behavioural control in the segmentations model due to low reliability scores. Manstead and Eekekln (1998) suggested that people's confidence in their ability to carry out a particular behaviour (self-efficacy) may be a stronger predictor of behavioural intention than other control-related constructs. Hence, future research is recommended in a developing country context to extend understanding of TPB. We recommend that future research should compare and contrast self-efficacy and perceived behavioural control's role in explaining and/or predicting people's intention to lose weight, eat healthfully, and exercise. Scale development efforts are recommended to ensure reliable and valid indicators underpin enquiry.

Similar to earlier studies (e.g. Anding et al. 2001; Weaver and Byers, 2006), the current study uses BMI. However, BMI has limits such as overestimating body fat in individuals who have a muscular build and underestimating body fat in individuals with a less muscular build (National Heart, Lung and Blood Institute, 2016). Future studies need to extend beyond self-report measures (including BMI) as used in the current study to capture actual behaviour (e.g. pedometers and food intake observations in addition to physiological measurement, e.g. waist circumference, weight, and blood pressure) to extend our understanding further.

Two segmentation bases underpinned the current study, namely demographics and psychographics. Inclusion of a larger sample permitting all segment bases to be modelled simultaneously is recommended. To date, research has not been conducted to understand which segmentation bases are more predictive of future behaviour. A longitudinal experimental design is recommended to examine the predictive power of different segment

bases. Such a study would test whether segments formed on demographics alone are more predictive of future behaviour than segments developed based on four segmentation bases, namely demographics, psychographics, geographic and behavioural (see Dietrich et al, 2017 for a list of measures for each base).

Whilst application of the social marketing benchmark criterion of segmentation is suggested, empirical testing to ascertain whether application of segmentation enhances program effectiveness remains absent. A field experiment is recommended to examine whether a program that caters differentially to segment needs and wants can outperform a campaign that is designed for and implemented in the target market as a whole.

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Appendix

Table 1. Demographic Profile (N=499)

	Frequency	Percentage
Gender		
Male	143	29%
Female	227	67%
Undeclared	19	4%
Age		
18-24 years	248	50%
25-34 years	142	28%
35-44 years	70	14%
45 years <	39	8%
Income		
< Rp. 20 million	257	52
Rp. 21-40 million	94	19
Rp. 41-80 million	59	12
Rp. 81 million	33	7
Undeclared	56	11%
BMI		
Normal Weight	278	55%
Overweight	133	27%
Obese	88	18%

Table 2. Confirmatory Factor Analysis

Factor	Item	Convergent validity		Reliability		
		Factor Loading	Loading average	Cronbach's	CR	AVE
Attitude (ATTD)						
For me to lose weight in the next six months is: good-bad	ATTD01	0.950	0.904	0.958	0.965	0.821
For me to lose weight in the next six months is: beneficial-harmful	ATTD02	0.945				
For me to lose weight in the next six months is: wise-foolish	ATTD03	0.948				
For me to lose weight in the next six months is: harmful-beneficial	ATTD04	0.933				
For me to lose weight in the next six months is: unhealthy-healthy	ATTD05	0.816				
For me to lose weight in the next six months is: unenjoyable-enjoyable	ATTD06	0.834				
Subjective Norm (SN)						
People who are important to me think I should lose weight	SN01	0.945	0.952	0.964	0.967	0.906
People who are important to me would approve of me losing weight	SN02	0.972				
People who are important to me want to lose weight	SN03	0.938				
Perceived behavioural Control (PBC)						
How easy or difficult would it be for you to lose weight in the next six months? (removed)	*PBC01*	*0.642*	*0.702*	*0.487*	*0.484*	*0.320*
Whether I do or do not lose weight in the next six months is entirely up to me?(removed)	*PBC02*	*0.644*				
How much control do you feel you have over losing weight over the next six months?	PBC03	0.822				
Intention to Lose Weight (ITLW)						
I intend to lose weight in the next six months	ITLW01	0.972	0.974	0.972	0.983	0.949
I will lose weight in the next six months	ITLW02	0.969				
I plan to lose weight in the next six months	ITLW03	0.982				
Intention to Exercise (ITE)						
I intend to exercise in the next 7 days	ITE01	0.953	0.907	0.945	0.903	0.852
I will exercise in the next 7 days	ITE02	0.942				
I plan to exercise in the next 7 days	ITE03	0.872				
Intention to Eat Healthfully (ITEH)						
I intend to eat more healthfully in the next 7 days	ITEH01	0.943	0.961	0.970	0.973	0.924
I will eat more healthfully in the next 7 days	ITEH02	0.968				
I plan to eat more healthfully in the next 7 days	ITEH03	0.973				
		Goodness-of-fit measures				
		BBNFI	BBNNFI	CFI	IFI	RMSEA
X^2 (414 df) = 717.883 (p = 0.00)		0.944	0.969	0.975	0.975	0.038

