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Emergence of Fitness Constructs among Young Adults as Determined by Gender

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ABSTRACT - The perceived impact of fitness may differ from one person to another based on their perceptions, degree of importance assigned to the concept and practice, and their understanding of its importance. Considering the fluidity of social interaction, meanings of fitness may vary in relation to context and age of a person. Therefore, the constructs of fitness among young students might affect the process of coming up with the best fitness program because of these constructs' volatility. This study aimed: 1) to determine the association of the categories of a physically fit young adult with their attitude toward exercise (i.e., whether they like or hate exercise); and 2) to determine the relationships between fitness goals and gender. A quantitative method was used in this study. A total of 300 respondents were randomly selected among students enrolled in a general physical education (PE1) course during the first semester of academic year 2012-2013. The chi-square test for independence was applied to two categorical variables from a single population in order to assess whether paired observations were independent of each other. Weight loss and increased muscle definition in the categories of reasons for liking exercise have *p* -values greater than $\alpha = 0.05$, indicating an association between the two constructs and gender. On the other hand, with the 6 constructs pertaining to reasons for disliking exercise**,** "body sweat" was calculated to have a *p*-value=0.007 and a Cramer's *V* value of 0.2160, indicating moderate association between gender and disliking exercise because of body sweat. In the cases of weight loss and toned muscles, gender influenced the choice of fitness goals.

Keywords: environment, fitness, gender, social constructs, toned muscle, weight loss

INTRODUCTION

Young adults have several constructs of physical fitness. The various meanings associated with "physical fitness" depend on the contexts where they stem from. For some, physical fitness means having perfect body that one can show off to everyone. However, for some, physical fitness might not mean having a perfectly shaped body but having an efficiently functioning body that will help them perform everyday activities and still allow them to live a happy life. For most people, physical fitness means a lot. This is one instance of a dichotomy relating to people's constructs of physical fitness. The presence of dichotomies in several forms, in addition to people's own sociological imagination, explain the distinct characteristics of meanings (Mills, 1959; Schalkwyk, 1997). Sociological theories can explain that any action a person does is always influenced by people around him//her as well as his/her responses to them. In addition, the values that every person embodies are being continuously shaped by the social environment. Contextualizing the unique situation where a person is coming from can enhance her/his understanding of the different constructs regarding physical fitness.

Nowadays, having a body similar to people who engage in regular weightlifting seems to have become a very popular idea among young adults (Blond, 2008). Media regularly portrays sculpted body and flat, strong abdomen so it has become the epitome of a healthy body (Hargreaves and Tiggemann, 2004; Yamamiya et al., 2005). Staff et al. (2012) define muscle fitness as having muscles capable of lifting heavier objects, or muscles capable of working for longer periods before reaching exhaustion. Thus, muscle fitness is a necessary ingredient in achieving physical fitness. Exercise plays a big role in achieving muscle fitness. However, for young adults, time and resources may hinder them from following a routine exercise.

The decision to regularly engage in physical activities to attain overall physical fitness is relative and is individually determined (Hassandra et al., 2003; Ntoumanis, 2001). One's decision boils down to his/her assessment of bodily functions and motivation that would drive him/her to fully engage in physical activities. A young adult's sources of motivation, encouragement from family and friends, values, and previous experiences on physical activity all contribute to how he/she forms a fitness construct(s).

Generally, this study aimed to contribute to the understanding of the different constructs of young adults regarding physical fitness. Specifically, this study sought to: 1) determine the association of the categories of a physically fit young adult with his/her attitude toward physical activity (i.e., liking and disliking exercise); and 2) describe the relationships between fitness goals and gender.

New constructs might emerge, or similar constructs from previous perceptions may still hold true. The fitness goals of every respondent affect one's preferences (i.e., what they like and do not like) when exercising. In this study, exercise was defined as a planned workout for at least 30 minutes a day, for at least twice a week.

