

“I Will be Thin at All Costs; Nothing Else Matters:”

A Research Proposal Examining the Effects  
of Viewing Pro-Anorexia Websites

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by  
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## ABSTRACT

“I Will be Thin at All Costs; Nothing Else Matters:”

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Graduate School of Arts and Sciences  
Brandeis University  
Waltham, Massachusetts

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“Pro-Anorexia” refers to the endorsement of anorexia nervosa; advocated as a lifestyle choice and not a disease, proponents create or visit websites that act as a resource for anorexic individuals who wish to decrease caloric intake, purge, conceal symptoms, be inspired by photo galleries and quotes, etc. The purpose of the proposed study is to assess the effects of viewing pro-anorexia websites on participant’s self-esteem, body image, weight perception, and perceived attractiveness. A content analysis of ten existing pro-anorexia websites was conducted in order to determine the most common components of these websites. Using that information a prototypical pro-anorexia website was created by the author, as was a control website on the topic of interior design. The study aims to compare the affect, self-esteem, perceived weight and perceived attractiveness of those who view the pro-anorexia website to those who view the control website; the ultimate goal of this proposed study is to examine whether viewing pro-anorexia websites is detrimental in any of those four measures.

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The pro-anorexia movement and its associated websites constitute the relatively recent development of a counter-culture in which anorexia is viewed in a positive and encouraging light; claimed not to be a disorder requiring treatment, but a chosen and embraced lifestyle. Having the highest mortality rate of any psychiatric illness (National Alliance for the Mentally Ill [NAMI], 1996), the prognosis of anorexia nervosa is often grim; making these sites (which walk a precarious line between providing support and enabling behavior) a major concern for health care providers, clinicians and parents.

This literature review will provide an overview of pertinent research on pro-anorexia websites, including a brief examination of the effects of media exposure on body image and the role of the Internet in the development of the pro-anorexia movement. While basic information about the philosophy and culture of pro-anorexia is provided, the focus will be on the analysis of research concerning the content and impact of pro-anorexia websites. The main constructs found in a preliminary content analysis of 10 pro-anorexia websites will be defined and their frequency will be discussed. Implications of this preliminary research, as well as existing research, will be explored; a study will be proposed to examine the impact of pro-ana websites.

## **Anorexia Nervosa**

The ‘pre-history’ of anorexia dates back to medieval Europe, when some women who refused to eat were considered miracles or manifestations of God’s supernatural power- named *anorexia mirabilis* (Brumberg, 1988; Bynum, 1987; Stacey, 2002). The affliction of these women- whom the Victorians referred to as “fasting girls”- was defined as a medical problem and named in the 1870’s by Sir William Gull (Brumberg, 1988). However, it did not emerge as a widely known disorder until a decade later (Mulveen & Hepworth, 2006).

The Fourth Edition of the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) defines anorexic individuals as those who, “maintain a body weight at a level less than 85% of normal weight for age and height, have an intense fear of fatness, a disturbance of one’s body weight or shape, and experience amenorrhea for at least three consecutive menstrual cycles” (American Psychiatric Association [DSM-IV-TR], 2000). With a prevalence rate of .5-1% of the general population (Hoek & Van Hoeken, 2003; Lucan, Beard, & O’Fallon, 1991), the typical age of onset for anorexia is 14-18 years of age (American Psychological Association, 2001).

## **Media Exposure**

The negative effects of traditional mass media’s reverence of thin-ideal body types are well-documented (Groesz et al., 2002; Hargreaves et al., 2003; Irving, 2001; Levine et al., 1996). Increased pressure to be thin (which is believed to be exacerbated by the media) predicts increases in body dissatisfaction which ultimately predicts increases in eating pathology (Stice, 2001). In accordance with this hypothesis, exposure to

extremely thin female bodies has been found to produce feelings of depression, shame and guilt in women (Grosz et al., 2002). Social comparison theory suggests people are driven to self-evaluate based on comparisons to similar others. Therefore, just as females may compare themselves to those in traditional media, they may also compare themselves to similar others (females, often in the same age range, who suffer from many of the same problems) in chat rooms or on forums. These relatively new forms of mass media may intensify this effect, being a quintessential medium for social comparison.

Teenagers, who, as previously mentioned, are the most at risk for developing eating disorders, are also avid internet users. According to the Pew Internet and American Life Project there were 17 million internet users between the ages of 12-17, a number that represents a substantial 73% of that age bracket (Shade, 2003). While the internet is “an ideal venue for offering support and advice” (Harshbarger et al., 2009, 337), it has also allowed for subcultures to form in which stigmatized individuals are able to feel part of a community, one that is largely unmonitored and easily accessible (Lipczynska, 2007). Not only is it now easy for anorexics to connect with each other and seek solace (Shade, 2003), the anonymity offered by the Internet facilitates greater self-disclosure than face-to-face communications (Johnson, 2003).

### **Philosophy and Culture of Pro-Anorexia**

“Pro-Anorexia” (henceforth referred to by its common name of “pro-ana”) is a recently recognized trend in which anorexia is advocated as a lifestyle choice-not a disease- and one in which solidarity among anorexic individuals is encouraged. Negative associations of anorexia are rejected, and the disorder is reclaimed in positive ways. It is suggested by Clarke (2008) and Williams & Reid (2007) that the fundamental philosophy

is that an individual has the right to choose whether they want to maintain their anorexic behaviors. The common interpretation is that pro-ana expresses an encouraging attitude towards eating disorders (Harshbarger et al., 2009; Bardone-Cone & Cass, 2007; Williams & Reid, 2007).

The prevailing message acknowledges that even though eating disorders are dangerous, it is acceptable to share inspiration to maintain the behavior. Research has indicated that viewing pro-ana sites can be detrimental to self-esteem and body image (Bardone-Cone & Cass, 2006, 2007). Despite the agreement on potential dangers of pro-ana, some researchers maintain that anorexia is not often romanticized or expressed as desirable (Lipczynska, 2007).

Fox et al. (2005) view the “movement” as an explanatory model of anorexia; one that is in opposition to the traditional models (medical, psychosocial, sociocultural and feminist), which consider anorexia an illness requiring treatment. Indeed, the assertions of pro-ana supporters and “members” are often in contrast to what the medical community typically depicts anorexics as being: unhappy perfectionists who seek control over their behavior and approval from authoritarian figures; people who are mentally unstable sufferers of a disease. Instead they contend true pro-anas’ are not “victims”, but that their eating disorder is evidence of success and empowerment (Shade, 2003; Williams & Reid, 2007). Pro-ana has developed its own terminology, with anorexia personified as “Ana”, an innocuous-sounding nickname intensifying the feeling of false intimacy (Lipczynska, 2007).



