

SELECTED FACTORS RELATED TO DIET PILL USAGE IN LATE ADOLESCENT FEMALES

Paweena Yuktanonda^{1,*} and Kullaya Pisitsungkagarn²

¹Department of Psychology, Faculty of Humanities and Social Sciences, Burapha University, Chonburi 20131, Thailand ²Faculty of Psychology, Chulalongkorn University, Bangkok 10330, Thailand

ABSTRACT: The purpose of this research study was to examine factors related to diet pill usage in late-adolescent females. A total of four-hundred and sixteen dieting females participated in the study. Two-hundred and ten participants reported the use of diet pills while two-hundred and six participants did not. Participants completed a set of six questionnaires capturing personal information including monthly income, body image dissatisfaction, media influence, peer influence, family influence, and beliefs about diet pill usage. Data obtained were analyzed using Discriminant Function Analysis with a stepwise method. Wilks' Lambda was examined to identify factors that helped predict diet pill usage in these participants. Findings indicated that five such factors were beliefs about the efficiency of diet pill usage, body image dissatisfaction, media influence, belief about side effects of diet pill usage, and monthly income, respectively. These factors significantly helped classify participants with and without diet pill usage and yielded a total predictive accuracy of 97.40 percents.

Keywords: Diet pill usage, Body dissatisfaction, Media influence, Beliefs about efficiency of diet pill usage, Beliefs about side effects of diet pill usage, Monthly income

INTRODUCTION: During the past decade, dieting programs and services have proliferated all over Thailand. The Thais, particularly female adolescents, engage in dieting behavior. In addition to the sound reasons of maintaining good health and avoiding illness related to obesity¹, the attempts of female Thai adolescents to maintain trimmed body shape and low weight apparently stem from other reasons, particularly those relevant to physical attractiveness. According to Fredrickson and Roberts's (1997) Objectification Theory, females are generally socialized to view their attractiveness as one of their assets². Often times, their physical appearance, rather than their inner qualities, becomes the determinant of their value. More attractive females enjoy more benefits of career advancement, dating opportunities, and financial stability than their less attractive peers³. The significance of physical appearance becomes so tremendous that many females strictly monitor their appearance and constantly examine their body shape for the areas of improvement. Evidently, such monitoring and careful examination are likely to lead these females to discover their physical flaws, experience body image dissatisfaction, and fall

into the malicious trap of becoming preoccupied with their body image⁴.

Accordingly, female adolescents are at the highest risk of experiencing body image dissatisfaction². Females of this age group are at their prime of sexual maturity and are ready to establish sexual intimacy which is undeniably influenced by physical attractiveness⁵. Additionally, while cognitive advancement helps adolescent females to reach the prime of cognitive maturity, abstract thinking also leaves them with the vulnerability to the phenomenon of imaginary audience and to become exceptionally concerned with their physical appearance. Hence, it is not uncommon for adolescent females to report their dissatisfaction with their body shapes and weights as well as their attempts to modify them².

Along the same line, adolescent Thai females, as reported by the Ministry of Health and Ramkhamhaeng University's Institute of Research and Development (2004), were plagued by a relatively high degree with the experience of body image dissatisfaction⁶. Boonchawal (2003) found that they experienced relatively high degree of body image dissatisfaction⁷. A recent study by Dejithirath and Sakworawich (2004) supported

*To whom correspondence should be addressed.
E-mail: paweena_mine@hotmail.com

these reports suggesting that three-fourth of adolescent females in their studies experienced body image dissatisfaction and attempted to lose weight even when they were in a normal weight range, as determined by their BMI⁸). Even more striking was the findings that, upon their weight loss attempts, one-fourth of Thai female adolescents turned to diet pill usage⁶). With the detrimental side-effects and long term consequences of diet pill usage⁹), attempts have been made to discourage the use of this method of weight loss⁷).

The present study, therefore, was conducted to investigate factors that helped classify dieting Thai female adolescents who used diet pills in their weight loss attempts from those who did not rely on this weight loss strategy. Eight factors hypothesized to be useful in such classification were tested. They were body image dissatisfaction, body mass index (BMI), reception to media, peer, and family influences that advocate trimmed body shape and low weight, monthly salary, and finally beliefs about diet pill usage, both in terms of its effectiveness and its side effects. Findings from the present study should be beneficial to the attempts to identify adolescent females who were vulnerable to diet pill usage, and such identification should be useful to the attempts to prevent the use of this weight loss strategy in Thai female adolescents.

