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RESEARCH ARTICLE

Injunctive Norms or Descriptive Norms – Explaining Intention of Energy-Dense Food Intake among Adolescents

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Abstract: This present study tested an extended Theory of Planned Behaviour (TPB) model including interaction effects between TPB determinants (i.e., attitudes, subjective norms/injunctive norms, perceived behavioural control (PBC), and intentions), and an additional variable (descriptive norms) among Indonesian adolescents. A cross-sectional study was done among 411 adolescents (M_{age} = 12.02 years, SD = 0.45, 53.3% boys) from five private schools in urban and suburban areas of Indonesia. Data were collected using adapted questionnaires. A Multiple Linear Regression was used to examine the associations and interaction between determinants (attitudes, injunctive and descriptive norms, and perceived behavioural control) and intention of energy-dense intake using R 4.0.2. Analyses demonstrated significant predictions of three determinants to intentions. Analysis showed that there was a significant difference in the regression to intentions between injunctive and descriptive norms, where descriptive norms more importantly explained intentions than injunctive norms. The results also showed that there were no significant two-way interactions. Injunctive norms and descriptive norms did not moderate the relation between attitude and intention, neither attitudes as moderator between PBC and intentions. All three determinants of TPB could predict the intention of eating energy-dense food. The TPB model could explain this behaviour. It looked likely beneficial to consider the difference between descriptive norms and injunctive norms (especially friends) that may strongly effect on high school students intentions to consume energy-dense food.

Keywords: Energy-Dense Food Intake Intentions, Attitudes, Injunctive Norms, Descriptive Norms, Perceived Behavioral Control (PBC), Adolescents

INTRODUCTION

Unhealthy lifestyle changes that have occurred with industrialization, urbanization, economic development and market globalization have accelerated over the past decade in developing countries, including Indonesia. These changes, in turn, have had a significant negative impact on the health and nutritional status of Indonesian populations (Popkin, 2004; Roemling & Qaim, 2012). One important factor determining obesity is the consumption of energy-dense food that consists of unhealthy, processed, and low-nutrient products, and foods containing excessive sugar and/or fat (Biltoft-Jensen et al., 2022; Monteiro et al., 2013). Some studies showed that fast food or low-nutrient and energy-dense food customers were usually children and adolescents (Kassem & Lee, 2004; Mirkarimi et al., 2016). Given the serious consequences of consuming energy-dense food and the high prevalence among adolescents, this study explores predictors of energy-dense food intake intentions in Indonesian adolescents.

While in Asian countries, including Indonesia, overweight is increasing in high SEP (Socio-Economic Position) groups, in developed countries, overweight is more prevalent among low SEP groups (Rachmi et al., 2017; Roemling & Qaim, 2012). In developing countries, overweight and obesity often tend to be perceived as a sign of affluence of the family. As such, adolescents with higher socio-economic status tend to have more risk of becoming overweight or even obese (Rachmi, 2017; Mistry & Puthussery, 2015). Moreover, the intention to consume energy-dense food might also be perceived as more positive in developing than in developed countries, as there is less stigma on obesity and unhealthy food intake (Rachmi et al., 2017). Given that energy-dense food intentions are closely linked to actual unhealthy energy-dense behavior (Weijzen et al., 2008; Collins & Mullan, 2011), it is important to understand what determines the intention to consume energy-dense food among adolescents in Indonesia.

Understanding adolescents' intentions to consume energy-dense food may be best apprehended by using theoretical models of human motivation and health behaviors (Hagger & Chatzisarantis, 2009). One important model explaining health intentions is the Theory of planned behavior (TPB). According to the TPB, intentions are formed by three main constructs: (1) positive or negative evaluation towards performing the behavior (i.e., attitudes toward the

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behavior), (2) perception about the social expectations or how others would approve or disapprove the behavior (i.e., subjective norms / injunctive norms), and (3) beliefs related to the perceived easy or difficulty of completing a particular behavior (i.e., perceived behavioral control; PBC). While the Theory of Planned Behavior has been widely applied, its use has predominantly been limited to Western, developed nations (Gourlan et al., 2019; Collins & Mullan, 2011; de la Haye et al., 2013; Kothe & Mullan, 2015). Nonetheless, studies in Asian countries have also confirmed that attitudes, injuntive norms, and perceived behavioral control significantly predict behavioral intentions regarding eating behaviors (Patcheep, 2015; Cheng et al., 2019; Ting et al., 2016; Chan et al., 2016). Based on these findings, the researcher assumes that, in Indonesia–particularly among adolescents from higher socioeconomic positions (SEP), where consuming energy-dense food is likely perceived more positively–there will be stronger intentions to consume such food. Specifically, adolescents from higher SEP are expected to (1) hold more positive attitudes, (2) have peers who more strongly approve of consuming energy-dense food, and (3) perceive greater control over their food choices, all of which are predicted to be associated with a higher intention to consume energy-dense food.