Measure instrument psychometric properties
CR Composite Reliability, AVE Average Variance Extracted

Table 3. Segment profile

Demographic	**At Risk (1)**			**Conscious Healthies (2)**			**Overweight (3)**			**Tryers (4)**		
Segment size	N=98			N=190			N=119			N=75		
Segment %total	20.3%			39.4%			24.7%			15.6%		
BMI	**Normal Weight**			**Normal Weight**			**Overweight**			**Obese**		
	n	% within cluster	% between cluster	*n*	% within cluster	% between cluster	*n*	% within cluster	% between cluster	*n*	% within cluster	% between cluster
Age X^2 (9) = 51.401**												
18-24	**59**	**60.2**	24.5	**113**	**59.5**	46.9	**50**	**42**	20.7	19	25.3	7.9
25-34	22	22.4	16.2	52	27.4	38.2	42	35.3	30.9	20	26.7	14.7
35-44	10	10.2	14.9	18	9.5	26.9	17	14.3	25.4	**22**	**29.3**	32.8
45+	7	7.1	18.4	7	3.7	18.4	10	8.4	26.3	14	18.7	36.8
Missing	0			0			0			0		
Gender X^2 (6) = 34.517**												
Male	23	23.5	16.7	36	18.9	26.1	44	37	31.9	35	46.7	25.4
Female	**72**	**73.5**	22	**151**	**79.5**	46.2	**67**	**56.3**	20.5	**37**	**49.3**	11.3
Missing	3			3	1.6		8	6.7		3	4.0	
Income [a] X^2 (12) = 30.217*												
< Rp. 20 million	**57**	**58.2**	23	**114**	**60**	38.9	**51**	**42.9**	20.6	**26**	**34.7**	10.5
Rp. 21-40 million	13	13.3	14.4	32	16.8	46	24	20.2	26.7	21	28	23.3
Rp. 41-80 million	11	11.2	19.3	17	29.8	35.6	18	15	31.6	11	14.7	19.3
Rp. 81 million <	7	7.1	21.2	6	18.2	29.8	9	7.6	27.3	11	17.7	33.3
Missing	10	10.2		21	11.1		17	14.3		6	8	
Smoker X^2 (6) = 6.646												
Yes	6	6.1	16.7	11	5.8	30.6	12	10.1	33.3	7	9.3	19.4
No	**91**	**92.9**	21.2	**169**	**88.9**	39.3	**104**	**87.4**	24.2	**66**	**88**	15.3
Missing	1	1		10	5.3		3	2.5		2	2.7	

Note. *All values significant at.05 level. ** All values significant at .01 level. [a] (1 USD = Rp. 13,445 – Feb 10, 2016)

Table 4. Segment profile

PSYCHOGRAPHIC	At Risk (1)		Conscious Healthies (2)		Overweight (3)		Tryers (4)		Sig
	M	SD	M	SD	M	SD	M	SD	
Attitude – lose weight	2.1	1.11	5.83	1.01	5.70	1.11	5.55	1.19	**0.00**
Intention - lose weight	1.51	0.83	5.78	1.46	5.63	1.53	5.20	1.61	**0.00**
Perceived norm	6.17	1.19	2.48	1.35	2.71	1.64	2.64	1.42	**0.00**
Intention – exercise	4.55	1.97	4.60	1.85	4.75	1.63	5.05	1.62	0.24
Intention – eat healthy	4.86	1.91	5.01	1.78	4.87	1.83	5.12	1.76	0.72