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Anorexia Nervosa: Benefits of Recovery-Oriented Websites

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Anorexia Nervosa: Benefits of Recovery-Oriented Websites

by

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DISSERTATION

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Department of Clinical Psychology

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ANOREXIA NERVOSA: BENEFITS OF RECOVERY-ORIENTED WEBSITES

presented on November 18, 2013

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Abstract

Anorexia Nervosa (AN) is a mental illness with serious physical, psychological, interpersonal, social, and economic consequences. AN is difficult to treat, with affected individuals experiencing symptoms after treatment completion. Recovery-oriented AN discussion boards are online forums on which individuals with AN can communicate with the goal of promoting their recovery. Using inclusion criteria, the author selected Mirasol, Something Fishy, Anorexia Nervosa and Associated Disorders (ANAD), and PsychForums. The research questions asked were: (a) What are the themes of recovery-oriented AN Internet discussion boards? (b) What types of support can be found on the boards? (c) How frequently are potentially ‘triggering’ materials posted on websites? and (d) What are the responses of site moderators to potentially triggering materials posted on the websites? Through the qualitative method of thematic analysis, themes and subthemes emerged from the exchanges among website users. The 10 themes were: *Symptom Severity and Eating Disorder Thoughts; Advice and Suggestions; Forum Support; Unpleasant Emotions; Recovery, Improvement, and Motivation; Treatment; Requests; Interpersonal Issues; Insights; and Benefits of the Website and Gratitude*. Other themes of support included *Challenges/Confrontations* and *Information*. Something Fishy and ANAD contained high levels of support and relatively few potentially triggering statements. Mirasol and PsychForums indicated high frequencies of potentially triggering posts. The presence of forum moderators did not substantially influence the frequency with which triggering material was posted. The interpretation of the themes and subthemes indicated that clients in treatment for AN may benefit from participating in select websites by becoming more motivated in treatment and maintaining treatment gains between sessions. Careful selection of websites, with the guidance of therapists, could help AN individuals reduce their reliance on defense mechanisms, provide a

facilitative environment of peers, generate some of the therapeutic factors of group therapy, and challenge the distorted thinking of availability heuristics. Limitations included absence of diagnostic homogeneity among participants; a small time-limited sample of comments; and lack of representation of individuals who do not have Internet access, such as, those who are rural, poor, uneducated, and some racial and ethnic minorities. Future research could address client utilization of recovery-oriented websites as an adjunct to effective psychotherapy treatment.

Keywords: Anorexia Nervosa, internet communities, internet support, recovery, support, thematic analysis, triggering content

Anorexia Nervosa: Benefits of Recovery-Oriented Websites

Chapter 1

Anorexia Nervosa (AN) is an illness that can be difficult to treat. It has been established that individuals recovering from AN often struggle with eating disordered behaviors even after weight restoration. Although outcome studies vary in their findings, Herpertz-Dahlmann, Wetzer, Schultz, and Remschmidt (1996) indicated that, at seven-year follow-up, 23.5% of participants with adolescent-onset AN were still engaging in restrictive eating patterns. Casper and Jabine (1996) found that 35.6% of combined adolescent- and adult-onset anorexic participants qualified for only an intermediate or poor outcome, as measured by weight and regularity of menstrual cycle. Similarly, Sunday, Reeman, Eckert, and Halmi (1996) found that 51% of participants with adolescent-onset AN had an intermediate or poor outcome. However, many people recovering from the disorder have a desire to recover, even though that desire often fluctuates (Nordbo et al., 2008). It is clear that treatment for AN may not be as effective as treatment for other mental health disorders.

The present author sought to aid clinicians in better understanding websites designed to promote recovery from AN. She studied communications among individuals who self-reported AN on select websites and conducted a thematic analyses to determine patterns in such communications. The four websites selected are designed for individuals with eating disorder (ED) symptomology, with sections specifically designated for AN. Twenty threads were chosen from each site.

Statement of the Problem

It has been established that AN can have numerous adverse effects. For instance, physical health problems include anemia, hypothermia, hypoglycemia, and osteoporosis (Gaudiani, Sabel,

Mascolo, & Mehler, 2012). Psychological problems include poor self-esteem, perfectionism, obsessiveness, anhedonia (Davis & Scott-Robertson, 2000), and symptoms of anxiety and depression (Karatzias, 2010). Recovery from AN can be difficult and time consuming, with residual symptoms occurring frequently. Even individuals deemed to be recovered experience fixations about food and weight (Windaeur, Lennerts, Talbot, Touyz, & Beumont, 1993). Owing to the high incidence of relapse, the author suggests that psychotherapeutic interventions may need non-therapy forms of support for AN individuals. The core symptoms of AN may be unresponsive to medications (Garfinkel & Walsh, 1997). It is, therefore, essential that adjuncts to current treatments are researched for the information of clinicians.