MATERIALS AND METHODS: The objective of this survey research is to study the factors related to diet pill usage in late-adolescent females.

Participants Four-hundred and sixteen dieting late-adolescent Thai females from Bangkok participated in the present study. The method for selecting the sample is purposive sampling in order to select the participants reported with the use of diet pills and those who were not. Two-hundred and ten participants reported their use of diet pills within the last six months in order to lose weight while the remaining, two-hundred and six participants had never relied on such usage.

Instrumentation All instruments administered in the present study were translated into Thai. The systematic approach for translation was used for its assurance of construct equivalence rather than

verbatim equivalence between the original and translated instruments.

In the personal information sheet, the participants were asked to indicate their weight, height, monthly salary, and diet pill usage. Afterwards, the participants responded to seven instruments measuring key constructs in the present study. Each instrument as well as its psychometric properties is reviewed below.

Body Image Dissatisfaction. Mezzzo's (1999) Body Shape Questionnaire-Revised was used to measure the degree that the participants experienced displeasure with their body shapes and weights¹⁰). The participants rated how much they agreed with 10 statements (e.g., "Have you been so worried about your shape that you have been feeling that you ought to diet?", "Have you noticed the shape of other women and felt that your own shape compared unfavorably?"), referring to a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha estimate for this measure was .96.

Media influence. Young, McFatter, & Clopton's Media Influence Scale (2001) was used to measure the degree that the participants internalized from the media the significance of trimmed body shapes¹¹). The participants rated how much they agreed with 10 statements (e.g., "I like to read fashion magazines that feature thin models," "I like to watch fashion shows on TV that feature thin models"), referring to a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha estimate for this measure was .92.

Peer influence. Young, McFatter, & Clopton's (2001) Peer Influence Scale was used to measure the degree that the participants internalized from their peers the significance of trimmed body shapes¹¹). The participants rated how much they agreed with 11 statements (e.g., "My friends tend to make fun of people who are overweight," "My friends often make favorable comments about the slender figures of other women"), referring to a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha estimate for this measure was .90.

Family influence. Young, McFatter, & Clopton's (2001) Family Influence Scale was used to measure the degree that the participants internalized from their families the significance of trimmed body shapes¹¹). The participants rated how much they agreed with 12 statements (e.g., "I've felt pressured from my family to lose weight," "I've noticed a strong message from my family to have a thin body"), referring to a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha estimate for this measure was .95.

Belief about the effectiveness of diet pill usage. The self-invented Perceived Effectiveness of Diet Pill Usage Scale was used to measure the degree that the participants believed in the efficiency of diet pill usage. This questionnaire emphasized on the participants belief toward diet pills; hence, the questionnaires was not focused on emotion, feeling or behaviors. The questionnaire used Ajzen and Fishbein's theory of reasoned action¹²). The participants rated how much they agreed with 16 statements (e.g., "I believe that diet pill can help me lose weight," "I feel that using diet pills is an easy option to lose weight"), referring to a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha estimate for this measure was .96.

Belief about the side-effects of diet pill usage. The self-invented Perceived Side-effects of Diet Pill Usage Scale was used to measure the degree that the participants felt concerned with the side-effects of diet pill usage. This questionnaire emphasized on the participants belief toward diet pills; hence, the questionnaires was not focused on emotion, feeling or behaviors. The questionnaire used Ajzen and Fishbein's theory of reasoned action¹²). The participants rated how much they agreed with 15 statements (e.g., "I believe that diet pill usage has negative side-effects to my health," "I believe that diet pill usage leads to various side-effects), referring to a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha estimate for this measure was .94.

Procedures for Data Collection

The research was conducted by the study of

four-hundred and sixteen reliable questionnaires. The data was collected from:

1. Late – adolescent females aged between eighteen and twenty-one years in Bangkok who utilized diet pills. The questionnaires were collected at a diet clinic in Bangkok. The research distributed and collected two-hundred and fifty questionnaires. However, after the examination of the questionnaires, it was found that only two-hundred and ten questionnaires were completed.

2. Late – adolescent females aged between eighteen and twenty-one years in Bangkok who never use diet pills. The questionnaires were distributed to those adolescent who were willing to answer the questionnaires. The researcher distributed and collected two-hundred and fifty questionnaires. However, after those questionnaires were examined, it was found that two-hundred and six questionnaires were completed.