## **Pro-Anorexia Websites**

With the first wave of development noticed in the late 1990's, pro-ana websites have emerged as a resource for anorexics; not for the purpose of recovery, but for the pursuit and maintenance of anorexic behaviors (Williams & Reid, 2007; Harshbarger et al., 2009). Individuals with anorexia ostensibly create them in order to provide support, share experiences and offer encouragement and reassurance to others in similar circumstances (Harshbarger et al., 2009; Shade, 2003). Users consider these sites "safe havens", where they can connect with others who have similar problems and philosophies about those problems, away from the judgmental eyes of society (Diaz, 2003).

While often described to be "anti-recovery", it is not because treatment is discouraged. In fact, in an overwhelming majority of cases, those who chose to recover are met with plenty of support (Williams & Reid, 2007). Instead, 'anti-recovery' refers to a rejection of the belief that treatment is necessary for those with anorexia.

Free Internet Service Providers (ISP's) such as Freewebs and Piczo (Shade, 2003; Lipczynska, 2007; Norris et al., 2006) host many of the current pro-ana sites, even though Norris et al. found all the sites in their analysis violated the ISP's terms of use, which usually state that the content will not cause harm to others (2006). While it is difficult to obtain an accurate estimate of the number of operational pro-ana sites- due to the fact that many been forced to close by their ISP, or abandoned by creators (Shade, 2003)- recent estimates are around 500 (Bennett & Catan, 2007; Byrne, 2007; Chesley, Alberts, Klein, & Kreipe, 2003). Pro-ana sites are more popular than "pro-recovery" sites; in 2003, the mean visitor rate of 100 pro-ana sites was 7,120 more than the mean number of visitors to 50 pro-recovery sites (Chesley et al.). The viewing community is believed to be

predominantly females between the ages of 13 and 25 (Fox et al., 2005), with a mean age of 16.7 (Chesley et al., 2003).

While media discourse concerning the existence of these sites began in the late 1990's, the majority of the public onslaught that highly sensationalized this phenomenon began in 2001; and included coverage by *Time* magazine and the highly publicized Oprah Winfrey show. On July 26<sup>th</sup> 2001 The National Association of Anorexia Nervosa and Associated Disorders (ANAD) asked Yahoo- previously one of the most popular ISP's- to ban pro-ana content. Claiming the websites violated their terms of service, Yahoo shut down 21 of the 115 pro-ana sites (Shade, 2003; Williams & Reid, 2007).

It is important to note that while pro-bulimia (or "pro-mia") sites also exist, they are significantly less prevalent and usually just a smaller construct of pro-ana websites. Therefore, pro-ana (not pro-eating disorder) websites are the topic of this research.

### **Published Content Analyses**

Few studies have reported on the content of pro-ana sites (Abbate Daga, Gramaglia, Piero & Fassino, 2006; Davis & Lipsey, 2003; Norris, Boydell, Pinhas & Katzman, 2006; Lipcznska, 2007). Using emergent coding methods, Harshbarger et al. (2009) conducted a content analysis of advice (referred to as "tips and tricks") given on nine pro-ana sites. Being the top three search engines (according to Nielson Netratings), Google, Yahoo and MSN were utilized. Analysis showed eating/restricting calories, distraction, and lying/concealing symptoms to be the most commonly given advice; however tips on fasting and purging were also prominent. With some of the tips appearing word for word on multiple websites (demonstrating wide sharing of ideas); the mean number of tips and tricks was 168. This analysis strongly suggests that these sites

can help users continue their weight loss and help conceal their disease (Harshbarger et al., 2009).

In analysis of themes, some are positive and beneficial to reader's health; advising viewers not to purge, use laxatives, diuretics, or diet pills because of ill effects on health. This does not keep sites from offering tips on these methods, however, with the stated reason that if readers are going to use these methods to lose weight anyway, they may as well use them "safely" (Harshbarger et al., 2009).

### **Concerns**

The Academy of Eating Disorders has stated that they consider pro-ana sites to be harmful (Bardone, Cone & Cass, 2007). Typically exuding an attitude of apathy about the harmful consequences of anorexia (Williams & Reid, 2007), the sites are indeed a cause for concern among clinicians and parents who believe the content "undeniably validates anorexia as a 'lifestyle' and provides the tools to allow people to continue it and to hide it from their family and friends" (Lipczynska, 2007, 546). In addition to extreme calorie restriction, behaviors such as misuse of diet pills, and purging behavior such as induced vomiting and laxative abuse are also pursued (Williams & Reid, 2007). It is a concern that the information is often inaccurate and dangerous (Norris et al., 2006), as this unregulated information could lead to serious medical consequences.

Anorexia becomes a fundamental part of a person's identity (Williams & Reid, 2007; Walstrom, 2000), and dissociation from this identity is imperative for recovery (Keski-Rahkonen & Tozzi, 2005). Researchers believe the sites may intensify the application of anorexia as an identity (Gavin et al., 2008; Giles, 2006; Lyons et al., 2006). It is suggested that the site content serves to normalize a generally stigmatized identity

(Gavin et al., 2008), a potentially risky result. This hypothesis is supported by results of Gavin, Rodham, & Poyer's (2008) study, which found such identities to be normalized and strengthened through interactive use of pro-ana sites. These effects have the potential to "cement the positive association [pro-anas] derive from the label 'anorexic'" (Tierney, 2006, 183).

Although not the focus of this paper, it is important to note the major concerns of participation in pro-ana forums, blogs and chat rooms (which are common elements of the sites). The bonding that occurs through the online communities, while creating a sense of belonging and acceptance, may have an isolating effect. The individual may retreat further from the mainstream, creating an in-group/out-group dichotomy, which then results in greater reliance on the forum/chat room, ultimately strengthening the dichotomy. Too much immersion in these communities could prohibit any alternative discourse about anorexia; further isolating them from the 'outside' world (Clarke, 2008).

The communities may also facilitate user's denial that their behavior is potentially life threatening. This communication has another potentially hazardous effect: as pointed out by Rich, the sites can foster competition among anorexic individuals, leading to increases in dangerous behaviors (2006). Any contact with eating disordered others- whether face-to-face or online- can provide a mechanism for becoming better versed in anorexic behaviors (Nygaard, 1990; APA, 2000).

