

New Trends and Issues Proceedings on Humanities and Social Sciences



Volume 6, Issue 1 (2019) 355-364

www.prosoc.eu

Selected Paper of 11th World Conference on Educational Sciences (WCES-2019) 07-10 February 2019, Milano Novotel Milano Nord Ca' Granda Convention Center, Italy

The cognitive problems influence on food disorders

Mariana Floricica Calin*, Department of Psychology and Social Work, Ovidius University of Constanta, 900527 Constanta, Romania

Marinela Carmen Grigore, Department of Psychology and Social Work, Ovidius University of Constanta, 900527 Constanta, Romania

Suggested Citation:

Calin, M. F. & Grigore, M. C. (2019). The cognitive problems influence on food disorders. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 6(1), pp 355–364. Available from: www.prosoc.eu

Selection and peer review under responsibility of Prof. Dr. Jesus Garcia Laborda, University of Alcala, Spain.

©2019. All rights reserved.

Abstract

Nutritional disorders describe restrictive and/or abusive behaviours that affect both women and men alike. The relationship with food can change in the sense of food preferences, sometimes eating healthier, and sometimes not, or eating more or losing appetite. An eating disorder is a mental disorder defined by abnormal eating habits that adversely affect a person's physical or mental health. The cause of eating disorders is not clear. We aim to identify whether there is a correlation between personality traits and feeding disorders in young adults aged 20–25 years. To verify the work hypothesis, we applied the MCMI Personality Tracking and EDI 3 Test for Food Disorder on a 150-person group of participants aged 20–25 years. The media plays a major role in the way people see themselves. And, socio-economic status is a factor that influences eating disorders.

Keywords: Cognitive problems, food disorders, personality disorders.

* ADDRESS FOR CORRESPONDENCE: **Mariana Floricica Calin**, Department of Psychology and Social Work, Ovidius University of Constanta, 900527 Constanta, Romania. E-mail address: fmarianacalin@gmail.com / Tel.: + 40-72-644-7755

1. Introduction

1.1. Purpose of the article

Eating problems are becoming more and more numerous.

Nutritional disorders are classified as axis I disorders (Westen & Harnden-Fischer, 2001) in the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-IV) published by the American Psychiatric Association. There are various other psychological issues that may influence eating disorders, some meet the criteria for a separate Axis I diagnosis or a personality disorder that is coded for Axis II, and are therefore considered comorbid for the diagnosed eating disorder. Type II disorders are categorised into three 'groups': A, B and C. The causality between personality disorders and eating disorders has not yet been fully established (Rosenvinge, Martinussen & Ostensen, 2000).

Some people have a previous disorder that may increase their vulnerability to developing an eating disorder (Kaye, Bulik, Thornton, Barbarich & Masters, 2004). Some develop them later (Braun, Sunday & Halmi, 1994). It seems that the severity and type of eating disorders symptoms affect comorbidity (Spindler & Milos, 2007). DSM-IV should not be used by non-professionals to diagnose, even when used by professionals; there has been considerable controversy over the diagnostic criteria used for various diagnoses, including eating disorders. There have been controversies over various DSM editions, including the most recent DSM-V edition (Collier, 2009).

Cognitive problems of attentional bias

Attentional prejudice is the tendency of people's perception of being affected by their recurrent thoughts at that time (Bar-Haim, Lamy, Pergamin, Bakermans-Kranenburg & van IJzendoorn, 2007). Attentional prejudice may have an effect on eating disorders. Many studies have been conducted to test this theory.

1.2. Personality traits

There is various childhood personality traits associated with the development of eating disorders (Podar, Hannus & Allik, 1999). During adolescence, these features could be intensified due to a variety of physiological and cultural influences, such as hormonal changes, associated with puberty, stress related to maturity requirements, socio-cultural influences and perceived expectations, especially in the areas body image. Eating disorders have been associated with a fragile sense of self and disordered maturation (Skarderud, 2012).

