Eating Behaviors 11 (2010) 211–216

Contents lists available at ScienceDirect

Eating Behaviors

Media images and female body dissatisfaction: The moderating effects of the Five-Factor traits

Alan Roberts *, Emily Good

Indiana University, United States

ARTICLE INFO

Article history:
Received 29 January 2010
Accepted 13 April 2010

Keywords:
Neuroticism
Body dissatisfaction
Media images
Big 5

ABSTRACT

Objective: The purpose of this study was to examine how the Five-Factor personality traits moderated the effects of exposure to idealized images on body dissatisfaction in women.
Method: Sixty-four college women completed the NEO-PI and the Eating Disorder Inventory and were then randomly exposed to images of either thin fashion models or heavier, ("plus-sized") models. Following presentation of the stimuli, participants completed a second body esteem measure, which was the dependent variable.
Results: Women high in neuroticism showed significantly greater shifts in body esteem following exposure to media images than did less neurotic women, feeling more dissatisfied with their bodies after viewing idealized images and more satisfied with their bodies after viewing heavier women. Each of the other traits was associated with more favorable self-appraisals following exposure to the idealizing images.
Conclusions: Of the Five-Factor traits, the harmful effects of idealized images seem to be limited to women with relatively higher levels of neuroticism. These results suggest that the harmful effects of media images may not be as pervasive as is widely believed.

© 2010 Elsevier Ltd. All rights reserved.

1. Introduction

Although there is evidence that idealized images may lower body esteem in some women, results have been contradictory with some studies reporting negative effects (Irving, 1990; Stice & Shaw, 1994), some no effect (Champion & Furnham, 1999; Halliwell, Dittmar, & Howe, 2005; Martin & Kennedy, 1993), and some actually reporting positive effects (Henderson-King & Henderson-King, 1997; Joshi, Herman, and Polivy, 2004; Mills, Polivy, Herman, & Tiggemann, 2002). Overall, it appears that viewing thin media images generally has an adverse effect on female body image; however, effect sizes are small and heavily contingent on study design, specific measures, and characteristics of the participants (Groesz, Levine, & Murnen, 2002; Tiggeman, 2002).

1.1. Individual differences and media exposure

The growing awareness that women show a wide range of responses to media images has led to an increased interest in identifying individual difference variables that may moderate the relationship between exposure to media images and body dissatisfaction. It appears that high body weight (Henderson-King and Henderson-King, 1997), pre-existing body dissatisfaction (Stice, Spangler, & Agras, 2001), and contingent self-esteem (Patrick, Neighbors, & Knee, 2004) increase the likelihood that idealized images will have a deleterious effect on self-image.

Thus far, research on the relationship between media exposure and personality has proceeded along a relatively atheoretical path focusing on specific, isolated traits. To date, the question of how broad personality traits moderate the relationship between exposure to idealized images and body image remain relatively unexplored. The Five-Factor Model currently provides the most widely accepted taxonomy of personality traits (McCrae & Costa, 1999). These traits—extroversion, neuroticism, conscientiousness, agreeableness, and openness to experience—are thought to comprise the core dimensions of human personality and may, therefore, represent a fruitful avenue for exploration. Although a number of studies have explored the relationship between the Five-Factor traits, or one or their facets, and eating disorders, the relationship between these traits and responses to idealized images has remain relatively unexplored.

1.2. Neuroticism

There are several reasons to suspect that neuroticism may moderate the impact of idealized images. Individuals who are high in neuroticism are, by definition, emotionally unstable (Eysenck, 1990). That is, they are emotionally, and perhaps physiologically, more reactive to potentially threatening stimuli (Rushting, 1998). They are excitable, easily upset, and prone to overreacting to any experience considered unpleasant. There is ample evidence that at

* Corresponding author.
E-mail address: alarober@indiana.edu (A. Roberts).

1471-0153/$ – see front matter © 2010 Elsevier Ltd. All rights reserved.
doi:10.1016/j.eatbeh.2010.04.002

least for some women, exposure to images of exceptionally thin attractive women is emotionally threatening (Bergstrom, Neighbors, & Malheim, 2009; Groesz, Levine, & Murnen, 2002). Thus, women who are high in neuroticism should be more likely than other women to may be disturbed by idealized images.