Clearly, there are numerous valid concerns about the existence of pro-ana websites that warrant continued research. It is especially important that there be content analysis available; as such information can aid in research of these websites effects. Due to the nomadic nature of pro-ana sites, the research should stay up-to-date.

## **Preliminary Content Analysis**

The purpose of conducting this preliminary study is to define and analyze the most frequent constructs of pro-ana websites. The prevalence rates of specific constructs were explored in terms of their implications on some of the concerns mentioned above. This preliminary research is partially based on previous studies done by Davis & Lipsey (2003), Norris et al. (2006), Lipcznska (2007), and Bardone-Cone & Cass (2007).

### **Methods**

Inclusion/exclusion criteria described by Norris et al. (2006) was adapted and utilized. Sites included in the analysis were in the English language, did not require membership to access, and were not primarily forums/chat rooms or personal blogs. Sites had to identify themselves as “pro-anorexia” and were not included if they were “under construction”.

Websites were located using the popular search engine Google, searching for the term “pro-ana”. “Pro-anorexia” did not turn up a significantly different number of results. It is notable that only five of the ten sites were among the first 100 identified. The rest were located after greater effort, by following links available on some of the sites and by searching “pro-ana” on several well-known hosting sites (e.g. Freeweb, Piczo, Bravehost).

In examination of the first 100 Google results, ten were excluded for being primarily forums/chat rooms/personal blogs. Three of the sites were pro-recovery sites

and two were “web rings” in which there is a collection of websites (one site included 30 the other 250; many of the links not active). A pro-ana Twitter page was even located. The majority of the search results yielded articles or discussions about the existence (and usually dangers) of the sites; this information was significantly easier to locate than actual pro-ana sites. There were also several explicitly anti pro-ana websites, expressing a desire, and sometimes even including petitions, for the ban of pro-ana sites.

The following is a list of the 10 sites included in the analysis:

- Ana Girls (<http://www.piczo.com/ana-girls/?cr=3>)
- Ana’s Angels ([http://www.freewebs.com/ana\\_mybestfriend/index.htm](http://www.freewebs.com/ana_mybestfriend/index.htm))
- Aramondas (<http://armondas.bravehost.com/index.html>)
- BlueDragonfly (<http://www.blue-dragonfly.org/welcome.html>)
- Disappearing Act (<http://home.graffiti.net/disappearingact:graffiti.net/content.html>)
- Fading Obsession (<http://fading.conforums3.com/index.cgi>)
- House of Thin (<http://www.houseofthin.com/library/pro-ana-myths.php>)
- Forbidden Bones (<http://forbiddenbones.tripod.com/index.html>)
- Pro-Ana Nation ([http://www.pro-ana\\_nation.com](http://www.pro-ana_nation.com))
- What A Girl Eats ([http://www.freewebs.com/what\\_a\\_girl\\_eats/](http://www.freewebs.com/what_a_girl_eats/))

### **Construct Definitions**

**Disclaimer.** In this context, a disclaimer is a warning on the site or before entering the site (*acceptance required*), that the content may be “triggering” for some people. Meant to limit liability of the webmaster or ISP, disclaimers often claim no responsibility for the effects viewing the site may have. Frequently stating the seriousness of eating disorders, those who are “looking for a quick way to lose weight” are advised to

exit the site. One of the most explicit disclaimers reads; “By entering this proana promia web site you are signing a digital certificate stating... you are entering this proana promia site knowingly and willingly of the aforementioned conditions” (Fading Obsession).

**Tips and Tricks.** The often labeled “tips and tricks” are “suggestions for how to successfully engage in eating disordered behavior and how to protect the eating disorder from discovery” (Bardone-Cone & Cass, 2007). For the purpose of this research they are broken down into five subcategories:

- **Weight Control-** food restriction and burning off calories. Example: “Really can’t help yourself? Have a bite - chew - & spit! don’t swallow” (Disappearing Act)
- **Deception-** hiding symptoms from family/friends/health care workers. Examples: “Put dishes and silverware in the sink. Leave ‘evidence’ in the bowl which will correspond to what you claimed to have eaten” (Ana’s Angel); “Don’t ever tell people (especially your family & friends), it’s never a good idea. Hide it” (Disappearing Act).
- **Distraction/Self Control-** ways to distract self from being hungry and ways to maintain self-control. Example: create own pro-ana site (Ana Girls), find triggering pictures online (Fading Obsession)
- **Safety-** information about ways to attempt to engage in anorexic behaviors in the “safest” possible ways. Ingestion of sufficient amounts of water and protein are encouraged, as well as use of vitamins. Example: “There is no excuse to not

take at least a basic daily multivitamin (which may help reduce some cravings as well)” (Fading Obsession).

**Photo Gallery.** Referred to as “thinspiration” (or “thinspo”), photo galleries contain pictures of extremely thin models/celebrities such as Gisele Bundchen, Mary-Kate Olson, and Nicole Richie.

**Written inspiration.** Includes quotes, song listings, poems, Letter from Ana, Letter to Ana (its counterpart, written in an intimate tone, promising both the perfect body and misery). Quote examples: “Nothing tastes as good as thin feels.” (Aramondas); “Quod me nutrit me destruit (What nourishes me also destroys me)” (Disappearing Act)

**Dangerous Methods.** Promotion of and advice about using dangerous methods of weight loss, including purging behaviors such as induced vomiting, incorrect use of laxatives/diuretics, diet pills and fasting. Example: “Diet pills. They might be ‘dangerous’, but hey, I am not doing this for my health...” (Ana’s Angels).

**Biographical Info.** Information about the site creator such as name, location, age, history of eating disorder, height/weight, weight goals, and pictures. Sometimes contact information such as e-mail address is given.

**Eating Disorder Info.** Definitions, diagnosis, statistics, symptoms, health/psychological consequences of eating disorders.

**Online Community.** Includes forums (message boards), chat rooms, and blogs (online journals) in which viewers can talk with each other, seek advice and encouragement, or join in on group fasts.



### **Religious Metaphors.**

- 10 Commandments: 10 rules to follow as part of anorexic lifestyle; example: “Thou shalt not eat without feeling guilty.”
- Ana Creed: expresses six central beliefs of pro-anorexics; example: “I will be thin at all costs. It is the most important thing; nothing else matters.”
- Ana Psalm: another expression of devotion to anorexia; bearing striking resemblance to the Twenty-Third Psalm of the Bible's Old Testament; example: “Strict is my diet. I must not want. It maketh me lie down at night hungry.”
- Beliefs: example: “I believe in calorie counters as the inspired word of God, and memorize them accordingly.”