1.3. Celiac disease (gluten intolerance)

People with gastrointestinal disorders may be at greater risk of developing disordered eating practices than the general population, mainly restricted eating disorders (Satherley, Howard & Higgs, 2015). An association between nerve anorexia and celiac disease was found (Bern & O'Brien, 2013). The role that gastrointestinal symptoms play in the development of eating disorders seems quite complex. Some authors state that unresolved symptoms before the diagnosis of gastrointestinal disease can create a food aversion to these people, causing changes in food patterns. Other authors reported that stronger symptoms during their diagnosis have led to a higher risk. It has been found that some people who have celiac disease, irritable bowel syndrome or intestinal inflammatory disease, which are unaware of the importance of strict dieting, choose to consume their trigger foods to promote weight loss.

Individuals who have a good diet can develop anxiety, food aversion and eating disorders because of concerns about cross-contamination of their foods (Satherley et al., 2015). Some authors suggest that medical professionals should assess the presence of unrecognised celiac disease in all the people with eating disorders, especially if they have gastrointestinal symptoms (such as decreased appetite, abdominal pain, bloating, distension, vomiting, diarrhoea or constipation) weight loss or failing to gain weight; and also regularly ask Celiac patients about body weight or body weight, diet or weight-loss vomiting to assess a possible presence of eating disorders (Bern & O'Brien, 2013) in especially women.

1.4. Child maltreatment

Child abuse, including physical, psychological and sexual abuse, as well as neglect, has tripled the risk of a food disorder. Sexual abuse seems to double the risk of bulimia; however, association is less clear for anorexia (Caslini et al., 2016).

1.5. Social isolation

Social isolation has been shown to have a detrimental effect on the physical and emotional well-being of the individual. Those socially isolated have a higher mortality rate in general compared to individuals who have established social relationships. This effect on mortality is significantly increased in those with pre-existing medical or psychiatric conditions and has been particularly noted in cases of coronary artery disease. 'The magnitude of the risk associated with social isolation is comparable to that of smoking and other major biomedical and psychosocial risk factors' (Brummett et al., 2001).

Social isolation may be inherently stressful, depressing and provoking anxiety. In an attempt to ameliorate these painful feelings, a person can engage in emotional eating behaviour, where food serves as a source of comfort. The loneliness of social isolation and associated inherited stressors has been implicated as factors triggering compulsive consumption (Nonogaki, Nozue & Oka, 2007).

Waller, Kennerley and Ohanian (2007) argued that both, compulsive consumption/vomiting and restrictive consumption types are strategies to suppress emotions, but they are only used at different times. For example, the restriction is used to prevent any emotional activation, while vomiting/compulsive consumption is used after an emotion has been activated (Fox, 2009).

1.6. Parental influence

Parental influence has proven to be an intrinsic component in the development of children's eating behaviours. This influence is manifested and shaped by a variety of different factors, such as family genetic predisposition, dietary choices dictated by cultural or ethnic preferences, parental form and eating habits, involvement and expectations of children's eating behaviour as well as the interpersonal relationship between the parent and the child. This is in addition to the general psychosocial climate of the home and the presence or absence of a stable environment for child care. Maladaptive parental behaviour has been shown to play an important role in the development of eating disorders. With regard to the more subtle aspects of parental influence, it has also been shown that eating patterns are established in early childhood and that children should be allowed to decide when their appetite is satisfied as early as 2 years of age. There was a direct link between obesity and parents' pressure to eat more.

Coercive diet tactics have not proven to be effective in controlling a child's eating behaviour. Affection and attention have been shown to affect the child's interest and acceptance of a more varied diet (Savage, Fisher & Birch, 2007).

Adams and Crane (1980) have shown that parents are influenced by stereotypes that influence their perception of their child's body. Transmission of these negative stereotypes also affects self-image and satisfaction with the child's own body. Hilde Bruch, a food pioneer, says nerve anorexia often occurs in girls who have high, obedient performances that always try to please their parents. Their parents tend to over-control and do not encourage the expression of emotions, inhibiting the girls in accepting their feelings and desires. Adolescents in these arrogant families do not have the capacity to be independent of their families, but they realise the need to become independent, often resulting in acts of rebellion.

Controlling food consumption can make them feel better because it gives them a sense of control (Nolen-Hoeksma, 2014).

1.7. The entourage pressure

In various studies, such as one by McKnight Investigators, entourage pressure has been proven to be a significant contribution to body image concerns and attitudes towards food consumption among 20-year-old subjects.