METHODOLOGY

The study used a quantitative method by conducting a survey among respondents. A total of 300 copies of the questionnaire were distributed among randomly selected students enrolled in a general physical education (PE) course at a university chosen for the study during the first semester of academic year 2012–2013. The results of the survey were analyzed using descriptive and inferential statistics. The chi-square test for independence was applied to two categorical variables from a single population in order to assess whether the paired observations from the two variables were independent of each other. The hypothesis of independence is shown, as follows:

$$E_{i,j} = \frac{\left(\sum_{n_c=1}^{c} O_{i,n_c}\right) \cdot \left(\sum_{n_r=1}^{r} O_{n_r,j}\right)}{N},$$

where *N* is the total sample size (the sum of all cells in the table). The value of the test statistic is calculated as follows:

$$\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(O_{i,j} - E_{i,j})^2}{E_{i,j}}.$$

Some data were further analyzed using the Cramer's V test, a test used to determine the strength of association among the rows and columns of variables. The formula for the ϕ_c coefficient, according to Liebetrau (1983) is shown, as follows:

$$\phi_c = \sqrt{\frac{\varphi^2}{(k-1)}} = \sqrt{\frac{\chi^2}{N(k-1)}}$$

where:

- ϕ^2 is the phi coefficient.
- χ^2 is derived from Pearson's chi-squared test
- *N* is the grand total of observations and
- *k* being the number of rows or the number of columns, whichever is less.

RESULTS AND DISCUSSION

Of the 300 questionnaires distributed, 156 were returned (52%) and were used for the analysis. Krosnick (1999) elaborated that representative sampling has always been the concern of survey research, but he also pointed out that a 100% response rate is not necessary, especially when the study employs a probability sampling method. Furthermore, he stated that "it is not necessarily true that representativeness increases monotonically with increasing response rate."

A. The relationships of the different categories of a physically fit young adult and gender

This study wanted to determine whether the respondents were physically active by following a regimen of exercise. The exercise habits of the students during the previous year and, more importantly, during the previous two months before the study can give a foretaste of how the students formed their constructs of physical fitness. Table 1 shows the percentages of respondents who have been engaging in exercise during the previous two months and the previous year.

Table 1. Percentages of respondents who either engaged and did not engage in exercise during the previous two months and the previous year.

Gender	Exercise in the previous 2 months (in Percent)		Exercise within the previous year (in Percent)	
	Yes	No	Yes	No
Male	83.88	16.12	86.15	13.85
Female	71.43	28.57	95.6	4.4

The respondents' motivation to attain overall physical fitness, as argued by Ntoumanis (2001), is individually determined. The gender of the respondents did not matter since motivation was dependent on individual preferences. Respondents were also asked to choose the categories that best reflect the reasons why they like to exercise. Figure 1 presents the number of male and female respondents who chose the respective constructs that represented their perception of what they like in an exercise.

Both male and female respondents identified their desire to improve their fitness levels as the reason why they like to exercise. This clearly shows that the respondents realize the importance of having a fit and healthy body.

The respondents were also asked about their views on their social constructs that explained why they dislike exercise. Their answers can be seen in Table 2. Male and female respondents had chosen similar categories on what they disliked about exercise. Body pain and exhaustion were the most popular choices by the respondents of both genders, ranking 1st and 2nd, respectively. Several factors that can induce pain after exercise. One factor can be the degree of the intensity of the exercise. When a person lays off exercise for some time and suddenly gets The respondents were also asked about their views on their social constructs that explained why they dislike exercise. Their answers can be seen in Table 2. Male and female respondents had chosen similar categories on what they disliked about exercise. Body pain and exhaustion