In a large group, the participants responded to the questionnaires in one session for 20-25 minutes. Two alternate forms of the questionnaires were administered with the measures randomly ordered in each form in order to minimize the carry-over effects.

RESULTS: Results from descriptive statistics as well as from the Discriminant Function Analysis with a stepwise method were shown in Tables 1-5.

Table 1 Participants as classified into those with and without diet pill usage (*n* = 416)

Weight loss strategies	Participants	
	Number	Percentage
Diet pill usage	210	50.48
Non-diet pill usage	206	49.52
Total	416	100

Table 1 helped illustrate the proportion of participants with and without diet pill usage. From Table 2, it was evident that, when compared with the participants who did not use diet pills, those who did so obtained higher scores for most of the major variables investigated. They reported higher BMI and body image dissatisfaction. Additionally, they were more vulnerable to the message from the media, their peers, as well as their families that females should maintained trimmed body shapes. Additionally, they obtained

Table 2 Descriptive statistics and mean differences for the scores of major variables in the participants with and without diet pill usage (n = 416)

Variables	Participants with diet pill usage (n = 210)		Participants without diet pill usage (n = 206)		t-test
	M	SD	M	SD	
BMI	23.39	3.51	19.58	2.29	13.13***
Monthly salary	7,087.38	1,834.07	5,768.69	1,985.79	7.04***
Body image dissatisfaction	40.80	4.93	23.80	8.23	25.51***
Media influence	30.90	4.19	21.03	5.43	20.73***
Peer influence	33.65	3.71	23.63	5.66	21.31***
Family influence	31.56	7.34	19.91	5.57	18.26***
Belief about the efficiency of diet pill usage	48.20	3.54	29.22	6.81	35.56***
Belief about side effects of diet pill usage	39.96	6.12	51.04	6.85	-17.40***

*** $p < .001$ **Table 3** Correlations among major study variables (n = 416)

Variables	1	2	3	4	5	6	7	8
1. BMI	1.00							
2. Monthly salary	.26**	1.00						
3. Body image dissatisfaction	.67**	.26**	1.00					
4. Media influence	.40**	.23**	.62**	1.00				
5. Peer influence	.51**	.22**	.74**	.72**	1.00			
6. Family influence	.66**	.20**	.69**	.55**	.66**	1.00		
7. Belief about the efficiency of diet pill usage	.52**	.31**	.75**	.65**	.68**	.66**	1.00	
8. Belief about side effects of diet pill usage	-.36**	-.20**	-.52**	-.46**	-.46**	-.48**	-.71**	1.00

** $p < .01$ **Table 4** The Wilks' Lambda of discriminant variables

Steps	Variables	Wilks' Lambda
1	Belief about the efficiency of diet pill usage	.239***
2	Body image dissatisfaction	.200***
3	Media influence	.198***
4	Belief about side effects of diet pill usage	.179***
5	Monthly salary	.178***

Table 5 The accuracy of the classification of diet pill users and non-diet pill users (n = 416)

Actual groups	Predicted groups				Total
	Diet pill users		Non-diet pill users		
	n	Percentage	n	Percentage	
Diet pill users	210	100	0	0	210
Non-diet pill users	11	5.30	195	94.70	206

Percentage of the accuracy of the classification: 97.40

a higher monthly salary and had a firmer belief in the efficacy of diet pill usage. These higher scores were significant at the .001 level. The only area that the diet pill users scored significantly lower than the non-diet pill users was relevant to their beliefs regarding the side effects of diet pill usage. Specifically, participants without diet pill usage expressed significantly more concerns regarding the side effects of the pills at the .001 level.

Table 3 demonstrates the relationships among major variables in the present study. It was evident that the only one variable that had negative relationships with any other variables was the participants' beliefs about the side effects of diet pill usage. Finally, Table 4 helped demonstrate that five, out of eight, variables tested helped classify participants with and without diet pill usage. These variables were belief about the efficiency of diet pill usage, body image dissatisfaction, media influence, belief about the side effects of diet pill usage, and monthly salary. With these five variables, the Wilk's lambda significantly reduced from .24 in the first step to eventually .18 in the last one. All together, these variables significantly classified participants with and without diet pill usage at .001 level. The percentage of the classification accuracy was 97.40 as shown in Table 5.