**Calculator.** Tools to help users calculate their Body Mass Index (BMI) and Basal Metabolic Rate (BMR).

**Food.** Low-fat/low-calorie recipes, specific diets (example: cabbage soup diet), and foods considered to be “safe” (fruits, vegetables, and various things such as sugar-free mints).

**Hit Counter.** Computer software that keeps track of the number of visitors a website has had; a proxy measure of how frequently the website is viewed.

### **Other.**

- Bracelet Sales: Some sites sell beaded bracelets (red for anorexics and blue for

bulimics), serves as a reminder to engage in eating disordered behaviors and as a silent identifier, meant to promote the underground movement.

- Real-Girl Pics: Pictures sent in by users of site, of themselves
- Reverse Thinspiration: Pictures of morbidly obese people, meant to inspire disgust
- Books/Movies: Listings of books/movies about eating disorders, usually intended to be inspiring, not educational. example: *Wasted* by Marya Hornbacher
- Treatment: Information about treatment of eating disorders, for those interested in recovery. Including phone numbers for eating disorder centers/hotlines and links to sites about treatment or sites intended to support recovery.
- Mia Religion: Constructs similar to those of anorexia religion, but for pro-bulimics (“pro-mia”). examples: Mia psalm; Letter to Mia (Aramondas)
- Videos: Links to “inspiring” videos (documentaries about individuals with eating disorders, newsclips); usually from youtube.com
- You Know You’re Ana When...: “You've gotten out of bed in the middle of the night to weigh yourself.” (Ana’s Angel)
- Polls: How many calories consumed that day (Ana Girls); How often do you purge? (What A Girl Eats)

- Model Stats Chart: Ideal model weight chart; example: a person who is 5'5" would ideally need to weigh 111lbs to be a model (Fading Obsession)
- Celebrity Stats: example: Gwyneth Paltrow: 5'9" 122lbs, BMI 16.5
- Dangers: Physical/psychological risks of eating disorders; example: Pro-Ana Nation includes an extensive section of the dangers of certain methods such as long term fasting, diet pills, ipecac, eating cotton/paper

## **Results**

Free ISP's including Freewebs, Piczo, Bravehost, Graffiti, and Tripod hosted 60% percent of the sites. This finding is similar to Norris et al.'s research in which free ISP's hosted 50% of pro-ana sites.

Despite all the negative media attention pro-ana sites have received, only 40% (4 of the 10) of those included in the analysis contained a disclaimer. One site utilized an 'acceptance required' disclaimer (Fading Obsession). One of the sites explicitly states the disclaimer is only there as a requirement of the hosting site (What A Girl Eats). This surprising- and potentially dangerous- finding suggests that ISPs offering free homepages either do not consider the content to be in violation of their terms of service, or do not effectively police the sites they host. While it can be argued that disclaimers provide some measure of "safety", Reaves asserts that the conflict of messages on the disclaimer, which outlines the dangers of eating disorders while encouraging dangerous behaviors, creates a "bizarre dichotomy of messages" (2001, 2), which can be dangerous in its own right.

At 90%, the prevalence of tips and tricks was found to be higher than results of Norris et al.'s study, who found only 67% contained tips and tricks (2006). Tips concerning weight control (70%), deception (60%), and distraction/self-control (70%) were nearly equally prevalent. Thirty percent of sites included tips on efforts to maintain safety, a seemingly bizarre construct due to contradictory messages. One site (Bluedragonfly) gives tips in a hypothetical manner- "She may be trying to purge effectively if she...I'm not stupid - I realize a lot of girls will be reading this in search of tips..."- as if to be able to claim none are given.

The sites that did not include tips (except ones on safety) were House of Thin and Pro-Ana Nation. These sites claim to be part of the evolution of pro-ana- intended to raise awareness and give a voice to those with eating disorders- not facilitate the maintenance of them. Interestingly, the "webmistress" of House of Thin also owns Fading Obsession- a much different type of site that includes tips on some of the most explicitly dangerous methods (e.g. purging, fasting).

"Thinspirational" photo galleries were another staple construct, being included in 80% of the sites- the exceptions being the two previously mentioned "evolution sites". By far the most common form of written inspiration was quotes (90%). Letter to/from Ana, an often-mentioned construct in research, was unexpectedly only included in 40% of sites.

Alarmingly, half of the sites included advice on purging; most often about induced vomiting, but also incorrect use of laxatives and diuretics. Pro-ana's endorsement of incorrect use of diet pills as a weight loss aid has been a topic of particular concern for some researchers (Fox, Ward, & O'Rourke, 2005). However, this

analysis suggests it is not a very common element; only 2 of the 10 sites had information suggesting the use of diet pills. With a prevalence rate of 30%, fasting- another commonly cited concern in previous studies- was also not as prevalent as expected.

The presence of biographical information about the site owner facilitates an overall sense of intimacy. Six of the 8 sites that we reviewed contained biographical information, with very personal, extensive accounts of their life and struggles with eating disorders; consistent with Norris et al. (2006) report of 67%. Consistent with this, an immediately notable quality of the sites we reviewed was their visually attractive and feminine presentation. As suggested by Lipcznska (2007), these qualities could be interpreted as a reflective of the creators positive and almost lighthearted views of the topic.

Research has identified and begun to explore the important role online communities' play in the pro-ana culture; indeed 60% of the sites included a forums or online diary ("blog") aspect; with one site having a real-time chat room referred to as the "lounge" (Bluedragonfly).

Religious metaphors were another construct that were anticipated to be highly prevalent due to past research (Bardone-Cone & Cass, 2007; Norris et al., 2006); but were present in only 40% of sites. The nature of pro-ana content has been found to have strong biblical connections bringing, "a strong tone of religious faith to the pro-anorexic way of life" (Williams & Reid, 2007, pp. 142) and being suggestive of the religious origins of the name "anorexia nervosa".

Half the sites included hit counters displaying the number of visits the site has had. Hits had a range of 3,702 to 119,670, with a mean of 36,511. Although these stats

could be misleading (since it is likely that many of the sites have had to close and reopen) they are nonetheless helpful for researchers attempting to gauge the popularity of pro-ana sites.