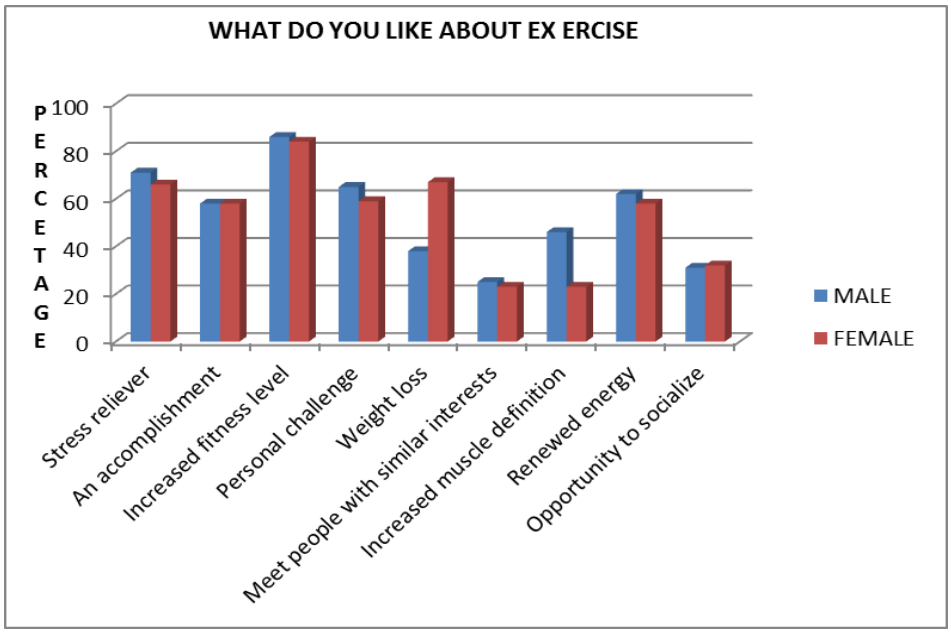

Figure 1. The percentage distribution of respondents by constructs on what they like about exercise.

were the most popular choices by the respondents of both genders, ranking 1st and 2nd, respectively. Several factors that can induce pain after exercise. One factor can be the degree of the intensity of the exercise. When a person lays off exercise for some time and suddenly gets the thrill to exercise again without doing a warm-up previously, this would usually result in muscle pain after exercise. Thus, it is essential for individuals to understand how the body reacts to physical activity in order to avoid muscle damage and maximize the benefits of exercise (Bohman et al., 2013). In addition, Hayden et al. (2010) discussed some types of body pain that cannot be be eliminated due to body morphology. In this case, physical activities might aggravate the body's condition.

When one experiences body pain during or after exercise, this would normally influence an individual's decision to consider physical activity as tiresome. A sudden massive demand from the physical body in terms of energy, effort, and physical activity may influence the attitude of the respondents.

Analysis of Association among Categories

The chi-square test was used in the data analysis since data were classified as categories. A test of independence determines whether the paired observations are independent of each other.

Table 2. Percentages of respondents by gender and categories of constructs why they disliked exercise.

Constructs on Dislike of Exercise	Percentage of Respondents		
	Male	Female	Combined
Body pain	53.85	60.44	57.69
Exhaustion	49.23	51.65	50.64
Time commitment	53.85	43.96	48.08
Lack of how-to knowledge	21.54	13.19	16.67
Boredom from activities	13.85	12.09	12.82
Body sweat	12.31	30.77	23.08

Liking an exercise

Of the nine constructs/categories referring to possible reasons for liking exercise, only the constructs of weight loss (p = 0.000) and increased muscle definition (p = 0.002) were found to be associated with the gender of the respondents (Table 3). Therefore, only the alternative hypothesis referring to these two will be followed. This alternative hypothesis states that there was an association between gender and the categories (weight loss and muscle definition), as shown by the p value.

To female students, weight loss was a major reason why they exercise. This category had the second highest frequency among all the categories for liking exercise. The media may have bombarded women with the idea that staying slim is ideal. This contributes to the agitation and increased desire of females to lose weight (Hargreaves & Tiggemann 2004). Women's self-perception of their bodies affect their attitudes toward physical activities (Page et al., 2007).

For the male students, weight loss was not the primary influencer in their exercise engagement. Rather, increased muscle definition was more important for them. Its p value has been calculated as equal to 0.002; it is thus less than the alpha value of 0.05, which led to rejection of the null hypothesis. As shown in Table 3, there is a moderate association between gender and the desire for an enhanced muscle definition, as indicated by the Cramer's V value of −0.2425. The results imply that men were more concerned, than women, in developing big

Table 3. Associations between gender and reasons for exercise.

Reasons for Exercise		Gender		p-value	Cramer V-value
		Male	Female		
Stress reliever	Yes	46 (44.2)	60 (61.8)	0.523	
	No	19 (20.8)	31 (29.2)		
Sense of accomplishment	Yes	38 (37.9)	53 (53.1)	0.978	
	No	27 (27.1)	38 (37.9)		
Increased fitness level	Yes	56 (55.0)	76 (77.0)	0.653	
	No	9 (10.0)	15 (14.0)		
Personal challenge	Yes	42 (40.0)	37 (35.0)	0.504	
	No	23 (25.0)	54 (56.0)		
Weight loss	Yes	25 (35.8)	61 (50.2)	0.000*	0.2832
	No	40 (29.2)	30 (40.8)		
Meeting people with similar interests	Yes	16 (15.4)	21 (21.6)	0.824*	
	No	49 (49.6)	70 (69.4)		
Increased muscle definition	Yes	30 (21.3)	21 (29.8)	0.002	-0.2425
	No	35 (43.8)	70 (61.3)		
Renewed energy	Yes	40 (38.8)	53 (54.3)	0.679	
	No	25 (26.3)	38 (36.8)		
Opportunity to socialize	Yes	20 (24.4)	29 (28.6)	0.884	
	No	45 (44.6)	62 (62.4)		