Significance of the Study and Potential Stakeholders

Individuals. Individuals recovering from AN struggle with eating disordered behaviors even after weight restoration (e.g., Herpertz-Dahlmann et al., 1996). However, many AN patients want to recover, although that desire often fluctuates (Nordbo et al., 2008). The present author thought that Internet support could possibly help to alleviate AN symptomology. Therefore, the current study's implications, she proposed, could arouse awareness about the quality of life of many with AN. Further, if online support decreases length of the course of illness, which often lasts for many years (Milos, Spindler, Schnyder, & Fairburn, 2005), the suffering experienced by individuals with the disorder could be reduced. AN is a serious health condition that can be fatal (Steinhausen & Glandville, 1983). Considering the mortality rate (0-21%, depending on the specific study; Steinhausen & Glandville, 1983), the high rate of relapse, and the prevalence of ED symptomology even after weight restoration (Herpertz-Dahlmann et al., 1996), it is essential that individuals with AN have access to as many recovery-oriented resources as possible.

Recovery-oriented websites for AN could also be beneficial financially, though this potential benefit was not studied by the present author. Should online support groups be beneficial in reducing symptoms of AN, individuals with EDs and their families could save money. Due to the need for comprehensive treatment for AN, financial costs can be high. Inpatient hospitalization costs approximately \$1,200 to \$1,400 per day (HealthyPlace, 2011), and partial hospitalization programs and outpatient care are recommended as “stepped down” treatment after hospitalization (Anderson, Bowers, & Evans, 1997, p. 327). Even outpatient treatment can cost \$100,000 or more when considering nutritional guidance and medical observation, in addition to psychotherapy (HealthyPlace, 2011). Costs associated with treatment are problematic because, on average, insurance companies cover only 62% of the costs, and some insurance companies do not cover treatment for AN at all (Kalisvaart & Hergenroeder, 2007). When families do not have insurance, or when co-pays are high, paying for treatment can be devastating. If online recovery support is a helpful adjunct, it would be advantageous to recognize this benefit, especially since some support groups are free of charge. If therapists and physicians were aware of this benefit, should it exist, they could help their clients save time, money, and effort. The results of the study might, therefore, lead to several benefits for individuals with AN and their families.

Underserved populations and social justice advocates. When the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 was enacted by the United States Senate, group health plans were required to cover the cost of treatment for mental health conditions to the same extent to which they cover the cost of treatment for conditions that are physical. However, businesses that employ less than 50 people were, and remain, exempt from the Act (United States Senate, 2008). Furthermore, individual states are responsible for

defining “mental health,” and, as of 2008, only 25 states included coverage for EDs in their mental health parity legislation (Gregorio, 2009, p. 1). For individuals without insurance, or those that have insurance that does not require coverage for ED treatment, financial constraints will prevent individuals with AN from receiving treatment.

Lack of healthcare opportunities is an issue of social justice, one that impacts the lives of many individuals who have low means. If recovery-oriented websites for AN contain communications and peer sharing that promote recovery, then therapists and primary care physicians could recommend their use to individuals with AN. Those individuals who have access to the Internet could then obtain support, both recovery recommendations and social support. The sites could offer the same support for individuals in rural areas who do not have access to appropriate treatment providers. However, individuals without access to the Internet, such as the poor, racial and ethnic minority individuals, and those who do not know how to use the Internet, would not have the ability to seek Internet support. It would therefore be important for treatment providers who serve the less privileged to encourage the use of Internet facilities in local libraries. Providers may reserve a computer for their patients in their own offices.

Psychotherapists. If Internet recovery-oriented websites for AN are demonstrated to contain communications conducive to recovery and low frequency of detrimental communications, then therapists might encourage the use of online support by their clients. If these websites are indeed beneficial, these would not only be useful for clients but for clinicians' treatment plans as well. Treatment professionals who work with individuals with AN can experience burnout (Ramjan, 2004), a reaction that has been reported at “high rates” in the treatment literature (Snell, Crowe, & Jordan, 2010, p. 352). If recovery-oriented websites improve AN clients' desire to change, therapist burnout could be reduced.