Appearing to be an emerging trend not often mentioned in research, two of the sites contained “real-girl thinspiration”. Due to the interactive and possibly competitive nature of this construct, “real-girl thinspiration” has dangerous potential that requires further attention. Perhaps even more disturbing, 30% contained “reverse thinspiration”.

Forty percent contained information detailing the dangers associated with anorexic behaviors. These descriptions were unexpectedly comprehensive, given that the rest of the content encourages these behaviors. Only two of the sites included information regarding eating disorder treatment, which is unfortunate because inclusion of this construct could help encourage those with eating disorders to consider treatment and would show support for those deciding to do so (see table 1).

The two sites claiming to be part of the “second wave” of the pro-ana movement (House of Thin and Pro-Ana Nation) claim to not encourage eating disordered behaviors; citing the lack of tips and tricks and thinspiration photos. These sites (which still identify as pro-ana) do appear to be less facilitating than the others- being more informational and supportive of recovery. It is important to note that while the vast majority of the sites dealt mostly with anorexia, some included information (and tips) about bulimia.

### **Impact of Pro-Ana Websites**

A pilot study by Bardone-Cone & Cass (2006) experimentally examined the effects of viewing a prototypic pro-ana website in comparison to a prototypic female fashion site (featuring “average” sized women) and a home décor site. An existing site

was not used because of copyright issues and the chance of it being closed down or the content changing. Instead, a prototypic site was created after the viewing of over 300 pro-ana sites. Results indicate that for the 24 female undergrads randomly assigned to view the pro-ana site, negative affect increased and state self-esteem decreased. This pilot study suggests that viewing pro-ana sites has greater negative affective and cognitive effects on women than viewing the comparison sites.

In 2007, Bardone-Cone & Cass expanded on their previous study by conducting an experimental examination of website exposure and moderating effects. This study investigated the affective, cognitive and expected behavioral consequences of viewing a pro-ana site on 235 female undergrad students with mean age of 18.37. The prototypic site included a disclaimer, autobiographical info about site creator, “Ana Creed”, “Thin Commandments”, information about eating disorders and exercise, “tips and tricks” for purging, restricting, and concealment, a “thinspiration” photo gallery (including “reverse thinspo”), quotations, a forum with postings about topics such as fasting, binging, purging, and links to other pro-ana sites. Attempts were made to make the comparison websites as similar as possible concerning visual layout and amount of text, images and links. Participants engaged in pre-and post-website questionnaires and viewed the sites for 25 minutes.

Participants exposed to the pro-ana site had greater negative affect, lower social self-esteem and lower appearance self-efficacy in post-website questionnaires than those who viewed comparison websites. They perceived themselves as heavier (regardless of the fact that there were no significant differences in BMI or pre-website weight perceptions across website conditions), and reported being more likely to exercise and

think about their weight in the near future. Viewers of the pro-ana site also reported being less likely to overeat or vomit and engaged in more image comparison. These effects were immediate and occurred after a single viewing. The large sample (in comparison to other studies on pro-ana) allows for greater significance of tests. This study is unique in that it took into account participant's reports of possible behavioral changes caused by viewing sites. However, as the authors point out, the effects of viewing the site may not be representative of how those outside of a laboratory setting may react. Furthermore, both studies only assessed immediate effects; the long-term impact is unknown (Bardone-Cone & Cass, 2006, 2007).

### **Implications**

While few investigations have studied the topic thus far, initial research suggests that pro-ana sites have harmful effects on viewers; however, the solution is not as simple as shutting down the websites. Besides the fact that censorship on the Internet has been found to be notoriously difficult (as the sites just resurface under a different name and hosting site), some people believe that shutting down of the sites could be counteractive, forcing the women using these sites to go further underground (Katz, 2004).

It is possible that awareness of pro-ana content can make warning signs of eating disorders more effectively identified (Harshbarger et al., 2009), which is vital since early recognition and treatment of anorexia results in best long-term outcomes (Attia & Walsh, 2007). If clinicians are aware of the "tips and tricks" used to lose weight and disguise eating disorders, they may be "better equipped to recognize the symptoms of anorexia early in treatment, and to educate families on signs and symptoms of the illness; thus



making it more difficult for the sufferers to conceal their illness” (Harshbarger et al., 2009, p. 367).

The candor displayed on the sites could help specialists better understand the pathology of eating disorders, and can be used to refine treatment techniques (Davis & Lipsey, 2003). Furthermore, the examination of pro-ana sites by clinicians can aid them in understanding the “anti-medical” philosophy, which could translate into treatment that is more effective. While the clinical implications are obvious, there are also non-clinical implications since the audience of these sites is not limited to those with eating disorders (Bardone, Cone & Cass, 2007). In fact, Mulveen & Hepworth (2006) discovered that many visitors to the sites do not actually present with an eating disorder and are visiting the websites to explore extreme methods of weight loss.

In light of strong evidence about the negative impact these sites can have, actions to minimize these effects should be taken. Bardone-Cone & Cass (2007) suggest parents consider blocking these sites from access on home computers and keep home computers in common areas in order to supervise online activity.

## **The Proposed Study**

The objective of this proposed study is twofold. We plan to investigate the effects of viewing pro-ana websites on self-esteem, body image, weight perception, and perceived attractiveness. We are also interested in examining whether these effects will be the same or different when participants view a website that is body neutral such as an interior design website.

### **Hypotheses**

Based on the literature, the following hypotheses have been formulated:

- 1) Those participants who were exposed to the pro-ana website will exhibit a decrease in self-esteem, compared to pre-website viewing scores.
- 2) Those participants who were exposed to the pro-ana website will exhibit a decrease in self-body image, compared to pre-website viewing scores.
- 3) Those participants who were exposed to the pro-ana website will exhibit a slight increase in self-weight perception, compared to pre-website viewing answer.
- 4) Those participants who were exposed to the pro-ana website will exhibit a slight decrease in perceived attractiveness perception, compared to pre-website viewing scores.

- 5) Those participants who were exposed to the pro-ana website will exhibit increased negative scores on the PANAS compared to pre-website viewing scores.
- 6) The effects will be significantly different between those who viewed the pro-ana site than those who viewed the comparison site on interior design.

## **Methods**

### **Participants**

Participants will be a sample of thirty undergraduate and graduate students from Brandeis University in Waltham, Massachusetts. The minimum age of the participants will be 18 years old. While research has shown that pro-ana community viewers are mainly between the ages of 13-25 (Harshbarger et al., 2009), the possibility of including a limited number of participants over the age of 25 will serve to increase the studies generalizability.