Values in parenthesis are the expected values; Cramer's V-value is only for those significant p-values ; *significant at alpha=0.05

biceps/triceps and sculptured abdominal muscles. Existing literature supports that exposure to lean bodies and social comparison strongly influenced men to be more conscious of their bodies (Galioto and Crowther, 2013).

The results showed that both male and female respondents agree that exercise greatly affects their physical body positively. This observation was mainly based on their own perception because there were no physical tests conducted to further support this idea. This observation was similar to the results of the study made by Lindwal et al. (2012), which mentioned that physical movements were all favorable to mental health. Chang et al. (2014) strongly supported the idea that aerobic exercises also enhance cognitive performance, therefore positively influencing the person's perception of exercise.

This construct of increased fitness level brought about by the individual's own physical routine is related with the construct of stress reliever and personal challenge. The theory of self-determination, as introduced by Deci and Ryan (1985), concretely expounds on the intrinsic motivation that drives human behavior. If an individual's inner motivation is strong, s/he may find that s/he can reach his/her goals more easily.

Constructs on Liking an Exercise

The most recent activities of the respondents also gave an indication of their attitude toward fitness. Majority of both male and female respondents had engaged in a workout within the previous 2 months (Table 1). A similar trend can be observed from looking at male statistics pertaining to their workout within the previous year to the most recent 2 months. However, there is a big difference between the percentage of females who engaged in a workout within the previous year and the previous 2 months. The respondents' motivation to attain overall physical fitness, as argued by Ntoumanis (2001), is individually determined. This may account for the decrease found in the percentage decrease in females who worked out within the previous year and the previous 2 months as shown in Table 1.

The respondents prioritized the categories that best reflect the reasons why they like exercise. Several female respondents (83.52%) had included category 3 as one of their reasons why they like exercise, which represents their own constructs. Both male and female respondents identified their desire to improve their fitness levels as the reason why they like exercise. This clearly shows that the respondents realize the importance of having a fit and healthy body.

Constructs On Disliking Exercise

The second variable encompasses the categories pertaining to the different reasons why the participants dislike exercise (Table 4).

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Some students have positive views and attitudes toward exercise, but others have negative views and attitudes toward it. The second hypothesis was tested for this study, with 6 categories.

Table 4. Association between gender and reasons for disliking exercise.

Reasons for Disliking Exercise		Gender		p-value	Cramer V-value
		Male	Female		
Pain	Yes	35 (37.5)	55 (52.5)	0.441	
	No	30 (27.5)	36 (38.5)		
Time commitment	Yes	35 (31.3)	40 (43.8)	0.223	
	No	30 (33.8)	51 (47.3)		
Boring activities	Yes	9 (8.3)	11 (11.7)	0.746	
	No	56 (56.7)	80 (79.3)		
Sweat	Yes	8 (15.0)	28 (21.0)	0.007*	0.2160
	No	57 (50.0)	63 (70.0)		
Lack of how-to knowledge	Yes	14 (10.8)	12 (15.2)	0.168	
	No	51 (54.2)	79 (75.8)		
Exhaustion	Yes	32 (32.9)	47 (461.)	0.766	
	No	33 (32.1)	44 (44.9)		

The values in parenthesis are the expected values; Cramer's *V* value was calculated only for those with significant *P* values *Significant at α = 0.05

The only category that generated a value below the alpha value set at 0.05 was the construct referring to sweat as the reason for disliking exercise. This generated a p value of 0.007. Although both male and female respondents said they hate to exercise because of sweating, more males (87.69%) than females (77.78%) identified this as their reason for disliking exercise.

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B. Relationships between fitness goals and gender

The fluidity of social constructs can easily be observed in the responses of male and female respondents to the objects of this study. Certain perceptions might have been formed through the influence of peers, family practice, media and fashion, and other possible sources of pressure outside of the self (O'Donovan and Kirk, 2010; Zelezny et al., 2000). The meanings attached to the fitness constructs vary depending on the main goal that individuals have in mind (Hassandra et al., 2003).