Eleanor Mackey and co-author Annette M. La Greca of the University of Miami, studied 236 teenage girls from public high schools in South East Florida. 'Adolescent concerns about their own weight, how they are found by others and their perceptions that their colleagues want to be weaker are significantly related to weight control behaviour', says psychologist Eleanor Mackey of the National Medical Centre the children of Washington and the lead author of the study. 'These are really important' (Mackey & La Greca, 2006).

According to a study, 40% of girls aged 9–10 are already trying to lose weight (Schreiber et al., 1996). Such a diet is thought to be influenced by the behaviour of the entourage, many of whom have this diet, informing that their friends are using the same diet. The number of friends on the diet and the number of friends who pressed them to acquire a diet also played a significant role in their choice (Page & Suwanteerangkul, 2007).

Elite sportspeople have a significantly higher rate of eating disorders. Female athletes in the field of sport, such as gymnastics, ballet and diving, are at the highest risk compared to the rest of the athletes. Women are more prone than men to get an eating disorder between the ages of 13 and 30. Nearly, 0%–15% of those with bulimia and anorexia are men (Nolen-Hoeksma, 2014).

1.8. Cultural pressure

There is a cultural emphasis on being weak, which is particularly widespread in Western society. The perception of a child on the external pressure to reach the ideal body represented by the media predict dissatisfaction over the child's body image, dismorphous body disorder and an eating disorder (Knauss, Paxton & Alsaker, 2007). 'The cultural pressure on men and women to be 'perfect' is an important factor of predisposition for the development of eating disorders' (Garner & Garfinkel, 1980). In addition, when women of all the races base their self-assessment on what is considered the ideal cultural body, the incidence of eating disorders increases.

Food disorders are becoming more widespread in non-Western countries, where a poor image is not considered ideal, showing that social and cultural pressures are not the only causes of eating disorders. For example, observations of anorexia in all non-Western regions of the world indicate that this disorder is not 'culture-related' as considered once (Soh, Touyz & Surgenor, 2006). However, studies on bulimia rates suggest that it could be a cultural link. In non-Western countries, bulimia is less widespread than anorexia, but these non-Western countries in which these things have been observed can be said to have been influenced or exposed to western culture and ideology (Keel & Klump, 2003).

Socio-economic status has been seen as a risk factor for eating disorders, assuming that having a higher number of resources allows a person to actively choose diet and reduce body weight (Nevoenen & Norring, 2004). Some studies have also shown a relationship between increasing dissatisfaction with the body and increasing socio-economic status (Polivy & Herman, 2002).

However, once the high socio-economic status is reached, this relationship is reduced and, in some cases, no longer exists (Soh et al., 2006).

The media plays a major role in the way people see themselves. Numerous ads and magazine ads feature poor celebrities, such as Lindsay Lohan, Nicole Richie, Victoria Beckham and Mary Kate Olsen, who seem to only get attention because of their low-weight image. Society has taught people that they have to be accepted by others at all costs (Essick, 2006). Unfortunately, this has led to the conviction that, in order to integrate you, you have to look in a certain way. Television beauty contests, such as the Miss America contest, contribute to the idea of what it means to be beautiful, as competitors are evaluated on the basis of their opinion.

In addition, socio-economic status is considered a cultural risk factor, so is the sport world. Athletes and eating disorders tend to go hand in hand, especially sports where weight is a competitive factor. Gymnastics, riding, battles, body-building and dances are just a few that fall into this weight-dependent sport. Nutrition disorders in people participating in competitive activities, especially in women, often lead to physical and biological changes related to their weight, which often mimic the prepubescent stages.

Many times, as the bodies of women change, they lose their competitive form, which causes them to take extreme measures to maintain themselves in the best shape. Men often struggle with compulsive feeding, followed by excessive exercise, concentrating at the same time on muscle building instead of concentrating on fat loss, but this goal of gaining muscle mass is just like an eating disorder, as obsession over weakness. The following statistics taken from Susan Nolen-Hoeksema's book, *Normal Psychology*, show the estimated percentage of athletes who are struggling with eating disorders based on the sport category.