To recruit participants an e-mail will be sent out by the experimenter to all currently enrolled Brandeis students. Additionally, I will ask permission to have sign-up sheets sent around to undergraduate classes (hopefully not just psychology classes in order to increase generalizability). Fliers will be made with all the necessary information (including contact information), and I will obtain permission to display them around the campus. Participants will be required to sign an informed consent (see Appendix).

### **Instruments**

*The Heatherton & Polivy State Self-Esteem Scale (SSES)*

The Heatherton & Polivy State Self-Esteem Scale (Heatherton & Polivy, 1991) is a 20-item scale that measures a participant's self-esteem at the point in time that is it

being taken. The items are subdivided into three components of self-esteem: performance self-esteem, social self-esteem, and appearance self-esteem. All 20 items are answered on a five-point scale (1= not at all, 2= a little bit, 3= somewhat, 4= very much, 5= extremely). The SSES is sensitive to temporal fluctuations, and is often used to measure self-esteem changes in lab manipulations. The psychometrics of the SESS has been found to be adequate (Heatherton & Wyland, 2003).

#### *The Positive and Negative Affect Schedule (PANAS)*

The PANAS is a 20-item psychometric scale developed to measure independent constructs of negative and positive affect, both as states and as traits. A study conducted by King's College, University of Aberdeen, UK in 2004 concluded that "The PANAS is a reliable and valid measure of the constructs it was intended to assess" (Crawford & Henry).

#### *Perceived Weight Status*

Participants will be asked (on paper) to indicate their perception of their current weight by selecting one of five responses: very underweight, underweight, average, overweight, or very overweight.

#### *Perceived Attractiveness*

Participants will be asked (on paper) to indicate how attractive they feel others view them by selecting one of five responses: very unattractive, unattractive, average, attractive, or very attractive.

### **Procedure**

After being given informed consent (see Appendix), participants will fill out a questionnaire (see Appendix). Part I will ask if they are currently or have ever been

diagnosed with a wide variety of physical and mental illnesses. The reason for including other mental health and physical issues on the questionnaire is to prevent the subject from focusing on eating disorders; however, inclusion of this data will be useful for data mining and meta-analysis as well.

Part II of the questionnaire will inquire whether participants have ever exhibited certain behaviors, and will include symptoms of eating disorders as well as other mental health disorders. Answering “yes” to any of the questions concerning eating disorders will render the individual ineligible for the study. In order to encourage honesty in answering the questions it will be stated that “Answering yes to any of these questions will not necessarily disqualify you from participating in the study.”

Participants will be randomly assigned to one of two website conditions (pro-ana or interior design) using a random assignment generator. The websites were developed by the experimenter after extensive research of pro-ana websites, and completion of a content analysis identifying the most common traits found on these websites. The control website on the topic of interior design was created to resemble the pro-ana site as much as possible in format, number of characters, pictures, links, etc.

Participants will complete a set of pre-website questionnaires before viewing their website condition for 25 minutes. The methods of this experiment are based on the methods of Bardone-Cone and Cass (2006), and their follow up research in 2007, in which the view time of the websites was 25 minutes. For purposes of consistency leading to greater generalization, this same viewing time will be used. After viewing the sites participants will complete a set of post-website questionnaires.

The study will take place in the experimenter's office (room 104 in the Lemberg building). Participants will use the school-issue desk-top computer in the office. They will participate in the study one at a time. They will fill out the pre- and post-website questionnaires at one of the desks provided in the room. Participants will be in the room alone. When they finish the questionnaire they will alert the experimenter by knocking on the door. The experimenter will take the questionnaire from them and turn on the monitor. The website will be preloaded on the computer and a timer will be set when the experimenter leaves the room. Participants will be allowed to peruse the site freely for 25 minutes. When the timer goes off the experimenter will go into the room, turn off the monitor, hand the participants the post-website questionnaires, and leave the room.

Participants assigned to the pro-ana website condition will be debriefed at the end of the study. Psychoeducational debriefing will be provided. They will also be provided with an information sheet that will include lists of websites that are aimed at helping those with eating disorders or those who may harbor concerns regarding an eating disorder. In addition, local and national contact numbers and an e-mail address will be provided for those who might feel uncomfortable speaking to someone on the phone regarding their concerns (see Appendix).

### **Data Analysis Strategy**

In order to check for normality in the data descriptive statistics will be run, including mean, standard deviation, range, and skewness. These descriptives will be run on all the data. t-tests will be run comparing pre self-esteem in the pro-ana participants and pre self-esteem in the interior design participants. This will be done for each scale being used.

To ensure groups came from a representative population t-tests will be run on pre self-esteem for the pro-ana group and also on pre self-esteem for the interior design group, for each scale. The hope is that these t-tests will come back non-significant, because if significant differences are found the argument could be made that the samples were not drawn from the same population. The Bonferroni correction will be used in order to correct for multiple tests of significance.

Although it is not standard procedure to test for direction, in this case, due to the findings of previous research, directional testing is warranted.

The first hypothesis will be tested through the use of a dependent samples t-test comparing the mean pre-website viewing self-esteem score of the pro-ana group to the post-website viewing self-esteem score of the pro-ana group. Hypothesis two through five will be tested in a similar way.

To test the final hypothesis, the mean change will be calculated between pre-website self-esteem for the pro-ana group as well as the mean change pre- and post-

website self-esteem for the interior design group. These means will then be compared using a t-test to show that the effect of viewing a pro-ana website is significantly different than viewing a controlled site, such as one on interior design. This process will then be repeated for each scale used. This will show the effects are due to the pro-ana sites, not prolonged internet exposure.

### **Projected Results**

We anticipate finding that our six hypotheses will be supported by the data. We expect that the participants exposed to the pro-ana website will exhibit decreased self-esteem, decreased self-body image, and decreased perceived attractiveness in comparison to their pre-website viewing scores. We also expect that the participants exposed to the pro-ana website will exhibit a slight increase in weight perception and will show increased negative scores on the PANAS compared to pre-website viewing scores. We do anticipate that the effects will be significantly different between the participants that viewed the pro-ana site and the participants that viewed our comparison site on interior design.

### **Discussion**

Initial research suggests that pro-anorexia sites have harmful effects on viewers. Until there is a substantial amount of research on the topic, not much attention will be paid to this likely harmful counter culture that exists on-line, where users encourage disordered eating behavior, provide readers with ways to get around eating and hiding their behavior from loved ones and the medical and psychiatric communities.