Table 5 shows gender has influenced the choice of fitness goals for weight loss and toned muscles. There was a strong association between gender and weight loss, as evident from the calculated Cramer's *V* value of 0.3094.

Table 5. Associations between gender and category of fitness goal.

Fitness Goal		Gender		p-value	Cramer V-value
		Male	Female		
Stress / Relief	Yes	36 (34.2)	46 (47.8)	0.551	
	No	29 (30.8)	45 (43.2)		
Weight loss	Yes	24 (35.8)	62 (50.2)	0.000*	0.3094
	No	41 (29.2)	29 (40.8)		
Increased strength	Yes	49 (50.0)	71 (70.0)	0.700	
	No	16 (15.0)	20 (21.0)		
Toned muscle	Yes	30 (24.2)	28 (33.8)	0.050*	0.1569
	No	35 (40.8)	63 (57.2)		
Increased cardiovascular fitness	Yes	50 (48.8)	67 (68.3)	0.639	
	No	15 (16.3)	24 (22.8)		
Decreased cardiovascular diseases	Yes	19 (16.3)	20 (22.8)	0.302	
	No	46 (48.8)	71 (68.3)		

Values in parenthesis are the expected values; Cramer's *V* values were calculated only for those with significant *P* values. *Significant at α = 0.05

For the male respondents, weight loss was not their priority goal when exercising, but the opposite is true for the female respondents. It seems that females prioritize weight loss more than their male counterparts do. This finding coincided with the findings in the studies of Obes (2012), and O'Donovan and Kirk (2010). The result indicates that women may be more influenced by fashion and other pressures that they encounter within their own situation (Hassandra et al., 2003).

SUMMARY AND CONCLUSIONS

The young adults (n = 156) in this study had expressed their own constructs regarding the meaning they attach to physical fitness at the time of their entrance into the university. Considering that they were in new physical and social environments, this may have influenced them to modify or change their own preconceived constructs regarding physical fitness. In addition, their previous experiences related to the practice of exercise might have prepared them into realizing the sociological imagination they had while in high school.

Weight loss, as a category pertaining to reasons for liking of an exercise, was associated with the gender of the respondents; as shown by the p value of 0.000, which is less than the alpha value of 0.05. Female students had a different conception of weight loss as a goal of doing exercise, whereas males were not as affected by the number they see on the weighing scale. Males were more concerned about what other people can visibly see, for example, increased muscle definition. For the male respondents in this study, having defined muscles was more important than it is for the female participants. Its p value of 0.002, which is less than the alpha value of 0.05 resulted into rejection of the null hypothesis. Results showed a moderate association between gender and the desire for an enhanced muscle definition, as indicated by the Cramer's V value of -0.2425.

One of the categories pertaining to the reasons for disliking exercise was "due to sweat". Perspiring during a workout was considered a deterrent in continuing the desire to exercise, as well as achieve and maintain physical fitness. This finding was dependent on gender (p = 0.007, which is less than α = 0.05). The calculated Cramer's V value of 0.2160 exhibited moderate association between gender and the category of sweat as a reason for disliking exercise.

Among the goals of fitness, weight loss (p = 0.000, which is less than α = 0.05) together with toned muscles (p = 0.05, which is equal to α = 0.05) were dependent on gender. For male, toned muscle was their priority while female had weight loss as their prime reason for exercise.

RECOMMENDATIONS

Designing a fitness program to help people gain a grasp of the fitness constructs they have in mind would encourage them to view exercise as a worthwhile activity. This study found that females place more premium on exercise because they primarily believe it would lead to weight loss. In addition, they prefer not to be sweating constantly during an exercise. Therefore, fitness programs that are tailored specifically to these needs and preferences must be designed to encourage them to be more physically active. On the other hand, males place more importance on muscle toning as the goal of exercise, which is a manifestation of fitness construct that they have. Gym administrators should see to it that the fitness program individuals engage in bring fulfilment. This can be done by designing weight rooms conveniently, and providing air-conditioned rooms. For exercise to become students' life partner, universities and schools must provide decent and pleasing exercise rooms.