- Aesthetic sports (dance, skating and gymnastics)–35%
- Weight-dependent sports (judo and wrestling)–29%
- Endurance sports (cycling, swimming and running)–20%
- Technical sports (golf and high jumping)–14%
- Sports ball games (volleyball and football)–12%

Although most of these athletes develop eating disorders to maintain their competitive advantage, others use exercise as a way to maintain weight and shape. This is just as serious as regulating food consumption for the competition. Even though there is mixed evidence to show at which point athletes are experiencing eating disorders, studies show that, regardless of the level of competition, all athletes are at greater risk of developing eating disorders compared to non-athletes, especially those who participate in sports where they are weak are a factor (Nolen-Hoeksma, 2014).

The pressure in society is also found in the homosexual community. Gay people are at greater risk of expressing symptoms of the disorder than heterosexual people (Boisvert & Harrell, 2009). In homosexual culture, the muscles offer both social and sexual desire and power. These pressures and ideas that another gay person may want from a partner (weaker or more muscular) can eventually lead to eating disorders. The more symptoms of eating disorders reported, the more worries exist in relation to the image perceived by others, and the more often and intensively they engage in physical exercise. High levels of dissatisfaction with the body are also related to external motivation to do physical exercise and advanced age; however, the presence of a thin and muscular body is found in younger homosexual men than the elderly (Siconolfi, Halkitis, Allomong & Burton, 2009).

It is important to understand some of the limitations and challenges of many studies that attempt to examine the roles of culture, ethnicity and socio-economic status. For beginners, most intercultural studies use definitions from DSM-IV-TR, which has been criticised as reflecting Western cultural bias. Thus, assessments and questionnaires cannot be constructed to detect some of the cultural differences associated with different disorders. Also, when looking at people in areas potentially influenced by Western culture, few studies have tried to measure how much a person has adopted a popular culture or preserved the traditional cultural values of the area. Finally, most intercultural studies on eating disorders and body image disruptions occurred in Western countries and not in the countries or regions examined (Mash & Wolfe, 2010).

Although there are many influences on how an individual processes his body image, the media play a major role. Together with the media, parental influence, entourage influence and self-efficacy beliefs also play an important role in an individual's view of himself. The way in which the media presents images can have a lasting effect on an individual's perception of the body image. Nutritional disorders are a global problem and while women are more likely to be affected by an eating disorder, they affect both sexes. Media influences eating disorders, whether presented in a positive or negative light, and therefore has a responsibility to use caution when promoting images that project an ideal that many turn into eating disorders (Schwitzer, 2012).

To try to address the unhealthy image of the body in the fashion world, in 2015, France adopted a law that requires models to be declared healthy by a doctor to participate in fashion shows. Also, retouched images need to be marked as such in magazines (Willsher, 2015).

There is a relationship between the content promoted by the social media represented by the 'thin body ideal' and the dissatisfaction with one's own body and nutrition disorders in young adult women, especially in the western hemisphere (Ghaznavi & Taylor, 2015). New research indicates an 'internalisation' of distorted online images, as well as negative comparisons among young adult women. Most studies have taken place in US, UK and Australia, these being places where the ideal of the thin body is strong among women, as well as the effort to get the body 'perfect' (Perloff, 2014).

In addition to mere exposure in the media, there is an online community called 'pro-nutrition disorder'. Through personal blogs and Twitter, this community promotes eating disorders as a 'lifestyle' and continuously posts pictures of thin bodies and tips on how to stay weak. Hashtag '#proana' (pro-anorexia) is a product of this community (Arseniev-Koehler, Lee, McCormick & Moreno, 2016), as well as pictures promoting weight loss labelled with '#thinspiration'. According to the theory of social comparison, young women tend to compare their appearance with others, which can lead to a negative view of their bodies and the alteration of eating behaviours, which in turn can produce disorderly eating behaviours (Yu, 2014).

When parts of the body are isolated and displayed in the environment as objects to look at, it is called objectivity, and women are most affected by this phenomenon. Objectification increases self-objectification when women judge their own body parts as a means of praise and pleasure for others. There is a significant link between self-objectification, body dissatisfaction and disordered eating because the ideal of beauty is altered through social media (Ghaznavi & Taylor, 2015).