Given that eating disorders have the highest mortality rate of all mental illnesses, at around 10% (NIMH, 2012), focus and research on these diseases is warranted. Any



research done on the effects of viewing these websites, including the one currently being proposed, may contribute to a future ban on websites of this nature.

The proposed study may well lead to follow-up studies; a longitudinally designed study following the effects of participants viewing these sites over longer periods of time (for example once a day for a week) might lead to clearer and more definitive findings. Such a study might even be able to test for changes in behavior in those viewing the pro-ana sites.

### **Limitations**

Using a sample of convenience is never the ideal in regards to the generalizability of a study. In order to access as wide an array of participants as possible, this study would not only ask GSAS students to participate, or even just psychology class members in general. We would strive to have as much diversity in age, major, ethnicity, etc.

It is possible we could find that pre-website self-esteem scores for pro-ana is, in fact, significantly different from interior design; in which case any results involving self-esteem may not be generalizable.

The fact that these websites are not “real” websites (as they were created by the experimenter), is another issue that warrants consideration. While the pro-ana website is based on an extensive content analysis, the interior design website is based on a less informed design. Therefore, it may not be representative of a typical website on the topic of interior design. Finally, forcing participants to engage in a site that they may not be interested in for a prolonged period of time could affect results.

## **Appendices**

### **Informed Consent**

The GSAS and the Department of Psychology at Brandeis University wants to ensure protection of human participants in research. The following will provide you with information about the experiment that will help you in deciding whether or not you wish to participate. If you agree to participate, please be aware that if you no longer wish to continue, you are under no obligation to do so and can discontinue immediately.

In this study I will ask you to view a website for 25 minutes. It is possible that the website you view will contain photographs of a graphic nature, but I wish to stress that they are not pornographic nor of a violent nature. All information you provide will be kept confidential and will not be associated with your name, as I will assign 6 digit randomly assigned numbers using a random number generator. After the study is complete you will be free to ask any questions.

Please indicate with your signature that you understand your rights and agree to participate in the experiment.

---

Signature of Participant

---

Print Name

## Questionnaire Part I

\*Please note that answering “Yes” to any of the following will not necessarily exclude you from participating in the study

**Are you currently/have you ever been diagnosed with any of the following:**

	Yes	Unsure	No
Major Depressive Disorder			
Generalized Anxiety Disorder			
Hypertension			
Panic Disorder			
Diabetes			
Schizophrenia			
Anorexia Nervosa			
Epilepsy			
Borderline Personality Disorder			
Gout			
Binge Eating Disorder			
Obsessive Compulsive Disorder			
Osteoporosis			
Cancer			
Attention Deficit Hyperactivity Disorder			
Mad Cow Disease			
Insomnia			
Fibromyalgia			
Bulimia Nervosa			
Substance Abuse Disorder			
Asthma			
Alzheimer’s Disease			
Eating Disorder Not Otherwise Specified			
AIDS			
Parkinson’s Disease			
Conversion Disorder			
Huntington’s Disease			
Pica			
Cystic Fibrosis			
Posttraumatic Stress Disorder			
Celiac Disease			
Brain Tumor			
Bipolar Disorder			
Narcolepsy			
Body Dysmorphic Disorder			
Dyslexia			
Seasonal Affective Disorder			

## Questionnaire Part II

Read the questions carefully and circle the answer that best applies to you

### Do you/have you ever...

Been the victim of sexual abuse?

YES                  UNSURE                  NO

Over-exercise to the point where you/others are concerned for your health?

YES                  UNSURE                  NO

Constantly worry or obsess over small concerns?

YES                  UNSURE                  NO

Often have trouble falling asleep?

YES                  UNSURE                  NO

Think that you sleep too much?

YES                  UNSURE                  NO

Feel you exhibit behavior typical of an eating disorder, but have not been diagnosed?

YES                  UNSURE                  NO

Have difficulty concentrating on things, such as reading a book or watching television?

YES                  UNSURE                  NO

Think you drink too much alcohol?

YES                  UNSURE                  NO

Consume copious amounts of food, then attempt to rid yourself of it by vomiting?

YES                  UNSURE                  NO

Experience shortness of breath or rapid heartbeat when in social situations?

YES                  UNSURE                  NO

Hallucinate and/or hear things that others do not?

YES                  UNSURE                  NO

Avoid eating in front of people and/or become stressed when this cannot be avoided?

YES                  UNSURE                  NO

Believe that others are spying on you and or plotting against you?

YES                  UNSURE                  NO

Feel you exhibit behavior typical of depression, but have not been diagnosed?

YES                  UNSURE                  NO

## **Instructions**

At the start of this session you will be asked to complete a series of questionnaires. Upon completion of all questionnaires, please return them to the folder and knock on the door to indicate completion. You will then be asked to view a website for a period of 25 minutes. Feel free to view the website in any order, spending however long you would like on any section; however, please strive to view all of the material. At the end of the 25 minute block, a researcher will knock on the door, turn off the monitor and give you the post-website questionnaires to complete. Again, please knock on the door to indicate your completion.

If at any time you feel unable for any reason to complete the study please knock on the door and the study will be terminated.

Thank you very much for taking the time to participate in my study.

### **Perceived Weight Status**

Please describe your current weight by selecting one of the following:

- (1) Very underweight
- (2) Underweight
- (3) Average
- (4) Overweight
- (5) Very overweight

### **Perceived Attractiveness Scale**

Please describe how attractive you feel others view you by selecting one of the following:

- (1) Very unattractive
- (2) Unattractive
- (3) Average
- (4) Attractive
- (5) Very Attractive

### The Positive and Negative Affect Schedule (PANAS)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word.

**Indicate to what extent you feel this way right now, that is, at the present moment.**

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely

- |                       |                      |
|-----------------------|----------------------|
| _____ 1. Interested   | _____ 11. Irritable  |
| _____ 2. Distressed   | _____ 12. Alert      |
| _____ 3. Excited      | _____ 13. Ashamed    |
| _____ 4. Upset        | _____ 14. Inspired   |
| _____ 5. Strong       | _____ 15. Nervous    |
| _____ 6. Guilty       | _____ 16. Determined |
| _____ 7. Scared       | _____ 17. Attentive  |
| _____ 8. Hostile      | _____ 18. Jittery    |
| _____ 9. Enthusiastic | _____ 19. Active     |
| _____ 10. Proud       | _____ 20. Afraid     |



## The Heatherton & Polivy State Self-Esteem Scale

This is a questionnaire designed to measure what you are thinking at this moment. There is of course, no right answer for any statement. The best answer is what you feel is true of yourself at the moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you **RIGHT NOW**.