Moreover, in addition to the three TPB constructs (i.e., attitudes toward behavior, injunctive norms, and perceived behavioral control), descriptive norms, referring to the perception of what other people do (Higgs et al., 2015; Rivis & Sheeran, 2003; Povey et al., 2000), may also importantly explain energy-dense food intentions. As in the adolescent period, peers play a significant role (Lam et al., 2014), in this present study the norms will be in the friend or peer context. To date, a previous study, with regard to eating behaviors based on research from developed countries in Europe and America, has shown that descriptive norms more strongly explain people's health intentions compared to injunctive norms (de la Haye et al., 2013; Lally et al., 2011). Adolescents tend to perceive their peers' attitudes toward healthy food (injunctive) to be less positive than the actual attitudes held by their peers (descriptive). Indonesia has a more collective culture that is different from the more individualistic culture in most Western countries. Collective cultures tend to score higher on subjective norms or injunctive norms (Chen & Hong, 2015; Chiu et al., 2015). The cultural difference could have a significant different prediction of injunctive and descriptive norms to intentions. This study assumes that in Indonesia's collectivist culture, injunctive norms (what others think you should do) will have a stronger influence on adolescents' intention to eat energy-dense food than descriptive norms (what others are doing), despite the strong influence of peer behavior.

Finally, TPB constructs might interact with each other in explaining health intentions. As suggested by Conner & McMillan (1999), attitudes are likely to be more predictive of intentions when the social environment is supportive of the proposed act (i.e. moderating effects of norms on the attitude-intention link) (e.g. Hukkelberg et al., 2014). Moreover, previous studies have found that PBC was positively associated with intentions when attitudes were more positive (i.e. moderating effects of attitudes on the PBC-intention link; Conner & McMillan, 1999; Gourlan et al., 2019; McMillan & Conner, 2003). Thus, the third question was to examine whether the two norms (i.e. injunctive and descriptive norms) would moderate the impact of attitudes on intentions and whether attitudes would moderate the impact of PBC on intentions.

The main aims of the present study were to examine whether and how the TPB constructs can explain intentions to consume energy-dense food among Indonesian adolescents. 1) Based on previous literature, it was expected that the three TPB constructs will be related to more energy-dense food intentions. More positive evaluation toward energy-dense food intake, more approval from friends, and more self-perceived control would be associated with higher intentions to eat energy-dense food (hypothesis 1). 2) It was expected that descriptive norms would explain additional variance on top of the TPB constructs. Based on the collectivistic culture of Indonesia, injunctive norms would be more strongly associated with the intentions compared to descriptive norms (hypothesis 2). 3) The three interactions (i.e., injunctive norms x attitudes, descriptive norms x attitudes, attitudes x PBC) would further explain intentions to consume energy-dense food among Indonesian adolescents (hypothesis 3).

METHODS

Participants

This cohort study included three waves of data collection. The first wave took place from October until December 2019. Participants in this study were part of Wave 1 from a planned prospective study on adolescents in Indonesia. Adolescents were recruited through five private Junior High schools in four cities (Jakarta, Surabaya, Bandung, Manado) in Indonesia. A total of 411 students participated in Wave 1. All adolescents (M_{age} = 12.02 years; SD_{age} = 0.45; range: 11.02 – 14.11 years; 53.28% Boys) were in 7th grade or in their first year of Junior High School.

Procedure

This study was approved by by the Ethics Committee Social Science of Radboud University, Nijmegen, The Netherlands (ECSS-2019-115). In three schools, parents gave active consent by returning a signed form. In two schools, the researcher has received passive consent from the head of the school, based on school regulations. Parents were informed about the study and could object to the participation of their child. Students were asked to sign a paper consent form indicating that they agreed to 1) participate in the survey study and 2) have their weight and height measured. The data collection was carried out by the researcher and two research assistants, with additional support from the class teachers and the school nurse.