2. Methods

2.1. The objective of the paper

We aim to identify whether there is a correlation between personality traits and feeding disorders in young adults aged 20–25 years.

2.2. Working hypotheses

1. It is assumed that there is a positive correlation between the compulsive personality type and the bulimia eating disorder.
2. It is presumed that there is a positive correlation between personality depression and the imbalance emotional scale in the EDI invitational eating disorders.

2.3. The tools used and the lot of participants

To verify the work hypothesis, we applied the MCMI Personality Tracking and EDI 3 Test for Food Disorder on a 157-person group of participants aged 20–25 years. Persons participating in the research have been previously informed of the research purposes and the fact that the data will be used for scientific purposes.

3. Results

1. It is assumed that there is a positive correlation between the compulsive personality type and the bulimia eating disorder.

Table 1. Correlations between bulimia and compulsive personality

		Compulsive	Bulimia
Compulsive	Pearson Correlation	1	0.697**
	Sig. (two-tailed)		0.000
	N	157	157
Bulimia	Pearson Correlation	0.697**	1
	Sig. (two-tailed)	0.000	
	N	157	157

**Correlation is significant at the 0.01 level (two-tailed).

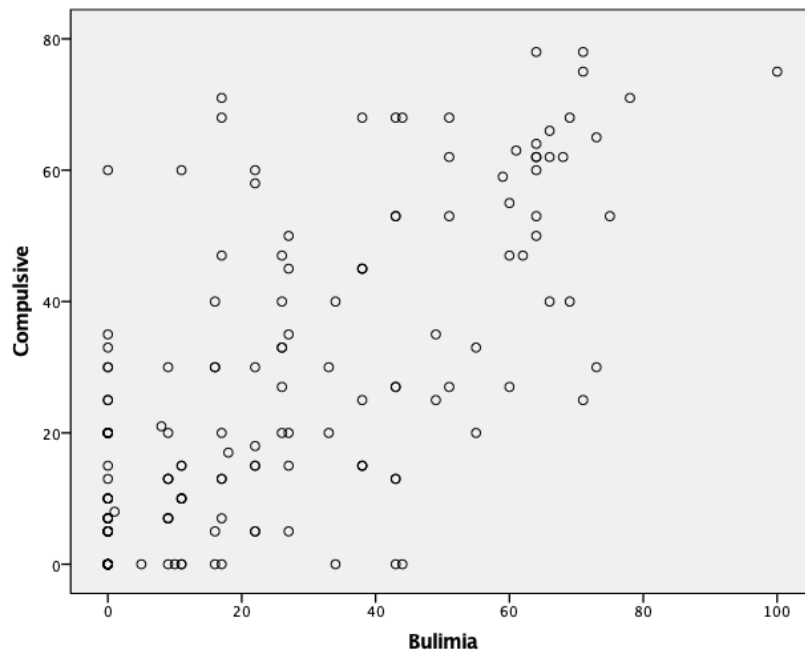


Figure 1. Graphic representation of cloud points between bulimia and compulsive personality

From the analysis of Table 1, we note that we have a strong correlation, positive $r = 0.697$ to a significance threshold $p = 0.000$. This correlation shows that people with an accentuated type of compulsive disorder develop bulimia eating disorder.

- It is presumed that there is a positive correlation between personality depression and the imbalance emotional scale in the EDI invitational eating disorders. Considering the normality of data distribution, we calculate the Pearson correlation.

Table 2. Correlations between depression and dissatisfaction with the body

		Depression	Dissatisfaction with the body
Depression	Pearson correlation	1	0.699**
	Sig. (two-tailed)		0.000
	N	157	157
Dissatisfaction with the body	Pearson correlation	0.699**	1
	Sig. (two-tailed)	0.000	
	N	157	157

**Correlation is significant at the 0.01 level (two-tailed).

From the analysis of Table 2, we note that we have a strong correlation, positive $r = 0.699$ at a significance threshold $p = 0.000$. This correlation shows us that people diagnosed with depression are strongly confused with how they look from their bodies.