Neurotic individuals also more likely than others to experience negative affect (Watson and Clark, 1984): "such individuals are, in any given situation, *more likely* to experience a significant level of distress" p. 466 That is, not only do neurotic individuals react more strongly to experiences but they are disproportionately likely to react in negative terms. Therefore, we expect that women higher in neuroticism may respond more strongly, and more negatively, to idealized images than women who are lower in neuroticism.

Social comparison theory (Festinger, 1954) is the most widely accepted theoretical framework for understanding the effects of idealized images on body satisfaction. Viewing images of highly attractive individuals is thought to produce an upward comparison process, which in turn, results in lowered body esteem. A recent meta-analysis supports the claim that the social comparison process is associated in increased levels of body dissatisfaction in both women and men (Myers & Crowther, 2009). However, individuals differ in their tendency to engage in social comparison. Research has shown that neurotic individuals are more likely than those low in neuroticism to make upward comparisons (Martin and Kennedy, 1993; Van der Zee, Buunk, Sanderman, Botke, & Van Den Bergh, 1999). In addition, women with eating disorder symptoms are more likely than those without symptoms to engage in upward comparisons (Corning, Krumm, & Smitham, 2006) and women with eating disorders also tend to show elevated rates of neuroticism (Cassin & Ranson, 2005; Cervera et al., 2003; Ghaderi and Scott, 2000; Miller, Schmidt, Vaillancourt, McDougall, & Laliberte,, 2006). Thus, when confronted with images of highly attractive individuals, women high in neuroticism should be more likely than those low in neuroticism to compare themselves to the target.

Neuroticism is also highly correlated with self-esteem. Indeed, the relationship between the two traits is so strong that some investigators are now questioning whether they reflect a single underlying construct (Judge, et al., 2002). This is important because low self-esteem has been shown to moderate the relationship between media exposure and body image (Berel & Irving, 1998; Jones & Buckingham, 2005). It seems likely, therefore, that neuroticism would also influence women's reactions to these images.

Thus, we would expect that women high in neuroticism are more likely than those low in neuroticism to compare themselves to attractive others. Second, because of their greater emotional lability, this comparison is more likely to result in negative affect for upward comparisons.

Each of the remaining Five-Factor traits has also been linked to eating disorder symptomatology; however, none have been studied in relation to media images. Therefore, the following discussion is limited to literature that supports a theoretical link, directly or indirectly, between a Five-Factor trait (or one of its facets) and response to idealized images.

1.3. Conscientiousness

It has often been alleged that excessively thin standards of beauty promote body dissatisfaction by providing an unattainable standard to which women compare themselves. This argument assumes that most women perceive these standards as unattainable and that comparing oneself to a superior other invariably results in decreased self-esteem. Although it is often assumed that comparing oneself to a superior other will result in a negative self-evaluation, Social Comparison Theory (Festinger, 1954) suggests that both positive and negative self-appraisals are possible depending on the psychological process triggered by the comparison and one's relationship to the comparison target. Ultimately, the impact of social comparison on self-image is determined by whether the comparison results in assimilation or contrast with the target. If one assimilates, or identifies with, the idealized image, the result is enhancement of the self. If the comparison results in contrast with the idealized image, the result is decreased self-esteem.

Individuals high in conscientiousness are determined, persistent, confident, and self-disciplined. They are generally competent people who have faith in their ability to accomplish their goals. In short, they could be characterized as having high self-efficacy. Such individuals should be less likely than most people to be intimidated by idealized images. On the contrary, these individuals tend to met challenges with confidence and, if appearance is important to them, are likely to be inspired rather than threatened by idealized images. In short, exposure to the images is likely to result in assimilation rather than contrast.