DISCUSSION: Findings from the present study demonstrated that certain variables helped classify late-adolescent females with and without diet pill usage. Among these variables, belief about the efficiency of diet pill usage appeared most influential. Late-adolescent females who believed in the efficiency of the usage were likely to turn to diet pills upon their weight loss attempts. What made the late-adolescent females considered weight loss attempts in the first place? As evidence in the findings, those using diet pills were less satisfied with body shapes and weights than those who did not do so. This dissatisfaction was likely to stemmed, at least in part, from the media influence. Late-adolescent females who relied on diet pills upon their weight loss attempts were more receptive to the media message that females should maintain trimmed body shape and, therefore, were more likely to experience

body image dissatisfaction. Accordingly, to resolve such dissatisfaction, the individuals usually attempted to modify their body shapes or weights¹³⁾. Upon such attempts, diet pills became the option for those believing in its efficacy as previously mentioned. In addition to their beliefs about its efficiency, late-adolescent females who relied on diet pill usage exhibited a lesser degree of concerns for the side effects of the usage. Whether this lack of concerns stemmed from their actual ignorance of such effects or from their attempts to reduce cognitive dissonance (i.e., the discrepancy between their actual behavior of relying on the pills and their negative attitude toward the pills' side effects¹⁴⁾) remains open for further investigations. More straightforward, however, was the finding that the diet-pill users reported more monthly income than their non-user counterparts. Apparently, the former had more resources to budget for the relatively costly diet pills.

Future investigations should benefit from addressing the questions raised by the present study. Such investigations should further benefit from the examination of diet pill usage in combination with other weight loss strategies (e.g., exercising and professional weight loss programs). The expansion of the participants to include other age groups as well as males who have been reported as likewise relying on dieting pill usage should give a more comprehensive view regarding diet pill usage. All together, these findings should help shed light on the effort to minimize diet pill usage upon weight loss attempts in the Thai society.

REFERENCES:

1. WHO. 2003. Pysical inactivity a leading cause of disease and disability, warns WHO. from <http://www.who.int/mediacentre/releases/rel-lease23/en/print.html>
2. Fredrickson B, Roberts T. 1997. Objectification theory: toward understanding women's lived experiences and mental health risks. *Psychol Women Q* 21: 173-206.
3. Tiggemann M. 2004. Body image across the adult life span: stability and change. *Body Image* 1: 29-41.
4. Miner-Rubino K, Twenge JM, Fredrickson BL. 2002. Trait self-objectification in women: affective

and personality correlates. *J Res Per* 36: 147-172.

5. Shaffer DR. 2005. Social and personality development. 5th ed. Delmont California: Thompson wads worth.

6. Ministry of Health and The institute of research and development Ramkham-hamhaeng University. 2004. Adolescents' diet behavior. Matichon: 10.

7. Boonchawal Y. 2003. Communication factors influencing decision to consume dietary pills among female youth in Bangkok. The Degree of Master of Arts in Development communication, Department of Public Relations, Faculty of Communication Arts, Chulalongkorn University.

8. Dejitthirat K, Sakworawich A. 2004. Disordered eating: an initial study in Thai female undergraduates. Paper presented at the East-West Psychological Research Center Annual Convention, Bangkok, Thailand.

9. Pojlertaroon A. 2003. Behavior and reasons behind anti-obesity drug usage among non-obese female adolescents in Bangkok. The Degree of Master of Sciences in Social and Administrative

Pharmacy, Faculty of Pharmaceutical Sciences, Chulalongkorn University.

10. Mazzeo SE. 1999. Modification of an existing measure of body image preoccupation and its relationship to disordered eating in female college students. *J Couns Psychol* 46: 42-50.

11. Young EA, McFatter R, Clopton JR. 2001. Family functioning, peer influence, and media influence as predictors of bulimic behavior. *Eating Behaviors*. 2: 323-337.

12. Ajzen I, Fishbein M. 1980. Understanding attitudes and predicting social behavior. New Jersey: Prentie Hall.

13. Thompson JK, Smolak L. 2002. Introduction: body image, eating disorders, and obesity in youth the future is now. In: Thompson J, Smolak L, editors. *Body image. eating disorders and obesity in youth: assessment, prevention and treatment*. Washington, DC: American Psychological Association;p. 1-21.

14. Festinger L. 1957. A theory of cognitive dissonance. Palo Alto: Stanford University.