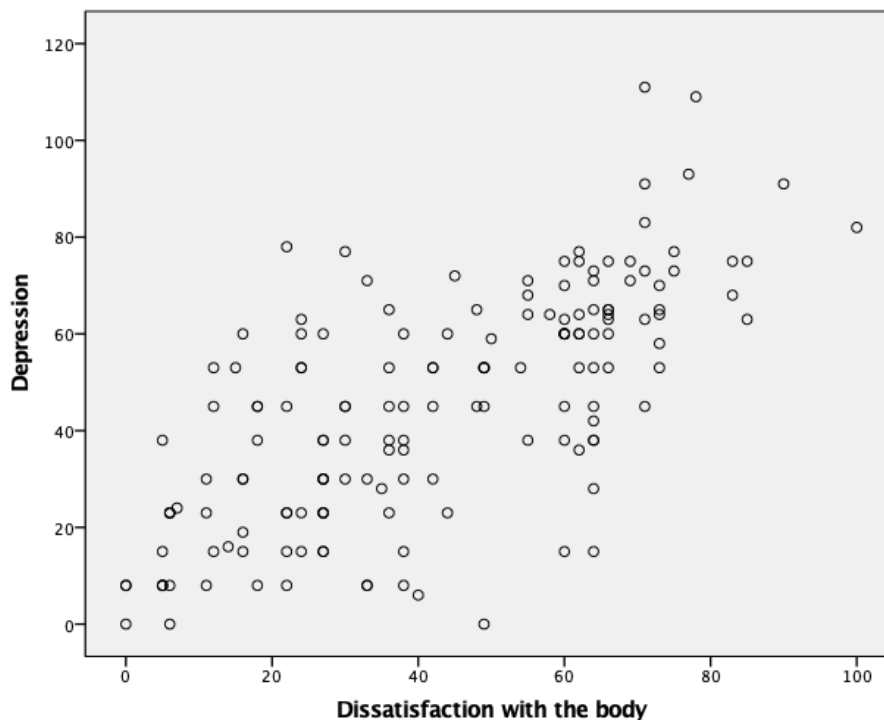


Figure 2. Graphic representation of cloud points between depression and dissatisfaction with the body

4. Discussion

There are several factors that are thought to be responsible for the development of obsessive compulsive disorder. Primarily, it is hypothesised that the obsessive compulsive disorder progresses

due to psychological and biological components. Examples of such are abnormalities of hormone levels associated with mood function, genetic mutations, infections and possibly brain injuries. Obsessive compulsive disorder is often directly connected with eating disorders. Often times, eating disorders are characterised by behaviours similar to that seen in OCD, such as obsessive thoughts about food and calories, food rituals such as cutting food symmetrically, or hoarding of food items. For an individual who is struggling with an eating disorder and obsessive compulsive disorder, foods are chosen based on colour, weight, shape, etc., and often the two conditions are linked through the attempt to obtain perfectionism.

Depression is a common mental health problem that causes people to experience low mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration. Depression is actually much more complex, nuanced and dark than unhappiness—more like an implosion of self. In a serious state of depression, you become a sort of half-living ghost.

Findings suggest that depression may be a better prognostic indicator of body dissatisfaction than bulimic symptoms in women diagnosed with bulimia nervosa. A model in which depression represents a contributing factor for the maintenance of body dissatisfaction is discussed.

Depression may cause binge eating, but compensatory behaviour depends on self-esteem and body image importance.

5. Conclusions and recommendations

Many personality traits have a genetic component and are hereditary. Maladaptive levels of certain traits may be acquired as a result of anoxic or traumatic brain injury, neurodegenerative diseases, such as Parkinson's disease, neurotoxicity, such as lead exposure, bacterial infections, such as Lyme disease or parasitic infections, such as *Toxoplasma Gondii*, such as and hormonal influences. While studies continue using different imaging techniques, such as fMRI (Marsh et al., 2008) and the prefrontal cortex (Rubino et al., 2007), the disorders of the cortex prefrontal and executive systems have been shown to affect eating behaviour (Sinai et al., 2009).

The media play a major role in the way people see themselves. And, socio-economic status is a factor that influences eating disorders. Many times, as the bodies of women change, they lose their competitive form, which causes them to take extreme measures to maintain themselves in the best shape. Men often struggle with compulsive feeding, followed by excessive exercise, concentrating at the same time on muscle building instead of concentrating on fat loss, but this goal of gaining muscle mass is just like an eating disorder, as obsession over weakness.