1.4. Openness to experience

Openness to experience is generally regarded as the most controversial and nebulous of the Five-Factor traits (Costa & McCrae, 1997). This trait is associated with a number of different and sometimes difficult to define concepts. Consistent with this observation, its relationship to eating disorders has been contradictory. In a Swedish sample, Ghaderi and Scott (2000) found that, relative to non-eating disordered subjects, women with eating disorders were significantly higher on openness to experience. A second study (Podar, Hannes, & Allik, 1999) found that eating disordered subjects scored *lower* on openness to experience than those in a non-disordered comparison group. And a third study (Claes et al., 2006), reported low levels of openness among one cluster of eating disordered patients but no relationship among other clusters. Given the inherent complexity of this concept, it is difficult to speculate about its relation to media responses.

Individuals who score high on this trait might be best characterized as unconventional and nonconforming. Conversely, low scores on openness are associated with greater endorsement of traditional values. Thus, women low on this trait may assign greater importance to physical appearance and be more likely to internalize the thin ideal of beauty than those higher in openness. If true, higher scores on openness to experience would tend to be associated with higher levels of body esteem following exposure to idealized images.

1.5. Extroversion

Like all of the Five-Factor traits, extroversion is multi-faceted. Among the most important defining characteristics of the extroverted individual, however, is the tendency to experience positive emotions (Watson and Clark, 1997). Extroverts are cheerful, positive and confident. Like the conscientious individual, they can also be quite determined in pursuing their goals. Given these traits, it is doubtful that idealized images would negatively impact the self-image of extroverts. Their mood is simply too resilient. Consistent with this reasoning, it appears that low extroversion is almost a prerequisite for the development of an eating disorder (Miller et al., 2006).

1.6. Agreeableness

While both theory and research suggest that anorexics should show elevations on agreeableness (Bollen & Wojciechowski, 2004), it is not clear how agreeableness might be related to reactions to idealized images in a non-clinical population. There is reason to suspect that agreeable individuals would be less likely than others to react negatively to the images. They are relatively stable emotionally. As is the case with extroverts, it is fairly difficult to upset agreeable individuals. Moreover, because they are noncompetitive and not prone

to jealousy, exposing them to idealized images is unlikely to trigger a comparison process.

1.7. Hypotheses

The purpose of this study was to investigate whether the Five-Factor traits, particularly neuroticism, moderate the effects of exposure to media images on body satisfaction. Specifically, it was predicted that women high in neuroticism would be significantly more likely than women low in neuroticism to report greater body dissatisfaction following exposure to idealized media images. It was further predicted that women high in conscientiousness would report greater body esteem following exposure to the same images. We predicted that the idealized images would have no impact on extroverts or those high in agreeableness. Given the highly variable results from previous studies, as well as the complexity of the trait, no firm predictions were made regarding openness to experience.

2. Method

2.1. Participants

Participants were 64 female college students (mean age = 20.7) who were enrolled in introductory psychology and participated in this research in exchange for extra credit.

2.2. Materials

2.2.1. EDI (Garner & Olmsted, 1984)

The EDI is a 64 item scale designed to evaluate several traits thought to be related to anorexia and bulimia. Reliability and validity have been well established. Although participants completed the entire inventory, the 9-item body dissatisfaction subscale, which assesses dissatisfaction with the weight and shape of specific parts of the body, was used as a pre-manipulation measure of state body dissatisfaction.

2.2.2. Body Esteem Scale for Adolescents and Adults (Mendelson et al., 2001)

This is a 23-item scale that assesses satisfaction with weight and appearance. The scale has three subscales (appearance, weight, and attribution), each of which has high internal consistency.

2.2.3. NEO-PI-R (Costa & McCrae, 1992)

This 240-item measure assesses five major personality domains: extroversion, neuroticism, openness to experience, agreeableness, and conscientiousness. Internal consistencies for each domain range from .86 to .95. Adequate convergent and discriminant validity has been established.

2.3. Manipulation

2.3.1. Slides

Two sets of ten slides were created for this study. Both sets comprised professional models taken from magazines and/or internet sites. All models were Caucasian and presented in revealing (e.g., bathing suit) or form-fitting attire. Only exceptionally fit models were selected for the thin condition while "plus size" models were used for the heavy condition. A computerized slide show was created for each set of photos using the "Flash" software program. Each slide was presented on a computer screen for 10 s. There was a twenty second interval between slides to allow subjects to respond to questions about the slides (see the Consumer Preferences Questionnaire below).