**1. I feel confident about my abilities.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**2. I am worried about whether I am regarded as a success or failure.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**3. I feel satisfied with the way my body looks right now.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**4. I feel frustrated or rattled about my performance.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**5. I feel that I am having trouble understanding things that I read.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**6. I feel that others respect and admire me.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**7. I am dissatisfied with my weight.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**8. I feel self-conscious.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**9. I feel as smart as others.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**10. I feel displeased with myself.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**11. I feel good about myself.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**12. I am pleased with my appearance right now.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**13. I am worried about what other people think of me.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**14. I feel confident that I understand things.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**15. I feel inferior to others at this moment.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**16. I feel unattractive.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**17. I feel concerned about the impression I am making.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**18. I feel that I have less scholastic ability right now than others.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**19. I feel like I'm not doing well.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

**20. I am worried about looking foolish.**

1	2	3	4	5
Not At All	A Little Bit	Somewhat	Very Much	Extremely

## Debriefing Sheet

Many of the images you viewed on the “pro-anorexia” website were disturbing in nature because they do not depict average sized bodies. Included is a list of websites that are aimed at helping those with eating disorders or those who may harbor concerns regarding eating disorders. If you have any concerns about yourself, or anyone else, please utilize these references.

NEDSP: The National Eating Disorders Screening Program  
One Washington St. Suite 304  
Wellesley Hills, MA 02181  
Ph (781) 239-0071  
[www.nmisp.org/eat.htm](http://www.nmisp.org/eat.htm)

National Association of Anorexia Nervosa and Associated Eating Disorders Hotline  
(provide counseling and referrals)  
Ph: 1-847-831-3438  
Email: [anadhelp@anad.org](mailto:anadhelp@anad.org)  
[www.anad.org](http://www.anad.org)

MEDA: a non-profit organization dedicated to the prevention and treatment of eating disorders and disordered eating  
92 Pearl St.  
Newton, MA 02458  
Ph (617) 558-1881  
Email: [info@medainc.org](mailto:info@medainc.org)  
[www.medainc.org](http://www.medainc.org)

Brandeis University Psychological Counseling Center  
Mailman House  
415 South Main St.  
Waltham, MA 02453  
(781) 736-3730  
E-mail: [pcc@brandeis.edu](mailto:pcc@brandeis.edu)

**Table 1.** Content Analysis of Selected Pro-Ana Websites, Part I

Website	Constructs			
	Disclaimer	Tips and Tricks Categories	Photo Gallery	Written Inspiration
Ana Girls	✓	<i>dist./self-control</i>	✓	<i>quotes, poems, songs</i>
Ana's Angels	✓	<i>weight control, deception</i>	✓	<i>quotes, letter to/from ana</i>
Aramondas	✓	<i>weight control, deception, dist./self-control</i>	✓	<i>quotes, letter to/from ana,</i>
Bluedragon fly	X	<i>weight control, deception, dist./self-control</i>	✓	<i>quotes, poems, songs</i>
Disappearing Act	X	<i>weight control, deception, dist./self-control, safety</i>	✓	<i>quotes, songs, letter from ana,</i>
Fading Obsession	<i>acceptance required</i>	<i>weight control, deception, dist./self-control, safety</i>	✓	<i>quotes, poems, songs, letter to/from ana</i>
Forbidden Bones	X	<i>weight control, dist./self-control</i>	✓	<i>quotes</i>
House of Thin	X	X	X	X
Pro Ana Nation	X	<i>safety</i>	X	<i>quotes, poems</i>
What a Girl Eats	X	<i>weight control, deception, dist./self-control</i>	✓	<i>quotes, songs</i>

**Table 2.** Content Analysis of Selected Pro-Ana Websites, Part II

Website	Constructs				
	Dangerous Methods	Bio Info	ED Info	Online Community	Religion
Ana Girls	X	X	X	<i>forum</i>	X
Ana's Angel	<i>diet pills</i>	✓	X	X	<i>creed</i>
Aramondas	<i>purging, fasting</i>	✓	✓	<i>forum</i>	<i>creed, beliefs, psalm, commandments</i>
Bluedragonfly	<i>purging</i>	✓	✓	<i>forum, chatroom, blog</i>	X
Disappearing Act	<i>purging, diet pills</i>	X	X	X	X
Fading Obsession	<i>purging, fasting</i>	✓	✓	<i>forum</i>	<i>creed, psalm, commandments</i>
Forbidden Bones	<i>purging</i>	✓	✓	X	X
House of Thin	X	✓	✓	<i>forum</i>	X
Pro-Ana Nation	X	✓	✓	<i>forum, blog</i>	X
What A Girl Eats	<i>fasting</i>	✓	X	<i>forum, blog</i>	<i>commandments</i>

**Table 3.** Content Analysis of Selected Pro-Ana Websites, Part III

Website	Constructs			
	Calculators	Food	Hit Counter	Other
Ana Girls	X	<i>diets</i>	X	<i>real-girl pics, videos, polls</i>
Ana's Angel	X	X	X	<i>'you know you're ana when..', real-girl pics</i>
Aramondas	X	<i>safe foods</i>	3,702	<i>reverse thinspo, mia religion, guestbook</i>
Bluedragonfly	<i>BMI, BMR</i>	<i>recipes, safe foods</i>	60,926	<i>bracelet sales, books, treatment, articles</i>
Disappearing Act	<i>BMI</i>	<i>recipes</i>	43,237	<i>reverse thinspo</i>
Fading Obsession	<i>BMI, BMR</i>	<i>diets, recipes,</i>	X	<i>books, model stats chart, celebrity stats, dangers, guestbook</i>
Forbidden Bones	X	<i>safe foods</i>	119,670	<i>videos, dangers, guest book</i>
House of Thin	<i>BMI, BMR</i>	X	X	<i>videos, articles, dangers</i>
Pro-Ana Nation	<i>BMI</i>	X	X	<i>books, movies, treatment, dangers,</i>
What A Girl Eats	X	<i>diets, recipes, safe foods</i>	74,691	<i>reverse thinspo, videos, guest book, polls</i>

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