At the onset of the study, participants were informed that participation was voluntary, that answers would be processed anonymously, and that they could withdraw from the study at any moment. Adolescents completed a paper self-report survey at school during one classroom hour (approximately 60 minutes).

Measurements

The researcher measured attitude toward behaviour, descriptive norms, injunctive norms, perceived behaviour control with Likert scale items (adapted from Gourlan et al., 2019; de la Haye et al., 2013; Kassem et al., 2003). All items were translated into the Indonesian language using forward-backward translation procedure and slightly adapted. Participants responded to items on a seven-point scale. Endpoints varied by item, a high score corresponded with more higher values (i.e., more positive attitudes, norms, perceived behavioural control and intentions

towards energy-dense food intake) and a low score corresponded with lower values respectively.

Attitude toward Behaviour

Participants rated their attitude toward the behaviour of eating energy dense food with three items: "I think eating high energy food would be …", on seven bipolar adjective-opposite scales. This attitude toward behaviour measurement used the same question in three items with response options ranging from "very annoying" to "very nice" (item 1), "unenjoyable" to "enjoyable" (item 2), "very disgusting" to "very tasty" (item 3). Reliability was sufficient (α = .71). Mean scores were calculated with higher values indicating a higher attitude towards eating energy dense food.

Descriptive Norms

Descriptive norms were measured with three items. The items that were used were: Item 1: "Of your close friends at school, how many eat high energy food?" – the participants rated on with response options ranging from "none of my close friends" to "all of my close friends"; Item 2: "How do often your classmates eat high energy food" – with response options ranging from "less than one day per week or never" to "daily"; Item 3: "Most people who are like me, eat energy dense food" – with response options ranging from "none of them" to "almost all of them". The internal consistency for descriptive norms was α = .74. Mean scores were calculated with higher values indicating higher descriptive norms.

Injunctive Norms

Injunctive norms were measured with 3 items s: Item 1: "Do your close friends at school think that you should eat high energy food?" with response options ranging from "they definitely think I should not" to "they definitely think I should"; Item 2: "How often do your close friends encourage you to eat high energy food?" with response options ranging from "never" to "always"; Item 3: "Most people who are important to me, approve me to eat energy dense food" with response options ranging from "disagree" to "agree". The internal consistency of injunctive norms was α =.64. Mean scores were calculated with higher values indicating higher injunctive norms.

Perceived Behavioural Control

Perceived behavioural control was measured with one item, namely "Eating energy dense food or not is up to me", with response options ranging from "uncertain" to "certain". In the beginning, PBC was measured with two items during data collection. This study focused on only one of these items because there was a concern with regard to the validity of one of the PBC items, as that specific item actually focused on the restriction of energy-dense foods (i.e., "I am confident that I can limit my consumption of energy dense food.") and not PBC per se.

Intention of Energy Dense Food Intake

To assess intention of energy dense food intake, participants rated two items on a seven-point scale, namely "In the next week, how often do you plan to eat high energy food?" with response options ranging from "once a week or less" to "daily" and "Tomorrow, do you intend to eat high energy food?" with response options ranging from "definitely do not intend" to "definitely intend to do this. The internal consistency (Spearman-Brown) was .58.

Data Analyses

Descriptive statistics, including Frequencies, Means, Standard Deviation, and missing data were used to summarize all responses. Skewness and Kurtosis were used to assess normal data distribution. The presence of non normal-distributions in variables was explored using skewness and kurtosis (skewness > 3, kurtosis > 10; Kline, 2011). Univariate (+/- 3 *SD* from the mean) outliers were inspected using boxplots and were winsorized to retain statistical power and attenuate bias (Ghosh & Vogt, 2012).