2.3.2. Consumer Preferences Questionnaire

Participants responded to these eight questions after each slide (e.g., "How likely is it that you would wear this outfit"). These questions were designed primarily to maintain the cover story, with the first question ("Did you find this model to be physically attractive?") also serving as a manipulation check.

2.4. Procedure

Participants were informed that they were participating in a study of "Consumer Preferences". Upon arriving in the lab, subjects were seated at one of several computer terminals where they were randomly assigned to either the thin condition or the heavy condition. They were then told that the purpose of the study was to examine the relationship between personality and taste in clothing. Following a brief description of the study, they were asked to sign a consent form, and given a packet of questionnaires. At this point they completed the NEO-PI. They were then instructed to open the packet and fill out the first questionnaire (the EDI). When all participants had completed the questionnaire, they were told that the next set of questions (the Consumer Preferences Questionnaire) pertained to the items of clothing worn by the models they are about to see. They were then instructed to start the slide show by pressing a button on the computer. After each photo, they completed the corresponding questions on the Consumer Preferences Questionnaire. After viewing all of the slides, participants completed the final measure (the Body Esteem Scale). At the completion of the experiment, subjects were probed for knowledge of the true nature of the experiment, debriefed, and thanked for their participation.

3. Results

3.1. Manipulation check

As predicted, participants rated models in the thin condition as significantly more attractive than those in the heavy condition $t = -4.27$, $p > .0001$.

3.2. Relationship between personality traits and body esteem

The relationship between each of the five personality traits and body esteem following exposure to the thin images is depicted in Table 1. Consistent with predictions, neuroticism was negatively related to body esteem following exposure to the idealized images. That is, neurotic women felt worse about themselves after viewing these images. Conscientiousness, on the other hand, was positively related to body esteem: conscientious women actually felt better about themselves after viewing these images. Indeed, with the exception of neuroticism, each of the five personality traits was positively related to body esteem following exposure to the idealized images. Although the associations with the global traits of extroversion,

Table 1
Correlations between Five-Factor Model trait scores and body esteem following exposure to thin and heavy models.

Trait	Thin	Heavy
Neuroticism	−.59**	.07
Extroversion	.22	.29
Conscientiousness	.49**	.42*
Agreeableness	.21	.07
Openness to experience	.26	.02

* $p < .05$; ** $p < .01$.

agreeableness and openness failed to reach significance, several narrow facets were significantly related to body esteem (see Table 2).

3.3. Moderator analysis

To examine the hypothesis that the Big Five traits moderated the relationship between exposure to media images and body dissatisfaction, we conducted five regression analyses, one for each personality trait. Based on previous research, we predicted that body weight and pre-existing body dissatisfaction would also moderate the relationship between exposure to idealized images and body dissatisfaction. Consequently, in each analysis, body mass index (BMI) and trait body dissatisfaction (assessed with the body dissatisfaction subscale of the EDI), Five-Factor trait (neuroticism, extroversion, conscientiousness, agreeableness or openness to experience), treatment condition (thin or heavy models), and the trait by treatment condition cross-product were entered as simultaneous predictors of body dissatisfaction. The interaction of the personality factor with the treatment condition was of primary interest.

In the first regression, the predicted interaction between neuroticism and treatment condition was significant ($\beta = 1.54$, $p = .017$), indicating that the effect of the image manipulation was contingent on neuroticism levels. Body satisfaction decreased as neuroticism increased in the attractive condition, while neuroticism is associated with slightly higher levels of body satisfaction in the unattractive condition (see Fig. 1). Thus, relative to women low in neuroticism, neurotic women felt worse about themselves after viewing idealized images but better about themselves after viewing plus-sized women.

Openness to experience also moderated the relationship between image exposure and body esteem ($\beta = -2.85$, $p = .01$). Interestingly, however, body satisfaction increased as openness increased in the thin condition, while the reverse was true in the heavy condition (see Fig. 2). Thus, relative to women low in openness, women high in openness felt better about themselves after viewing the idealized images and worse after viewing the heavier images. None of the remaining broad traits moderated the relationship between image exposure and body satisfaction.