Some people have a previous disorder that can lead to increased vulnerability to developing an eating disorder. Nutritional disorders are influenced by the person's image of their own body and are maintained as long as it attempts to achieve the desired physical weight and form, often unrealistic standards.

References

- Arseniev-Koehler, A., Lee, H., McCormick, T. & Moreno, M. (2016). Proana: pro-eating disorder socialization on Twitter. *Journal of Adolescent Health*, 58(6), 659–664.
- Bar-Haim, Y., Lamy, D., Pergamin, L., Bakermans-Kranenburg, M. & van IJzendoorn, M. (2007). Threat-related attentional bias in anxious and nonanxious individuals: a meta-analytic study. *Psychological Bulletin*, 133(1), 1–24.

- Bern, E. & O'Brien, R. (2013). Is it an eating disorder, gastrointestinal disorder, or both? *Current Opinion in Pediatrics*, 25(4), 463–470.
- Braun, D., Sunday, S. & Halmi, K. (1994). Psychiatric comorbidity in patients with eating disorders1. *Psychological Medicine*, 24(4), 859.
- Collier, R. (2009). DSM revision surrounded by controversy. *Canadian Medical Association Journal*, 182(1), 16–17.
- Essick, E. (2006). Eating disorders and sexuality. In S. R. Steinberg, P. Parmar & B. Richard (Eds.), *Contemporary youth culture: an international Encyclopedia* (pp. 276–280). Greenwood.
- Gardini, S., Cloninger, C. & Venneri, A. (2009). Individual differences in personality traits reflect structural variance in specific brain regions. *Brain Research Bulletin*, 79(5), 265–270.
- Ghaznavi, J. & Taylor, L. (2015). Bones, body parts, and sex appeal: an analysis of thinspiration images on popular social media. *Body Image*, 14, 54–61.
- Kaye, W., Bulik, C., Thornton, L., Barbarich, N. & Masters, K. (2004). Comorbidity of anxiety disorders with anorexia and bulimia nervosa. *American Journal of Psychiatry*, 161(12), 2215–2221.
- Mackey, E. & La Greca, A. (2006). Adolescents' eating, exercise, and weight control behaviors: does peer crowd affiliation play a role? *Journal of Pediatric Psychology*, 32(1), 13–23.
- Mash, E. & Wolfe, D. (2010). *Abnormal child psychology*. Belmont, CA: Wadsworth CENGAGE Learning.
- Nolen-Hoeksema, S. (2014). *Abnormal psychology* (6th ed., p. 339). Blacklick, OH: McGraw-Hill.
- Perloff, R. (2014). Social media effects on young women's body image concerns: theoretical perspectives and an agenda for research. *Sex Roles*, 71(11–12), 363–377.
- Rosenvinge, J., Martinussen, M. & Ostensen, E. (2000). The comorbidity of eating disorders and personality disorders: a metaanalytic review of studies published between 1983 and 1998. *Eating and Weight Disorders—Studies on Anorexia, Bulimia and Obesity*, 5(2), 52–61.
- Schwitzer, A. (2012). Diagnosing, conceptualizing, and treating eating disorders not otherwise specified: a comprehensive practice model. *Journal of Counseling and Development*, 90(3), 281–289.
- Siconolfi, D., Halkitis, P., Allomong, T. & Burton, C. (2009). Body dissatisfaction and eating disorders in a sample of gay and bisexual men. *International Journal of Men's Health*, 8(3), 254–264.
- Westen, D. & Harnden-Fischer, J. (2001). Personality profiles in eating disorders: rethinking the distinction between axis I and axis II. *American Journal of Psychiatry*, 158(4), 547–562.
- Willsher, K. (2015). *Models in France must provide doctor's note to work*. [Online] The Guardian. Retrieved December 19, 2018, from <https://www.theguardian.com/world/2015/dec/18/models-doctors-note-prove-not-too-thin-france>
- Yu, U. (2014). Deconstructing college students' perceptions of thin-idealized versus nonidealized media images on body dissatisfaction and advertising effectiveness. *Clothing and Textiles Research Journal*, 32(3), 153–169.