Data pre-processing and data-analyses were conducted in R 4.0.2 (R Core Team, 2021). Linear regression analyses were conducted using the lm function from the base package to examine the associations and interaction between determinants (attitudes toward behavior, injunctive norms, descriptive norms, and PBC) and intention to energy-dense food intake. In these models, attitudes, injunctive norms, and perceived behavioural control were the predictors, and intention was the outcome. In total, this study tested three models: 1) A main effects model of attitudes towards behaviour, injunctive norms, and perceived behavioural control on intention (hypothesis 1). 2) An additional main effect model including descriptive norms on top of the main effects included in model 1, in order to determine the additional value of descriptive norms over and above the other determinants (hypothesis 2). In accordance with our research question regarding the relative strength of injunctive versus descriptive norms predicting intentions, the researcher compared the two standardized regression coefficients using the car package (Fox & Weisberg, 2019). 3) A two-way interaction effects model with injunctive norms and descriptive norms moderating diverse links (i.e., the link between injunctive or descriptive norms as moderators in the relation between attitudes toward behaviour on intention; attitudes toward behaviour as a moderator in the relation between PBC on intention (hypothesis 3). For the moderation analyses, interaction terms were calculated by multiplying the predictors and moderators, which were used as predictors in addition to the main effects. Predictors were centered prior to the analyses to avoid multicollinearity in the moderation analyses. The researcher allowed correlations between the predictors in all analyses. Given that all models were fully saturated, no model fit indices could be calculated.

RESULTS OF STUDY

With regard to the whole dataset (n = 411, no missing data), no severe outliers were detected and the data was normally distributed (see Table 1). Thus, no transformations to the variables were made. Table 1 shows the descriptive statistics and correlations between the study variables. All predictors (attitudes toward behavior, injunctive norms, PBC, and descriptive norms) were significantly and positively correlated with the outcome intention. Moreover, the predictors were positively correlated with each other.

The results of Multiple Linear Regression are depicted in Table 2. The main effects model (model 1) showed that attitude towards behavior, injunctive norms, and perceived behavioral control predicted higher levels of intention. In total, 2.56% of the variance of intention was explained. The researcher added descriptive norms to the main effects model (model 2), and the result showed that attitudes toward behavior, injunctive norms, and descriptive norms predicted a higher level of intention, but PBC did not predict the intention.

Table 1. Descriptive Statistics and Correlation Coefficients

Variables	M	SD	Attitude	Injunctive norms	PBC	Descriptive norms	Intention
Attitude	**6.49**	**2.99**					
Injunctive norms	**5.29**	**3.09**	**.35****				
PBC	**4.65**	**1.97**	**.27****	**.22****			
Descriptive norms	**12.00**	**3.74**	**.46****	**.40****	**.31****		
Intention	**6.22**	**2.91**	**.53****	**.36****	**.20****	**.44****	

**** p value < .01,**

Table 2. Results of Multiple Linear Regressions for main effects, two-way and three-way interactions

Model & Variable	*B*	*SE B*	*z*	*β*	*p*
Model 1 (main effects model)					
Attitude	0.39	0.04	9.02	.40	.00
Injunctive norms	0.16	0.04	3.44	.15	.00
Perceived behavioral control (PBC)	0.15	0.07	2.32	.10	.02
Model 2 (main effect model with descriptive norms)					
Attitude	0.33	0.04	7.61	.34	.00
Injunctive norms	0.08	0.04	2.02	.09	.04
Perceived behavioral control (PBC)	0.05	0.06	0.85	.04	.39
Descriptive norms	0.22	0.04	6.18	.29	.00
Model 3 (interactions)					
Injunctive norms x Attitude	0.01	0.01	0.99	.04	.32
Descriptive norms x Attitude	-0.00	0.01	-0.05	-.00	.95
Attitudes x PBC	0.04	0.02	1.83	.08	.07

To compare whether injunctive or descriptive norms have a similar or different link with intentions, the researcher compared the two standardized regression coefficients, and the result showed that there was a significant difference between injunctive and descriptive norms (χ^2 = 7.74, *df* = 1, *p* =.00). Descriptive norms were more importantly explained intentions than injunctive norms.

The two-way interaction models (model 3, Table 2) showed that injunctive norms and descriptive norms did not moderate the relation between attitude toward behavior and intention. Moreover, results showed that attitude toward behavior did not moderate the relation between perceived behavioral control and intention.

DISCUSSION

The main aim of this present study was that the three TPB constructs would be related to more energy-dense food intentions (hypothesis 1). The influence of injunctive norms on intentions will be stronger compared to descriptive norms (hypothesis 2). Lastly, the three interactions further explain intentions to consume energy-dense food among Indonesian adolescents (hypothesis 3). The three interactions: injunctive or descriptive norms moderate the relation between attitudes and intentions; attitudes moderate the relation between PBC and intentions.