Table 2
Correlations between NEO-PI facet scores and body esteem for both slide conditions.

	Thin	Heavy
	M (sd)	*M* (sd)
N1: Anxiety	−.43*	.07
N2: Anger	−.49**	.02
N3: Depression	−.32	.10
N4: Self-consciousness	−.28	−.12
N5: Impulsiveness	−.19	−.03
N6: Vulnerability	−.35	−.01
E1: Warmth	.37	.11
E2: Gregariousness	.11	.29
E3: Assertiveness	−.11	.03
E4: Activity	.12	.37*
E5: Excitement seeking	.02	−.08
E6: Positive emotions	.30	−.09
O1: Fantasy	−.28	−.51**
O2: Aesthetics	.18	−.28
O3: Feelings	.27	−.20
O4: Actions	.11	−.11
O5: Ideas	.31	−.19
O6: Values	.27	.50**
A1: Trust	.08	−.04
A2: Straightforwardness	−.06	.02
A3: Altruism	.24	.03
A4: Compliance	.39*	.06
A5: Modesty	.15	.23
A6: Tender-mindedness	.34	−.21
C1: Competence	.38*	.02
C2: Order	.12	.19
C3: Dutifulness	.26	.06
C4: Achievement striving	.19	−.02
C5: Self-discipline	.31	−.03
C6: Deliberation	.38*	.04

N = Neuroticism, E = Extroversion, O = Openness, A = Agreeableness, C = Conscientiousness.
* $p < .05$.
** $p < .01$.

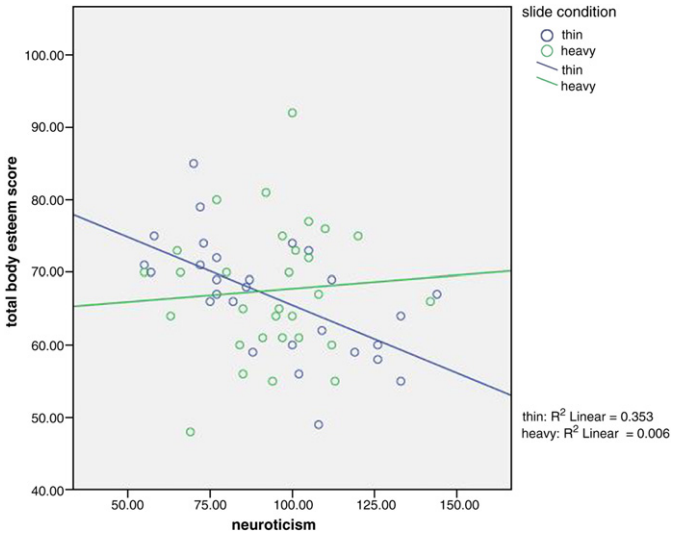


Fig. 1. Body esteem as a function of neuroticism and slide condition.

4. Discussion

The research reported here extends previous research on the role of media images by examining the moderating role of the Five-Factor personality traits. Consistent with predictions, neuroticism had a significant impact on how women responded to the idealized images. Women high in neuroticism appeared uniquely vulnerable to the deleterious effects of these images. In general, high levels of the other traits tended to be associated with more favorable feelings about themselves following exposure to idealized images.

The assertion that images depicting unusually thin beautiful models produce body dissatisfaction, and contribute to the development of eating disorders, has until recently, been almost universally accepted (Levine & Murnen, 2009). Concern over the impact of these