REFERENCES

Blond A. 2008. Impacts of exposure to images of ideal bodies on male body dissatisfaction: A review. Body Image 5 (3): 244–250. DOI: 10.1016/j.bodyim.2008.02.003.

Bohman T, Alfredsson L, Hallqvist J, Vingård E and Skillgat E. 2013.The influence of self-reported leisure time physical activity and the body mass index on recovery from persistent back pain among men and women: a population-based cohort study. BMC Public Health 13:385.

Chang Y, Chi L, Etnier JL, Wang C, Chu C, Zhou C. 2014. Effect of acute aerobic exercise on cognitive performance: Role of cardiovascular fitness. Psychology of Sport and Exercise, 15 (5): 464-470

Deci, E. L., & Ryan, R. M. 1985.Intrinsic motivation and self-determination in human behavior. New York: Plenum.

Galioto R and Crowther JH. 2013. The effects of exposure to slender and muscular images on male body dissatisfaction. Body Image10:566–573.

Hargreaves, DA., Tiggemann M. 2004. Idealized media images and adolescent body image: "comparing" boys and girls. Body Image 1 (4):351–361. DOI: 10.1016/j.bodyim.2004.10.002

Hayden J, van Tulder MW, Malmivaara A, Koes BW. 2010. Exercise therapy for treatment of non-specific low back pain.Syst Rev. 2012 1: 64. DOI: 10.1186/2046-4053-1-64

Hassandra M, M Goudas, S Chroni. 2003. Examining factors associated with intrinsic motivation in physical education: a qualitative approach. Psychology of Sport and Exercise 4: 211-223.

Krosnick JA. 1999. Survey Research. Annual Review of Psychology 50:537-567.

Liebetrau AM. 1983. Measures of Association.

Lindwall M, Ljung T, Hadžibajramović E, Ingibjörg H. Jonsdottir, IH. 2012. Self-reported physical activity and aerobic fitness are differently related to mental health. Mental Health and Physical Activity 5 (1): 28-34

Mills C Wright. 1959. Social Imagination. Oxford University Press. 247 p.

Ntoumanis N. 2001. A self-determination approach to the understanding of motivation in physical education.British Journal of Educational Psychology 71. 225-242.

Obes, J. 2012.The Relationship Between Fitness, BMI and Risk Factors of Metabolic Syndrome Among University Students in Korea. Korean Journal of Obesity 21 (2): 99-107. http://dx.doi.org/10.7570/kjo.2012.21.2.99.

O'Donovan T, D Kirk. 2010. Reconceptualizing student motivation in physical education: An examination of what resources are valued by pre-adolescent girls in modern society. UK.Europen Physical Education Review 14.71-91.

Ntoumanis N. 2001. A self-determination approach to the understanding of motivation in physical education.British Journal of Educational Psychology 71. 225-242.

Obes, J. 2012.The Relationship Between Fitness, BMI and Risk Factors of Metabolic Syndrome Among University Students in Korea. Korean Journal of Obesity 21 (2): 99-107. http://dx.doi.org/10.7570/kjo.2012.21.2.99.

O'Donovan T, D Kirk. 2010. Reconceptualizing student motivation in physical education: An examination of what resources are valued by pre-adolescent girls in modern society. UK.Europen Physical Education Review 14.71-91.

Page RM,Ihász F,Uvacsek M, Ihász F,Kalabiska I, Johnson E, Hantiu I,Klarova R,Simonek J. 2007. Self-perception of body weight, Weight Management practices and goals, and other weight-related factors in central and eastern European adolescents. Int'l. Quarterly of Community Health Education 27 (1) 39-58, doi: 10.2190/IQ.27.1.d

Schalkwyk D. 1997.What does derrida mean by 'the text'?. Language Sciences 19 (4): 381-390.

Staff, H., Romito, K., & Chambliss, H. 2012. Web MD Medical Reference from Healthwise. Retrieved from http://webmd.com/hw-popup/muscle-fitness

Yamamiya Y, Cash TF, Melnyk SE, Posavac HD, Posavac SS. 2005. Women's exposure to thin-and-beautiful media images: body image effects of media-ideal internalization and impact-reduction interventions. Body Image 2 (1):74–80. DOI: 10.1016/j.bodyim.2004.11.001.

Zelezny, LC,Chua, PP and Aldrich C. 2000.Elaborating on Gender Differences in Environmentalism. Journal of Social Issues 56 (3).