The results of this study supported the constructs of the TPB, which were found to be predictive of factors influencing intentions of behavior. The present findings suggest that TPB can be used to predict intentions to eat energy-dense food. Intentions to eat energy-dense food were well predicted by attitudes, injunctive norms, and PBC. This finding was in line with previous studies of this literature (Ajzen, 2011, Zoellner et al., 2012; Mirkarimi et al., 2016; Kothe & Mullan, 2015), that three determinants (attitudes toward behaviour, subjective norm, and PBC) are predictors of intentions of behavior. In this investigation of the eating intention of adolescents, attitudes were the strongest predictor of intention to eat energy-dense food. This finding was consistent with a previous study among urban adolescents in Asia (Patcheep, 2015). Subjective norms and perceived behavioral control also contributed to predicting adolescents' intentions to consume energy-dense foods.

The normative measures employed in the study demonstrated differential predictions of intention. Injunctive norms and descriptive norms were significant predictors of intention to consume energy-dense food. The impact of injunctive and descriptive norms on intention within the TPB supports other research (Conner & McMillan, 1999; McMillan & Conner, 2003) showing the importance of salient others´ perceived eating energy-dense food. This study also compared the predictive effects of injunctive and descriptive norms. The result showed that there was a significant difference between injunctive and descriptive norms. Descriptive norms more importantly explained intention than injunctive norms. This result was not in line with our hypothesis (hypothesis 2), but consistent with previous studies that showed that individuals eat more when their eating companions eat more and less when their companions eat less (e.g. Pedersen et al., 2015; Robinson et al., 2013). This finding was also consistent with other studies that showed that descriptive norms contributed to the prediction of intention independently of injunctive norms (Smith & Louis, 2008; Rivis & Sheeran, 2003). Although Indonesia has a more collectivist culture that tends to score higher on sensitivity to "what others think is good or bad" (Chen & Hong, 2015; Chiu et al., 2015), in this study, descriptive norms were more predictive of adolescents' intentions to consume energy-dense foods than injunctive norms. This may be related to the fact that

our participants were adolescents, a developmental stage in which the creation and maintenance of a positive social image become a priority (Erikson, 1968). Consistent with prior research, adolescents' eating behaviors often align with those of their peers (de la Haye et al., 2013; Lally et al., 2011), as they strive to gain acceptance and fit in by following peer behaviors (Stok et al., 2014). The present findings, therefore, highlight the importance of considering descriptive norms in the promotion of healthy eating behaviors.

The addition of descriptive norms to the regression equation predicting intention (Table 2) reduced the effect of PBC. This suggests that in relation to the decision to eat energy-dense food, it is social pressure from knowing salient others who eat energy-dense food that is more important than control of behaviour. Future theoretical development might consider the difference between normative and perceived behavioural control (PBC) influence might be expected to impact intention.

In the present study, neither injunctive nor descriptive norms moderated the impact of attitudes on intentions. Thus, we did not find support for the traditional form of the contingent-consistency hypothesis (Acock & DeFleur in Hukkelberg et al., 2014) about the interaction between subjective norms and attitude on intention. The rationale for this proposition is that attitudes are more predictive of intention to act when the social environment supports the behaviour. Furthermore, explanations based on the results of review studies suggest that the interaction effects between norms, attitudes and intentions depend on the type of behaviour (McDermott et al., 2015; Riebl et al., 2013). Eating energy-dense food could be perceived as a negative or positive behaviour among adolescents. Most probably, there were two opposite normative pressures to eat and not to eat energy-dense food, as in early adolescents. Peers can shape adolescents' perception that energy-dense foods are popular. Adolescents´ attitudes toward eating energy-dense food could be influenced by normative pressure related to the negative consequences of eating energy-dense food (or fast food or unhealthy food). Hence, the large number of dangers of unhealthy food campaigns in recent years has presented eating unhealthy as a socially undesirable behaviour. Future research also needs to explore the normative pressure from parents.