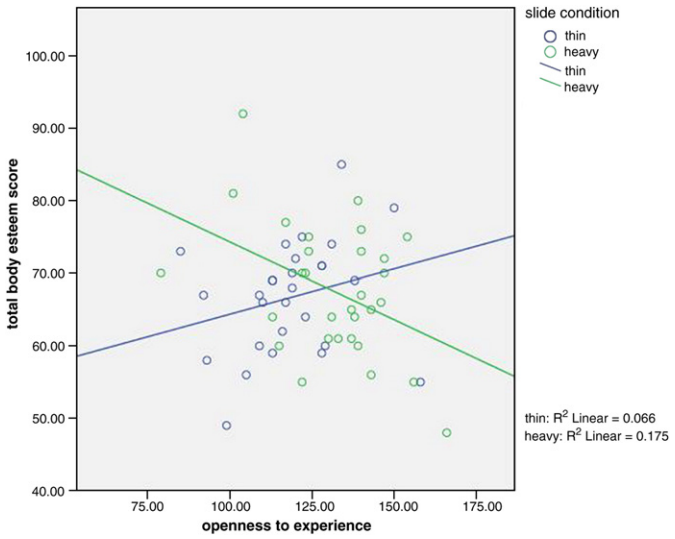


Fig. 2. Body esteem as a function of openness and slide condition.

images is so great that some countries are now forbidding fashion models to work unless they meet certain proscribed weight standards (Reuters, 2006). Our results raise questions about whether the effects of idealized images are as pervasive as is widely believed. Only one of the five traits we examined was associated with increased body dissatisfaction following exposure to these images. For three traits there was a positive, albeit non-significant, relationship between exposure to the idealized images and body esteem. For one trait, conscientiousness, there was a significant positive relationship between exposure to idealized images and body dissatisfaction. Finally, women high in openness to experience showed a pattern of response that was in direct opposition to conventional wisdom, with increased body satisfaction following exposure to idealized images and decreased body satisfaction following exposure to heavier images. In short, only women who were high in neuroticism appeared to be adversely affected by the images. It appears, therefore, that the widely accepted view that idealized images produce pervasive harmful effects may be unfounded.

Despite widespread assertions to the contrary, we believe that many women do not view idealized images as unattainable. And women who believe they can attain such bodies may see themselves, in their ideal body, when viewing such images. Myers and Biocca (1992) have termed this the "fantasy effect" and it has been used to explain the fact that restrained eaters often show enhanced body esteem following exposure to idealized images (Mills et al., 2002). Consequently, for women with high in confidence or self-efficacy, idealized images may produce motivation rather than discouragement. Consistent with this reasoning, we found that subjects high in the Conscientiousness facet of *Competence*, who embody self-confidence, felt better about themselves after viewing idealized images. Rather than feeling threatened, these individuals may have felt inspired by the models. This results in assimilation with the model and an enhancement of their self-image.

However, because neuroticism is strongly associated with low self-efficacy (Judge et al., 2002), highly neurotic individuals are more likely to experience intimidation rather than motivation when making upward comparisons. We found that the higher women were on *Vulnerability* and *Anxiety*, the worse they felt about themselves after viewing the idealized images. Both of these facets indicate low levels of confidence. Thus, these are individuals who feel particularly incapable of attaining the standard exemplified by the models. This contrast effect results in lowered body esteem.

Even for these women, however, the picture is not entirely negative. As noted earlier, neurotic individuals tend to react more strongly than others to emotionally laden stimuli. As we observed in this study, this typically results in a negative reaction when confronted with an upward comparison. However, our findings suggest that emotional lability may work both ways. The tendency for neurotic subjects to strongly react to stimuli appears to provide an emotional boost when making downward comparisons; these subjects felt significantly better about themselves after viewing the less attractive models.

Finally, women low in openness to experience felt particularly good about themselves after viewing images of heavy women. Because low levels of openness are associated with traditional values, we believe that these women are more invested in appearance than those high in openness and thus more likely to derive self-esteem through favorable comparisons to another woman's appearance.

4.1. Future research

The participants in the present study were all young college students and, likely, above average in attractiveness, at least in regard to body weight. Therefore, many of them may have legitimately perceived a bit of themselves in the thin models resulting in increased body esteem. It would be interesting to see whether our results could be replicated with older, heavier participants.

Another promising direction for future research is to determine whether the greater sensitivity to media images by highly neurotic women generalizes to other types of potentially threatening stimuli. For example, teasing, and other forms of negative feedback, is thought to contribute to the development of negative body image and eating pathology (Mills & Miller, 2007). Our results suggest that neurotic women may be particularly likely to be negatively impacted by such feedback. Finally, it would be interesting to see whether neuroticism influences spontaneous comparisons to other women in naturalistic settings.

In conclusion, the current study showed that neuroticism increases the likelihood of adverse reactions to idealized images and that women high in other personality traits were generally unaffected by these images. These results underscore the importance of individual difference factors in the etiology of body dissatisfaction. It also suggests that stable personality traits such as neuroticism may account for much of the inconsistency in the media exposure literature.

Role of funding sources

None.

Contributors

Alan Roberts designed and wrote the study and conducted the statistical analysis. Emily Good conducted literature searches and provided summaries of previous research studies. Both authors contributed to and have approved the final manuscript.

Conflicts of interest

None.

Acknowledgement

The authors wish to thank Alan Feingold for his helpful comments on earlier drafts of this paper.

References

Berel, S., & Irving, L. (1998). Media and disturbed eating: An analysis of media influence and implications for prevention. *The Journal of Primary Prevention*, *18*, 415−430.
Bergstrom, R. L., Neighbors, C., & Malheim, J. (2009). Media comparisons and threats to body image: Seeking evidence of self-affirmation. *The Journal of Social and Clinical Psychology*, *28*, 264−280.
Bollen, E., & Wojciechowski, F. L. (2004). Anorexia nervosa subtypes and the big five personality factors. *European Eating Disorders Review*, *12*, 117−121.
Cassin, S., & Ranson, K. (2005). Personality and eating disorders: A decade in review. *Clinical Psychology Review*, *25*, 895−916.
Cervera, S., Lahortiga, F., Martinez-Gonzalez, M., Gual, P., Irala-Estevez, J., & Alonso, Y. (2003). Neuroticism and low self-esteem as risk factors for incident eating disorders in a prospective cohort study. *International Journal of Eating Disorders*, *33*, 271−280.
Champion, H., & Furnham, A. (1999). The effect of the media on body satisfaction in adolescent girls. *European Eating Disorders Review*, *7*, 213−228.
Claes, L., Vandereycken, W., Luyten, P., Soenens, B., Pieters, G., & Vertommen, H. (2006). Personality prototypes in eating disorders based on the Big Five Model. *Journal of Personality Disorders*, *20*, 401−416.
Costa, P., & McCrae, R. (1992). *Neo PI R Professional Manual*, Psychological Assessment Resources, Odessa, FL.
Costa, & McCrae (1997). Handbook of personality psychology.
Corning, A. F., Krumm, A. J., & Smitham, D. A. (2006). Differential social comparison processes in women with and without eating disorder symptoms. *Journal of Counseling Psychology*, *53*(3), 338−349.
Eysenck, H. J. (1990). Biological dimensions of personality. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 244−276). New York: Guilford Press.
Festinger (1954). A theory of social comparison processes. *Human Relations*, *7*, 117−140.
Garner, D., & Olmsted, M. (1984). *The Eating Disorder Inventory Manual*, Psychological Assessment Resources, Odessa, FL.
Ghaderi, A., & Scott, B. (2000). The big five and eating disorders: A prospective study in the general population. *European Journal of Personality*, *14*, 311−323.
Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, *31*, 1−16.
Halliwell, E., Dittmar, H., & Howe, J. (2005). The impact of advertisements featuring ultra-thin or average-size models on women with a history of eating disorders. *Journal of Community & Applied Social Psychology*, *15*, 406−413.
Henderson-King, E., & Henderson-King, D. (1997). Media effects on women's body esteem: Social and individual difference factors. *Journal of Applied Social Psychology*, *27*, 399−417.