A final interaction that we examined was between PBC and attitude. The present study showed That attitude toward behaviour did not moderate the relation between PBC and intention. This finding was in line with a study about alcohol consumption (Conner & Mc Millan., 1999). The insignificant interaction in this present study could explain that eating energy-dense food is a negatively evaluated behaviour. Eagly and Chaiken (1993) noted that while one might expect control to be associated positively with intention to act for a positively evaluated behaviour, this is not the case for negatively evaluated behaviour. Conner and McMillan (1999) provided some support for this suggestion in showing that for those who evaluated cannabis use negatively or neutrally, PBC was significantly negatively related to intention, but for those with positive attitudes, no relationship existed between PBC and intention. This later finding from Conner and McMillan could explain the present finding, that adolescents with positive attitudes toward eating energy-dense food, did not moderate the relation between perceived behavioural control and intention to eat energy-dense food. From the study of McMillan and Conner (2003), when PBC measured belief to use some drugs, the results showed that PBC was significantly associated with intention when attitudes were more positive (cannabis and amphetamine), and for LSD and ecstasy, PBC was unrelated to intention when attitudes were negative. Future studies should employ a belief measure of PBC.

Some limitations of this study warrant mention. 1) The items measuring intentions to consume energy-dense foods were translated into Indonesian and adapted but exhibited low internal consistency (α = .58). This low reliability score could be caused by using two different time frames: next day and next time. The low internal consistency may undermine the overall validity of the study and its findings–for instance, the absence of observed relationships between injunctive norms and intentions, or between PBC and intentions, or no moderator effects. Additional research is necessary to further evaluate the reliability and validity of these items, or to explore the impact of using a consistent time frame (e.g., "next day" or "next week"); 2) This study used only one item to measure perceived behavioral control (PBC). As such, this study cannot determine the internal consistency of the PBC measure and thus also knows less about how consistently adolescents may have interpreted this construct; 3) Given the cross-sectional design of this current study, this study cannot draw any conclusions regarding the direction of effects. For instance, energy-dense food intentions may also influence the amount of control adolescents perceive. Future longitudinal studies could shed more light on (determinants of) energy-dense food intake intention; 4) The present study used adapted measures from previous research and employed a semantic differential scale. However, the meaning of some items may have changed during translation, and participants had difficulty understanding the items due to the use of this scale. These issues may have affected the reliability of our findings.

Despite the above limitations, the findings of the present study have number of theoretical and practical implications. This study addresses a gap in the literature by applying the Theory of Planned Behavior (TPB) to energy-dense food consumption among adolescents in Indonesia–a context characterized by a predominantly collectivistic rather than individualistic culture. Therefore, our study contributes important information to the evidence base of health researchers and practitioners developing nutrition and health interventions among the Indonesian adolescent population.

CONCLUSION AND IMPLICATIONS

Our findings fill a gap in the literature by providing insights into the intentions behind energy-dense food consumption among early adolescents in Indonesia. The findings suggest that descriptive norms (i.e., perceptions of peer behavior) may exert a stronger influence than injunctive norms (i.e., perceived social expectations). Health promotion efforts could benefit from involving peer leaders as role models to encourage healthier eating habits. Neither injunctive nor descriptive norms moderated the effect of attitude on intention, nor did attitude moderate the effect of perceived behavioral control (PBC) on intention. The data demonstrate the importance of considering additional variables in the application of the TPB to some behaviours. This study contributes valuable insights to the evidence base for health researchers and practitioners developing nutrition and health interventions using theory of planned behavior, especially in settings shaped more by collectivist than individualist values.

DECLARATIONS

Ethics Approval And Consent To Participate
All procedures performed were in accordance with the ethical standards of Ethics Committee Social Science of Radboud University, Nijmegen, The Netherlands. Of the five schools that agreed to participate, three schools obtained consent forms from parents and students. The remaining two schools, based on the school policy, informed the parents about this project (passive consent). The original (reference ECSS_2019_150) and amended (passive consent) procedures were approved by the Ethics Committee Social Science of Radboud University, Nijmegen, The Netherlands (ECSS-2019-115).

Consent for publication: Not applicable.

Availability of data and materials:
The datasets generated and analysed during the current study are not publicly available due to agreements we have made concerning the exchange and use of our data but are available from the corresponding author on reasonable request.

Conflicts of Interest Statement: No competing interests.

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Artificial Intelligence-Assisted Technology:
During the preparation of this work, the author used Chat-GPT to check the grammar of some sentences. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the published article.

Authors' contributions:
ES was responsible for the data collection, the statistical analyses, and the interpretation. ES wrote the manuscript.

ABOUT THE AUTHORS

I am a lecture in psychology faculty of Maranatha University. I got my bachelor degree in Surabaya University and then continue my master degree in Gadjah Mada University. I just graduated from Behavior Science Institute of Radboud University. I am interested in health psychology and my research topics are usually about obesity among adolescents.

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