Irving, L. (1990). Mirror Images: Effects of the standard of beauty on the self- and body-esteem of women exhibiting varying levels of bulimic symptoms. *Journal of Social and Clinical Psychology*, *9*, 230—242.
Jones, A. M., & Buckingham, J. T. (2005). Self-esteem as a moderator of the effect of social comparison on women's body image. *Journal of Social and Clinical Psychology*, *24*, 1164—1187.
Joshi, R. C., Herman, P., & Polivy, J. (2004). Self-enhancing effects of exposure to thin-body images. *International Journal of Eating Disorders*, *35*, 333—341.
Judge, T., Erez, A., Bono, J., & Thoresen, C. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common construct? *Journal of Personality and Social Psychology*, *83*, 693—710.
Levine, M., & Murnen, S. (2009). "Everybody knows that mass media are/are not [pick one] a cause of eating disorders": A critical review of evidence for a causal link between media, negative body image, and disordered eating in females. *Journal of Social and Clinical Psychology*, *28*, 9—42.
Martin, M., & Kennedy, P. (1993). Advertising and social comparison: Consequences for female pre-adolescents and adolescents. *Psychology and Marketing*, *10*, 513—530.
McCrae, R., & Costa, P. (1999). A five factor theory of personality. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research*, 2nd ed. New York: Guilford.
Mendelson, B. K., Mendelson, M. J., & White, D. R. (2001). Body Esteem Scale for Adolescents and Adults. *Journal of Personality Assessment*, *76*, 90—106.
Miller, J., Schmidt, L., Vaillancourt, T., McDougall, P., & Laliberte, M. (2006). Neuroticism and extroversion: A risky combination for disordered eating among a non-clinical sample of undergraduate women. *Eating Behaviors*, *7*, 69—78.
Mills, J., & Miller, J. (2007). Experimental effects of receiving negative weight-related feedback: A weight guessing study. *Body Image*, *4*, 309—316.
Mills, J., Polivy, J., Herman, C., & Tiggemann, M. (2002). Effects of exposure to thin media images: Evidence of self-enhancement among restrained eaters. *Personality and Social Psychology Bulletin*, *28*, 1687—1699.
Myers, P., & Biocca, F. (1992). The elastic body image: The effect of television advertising and programming on body image distortions in young women. *Journal of Communication*, *42*, 108—133.
Myers, T., & Crowther, J. (2009). Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *Journal of Abnormal Psychology*, *118*, 683—698.
Patrick, H., Neighbors, C., & Knee, C. (2004). Appearance-related social comparisons: The role of contingent self-esteem and self-perceptions of attractiveness. *Personality and Social Psychology Bulletin*, *30*, 501—514.
Podar, I., Hannes, A., & Allik, J. (1999). Personality and affectivity characteristics associated with eating disorders: A comparison of eating disordered, weight-preoccupied and normal samples. *Journal of Personality Assessment*, *73*, 133—147.
Reuters (2006, September 13). Skinny models banned from catwalk. Cable News Network. Retrieved November 4, 2006, from CNN.com.
Rushting, C. (1998). Personality, mood, and cognitive processing of emotional information: Three conceptual frameworks. *Psychological Bulletin*, *124*, 165—196.
Stice, E., & Shaw, H. (1994). Adverse effects of media portrayed thin-ideal on women and linkages to bulimic symptomatology. *Journal of Social and Clinical Psychology*, *13*, 288—308.
Stice, E., Spangler, D., & Agras, W. S. (2001). Exposure to media-portrayed thin ideal images adversely affects vulnerable girls: A longitudinal experiment. *Journal of Social and Clinical Psychology*, *20*, 270—288.
Tiggeman, M. (2002). Media influences on body image development. In T. F. Cash & T. Prunzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 91—98). New York: Guilford Press.
Van der Zee, Buunnk, B., Sanderman, R., Botke, G., & Van der Bergh, F. (1999). The Big Five and Identification-Contrast Processes in Social Comparison in Adjustment to Cancer Treatment. *European Journal of Personality*, *13*, 307—326.
Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, *96*, 465—490.
Watson, D. & Clark, L.A. (1997). Extroversion and its positive emotional core. Handbook of personality psychology. Watson, David; Clark, Lee Anna Hogan, Robert (Ed); Johnson, John A. (Ed); Briggs, Stephen R. (Ed). (1997). Handbook of personality psychology. (pp. 767–793). San Diego, CA, US: Academic Press. xxiv, 987 pp.