However, research has also suggested that websites promoting recovery from AN can have detrimental effects. Specifically, Wilson, Peebles, Hardy, and Litt (2006) found that 46.6% of adolescents learned “new methods of weight loss or purging” from the sites; 39.9% learned about “new diet aids,” such as laxatives; and 17.9% learned ways to obtain these diet aids (p. 1639). In order to determine whether recovery-oriented websites are likely to be beneficial and/or are likely to cause harm, the present author conducted a thorough, open-ended thematic analysis of select AN recovery-oriented websites.

Healthcare systems. Although the need for healthcare is high, healthcare resources are limited, and the ratio of physicians and psychiatrists to individuals in the general population is small (1:3,500 and 1:30,000, respectively; Human Resources and Services Administration, n.d.). As a result, many people in need of treatment for health conditions are placed on waiting lists (Williams, Latta, & Conversano, 2008). For individuals with EDs, being on a waiting lists may lead to decreased motivation to receive treatment and lower likelihood of treatment engagement once services become available. Missed appointments and administrative time allocated to contacting absent patients lead to increased time spent on waiting lists, thus contributing to the perpetuation of the cycle (Tatham, Stringer, Perera, & Waller, 2012). For healthcare systems in which demand already exceeds the capacity for treatment provision, the allocation of healthcare resources for missed appointments is problematic. If AN recovery-oriented websites contain communications that indeed promote recovery, participants’ motivation for recovery could be enhanced while on a waitlist, thus improving treatment attendance and compliance.

Because chronicity is associated with lower likelihood of recovery (Von Holle et al., 2008), and because AN can lead to medical problems (e.g., Gaudiani et al., 2012), early intervention could reduce the use of healthcare resources. One such recommended intervention

could be the use of AN recovery-oriented websites, should they contain communications that support recovery. Therefore, it is possible that participation in AN recovery-oriented websites could reduce the stresses of an already burdened healthcare system.

Researchers. Because treatment for AN often does not lead to full remission, it is important to establish adjuncts to treatment. However, the content of website message forums has not been the subject of significant research. Therefore, recommending patients to participate in recovery-oriented websites could have negative effects. In addition, before controlled trials can be conducted, it is important that the content of recovery-oriented websites be analyzed.

Research on recovery-oriented websites for AN could be beneficial for researchers studying aspects of EDs other than medical or psychological. More specifically, topics discussed on recovery-oriented websites for AN could facilitate a greater sociocultural understanding of the disorder.

Website Social Support

AN is believed to be an illness caused by biopsychosocial factors (Polivy & Herman, 2002). Unfortunately, AN is often stigmatized (Stewart, Keel, & Schiavo, 2006) and is associated with shame in those who have the disorder (Troop, Allan, Serpell, & Treasure, 2008). Despite the stigma or because of the stigma, social support is essential for individuals with AN, as it has been cited as a factor that promotes recovery (Tozzi, Sullivan, Fear, McKenzie, & Bulik, 2003). Yet, research indicates that individuals with AN tend to have fewer sources of perceived social support than individuals without the disorder (Tiller et al., 1997). Social alienation can have negative effects. For example, Haas, Irr, Jennings, and Wagner (2011) identified social support in pro-AN websites as a means to maintaining typical anorexic behaviors. However, websites devoted to recovery from AN can be a positive source of support as well. McCormack and

Coulson (2009) conducted one of the only published studies of recovery-oriented websites. They found that provision of support in the form of information-dissemination was the second most common theme on the website. Other themes were the provision of encouragement and sharing of personal experiences and opinions.

Research Questions

In order to better understand the content of AN recovery-oriented websites, several research questions were addressed:

- What are the themes on recovery-oriented AN Internet discussion boards?
- What types of support (e.g., practical solutions, empathic responses, challenges) can be found on the boards?
- How frequently are potentially ‘triggering’ materials (e.g., specific weights, calories eaten, food lists, weight-loss tips) posted on websites?
- What are the responses of site moderators to potentially triggering materials posted on websites?

Definition of Terms

Anorexia Nervosa (AN). AN is a serious, sometimes fatal, psychological disorder characterized by extreme weight loss and fears surrounding food and weight (American Psychiatric Association, 2000). Diagnostic criteria in the *Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000)* include a weight of less than 85% of what is expected, given an individual’s height and age; an “intense fear of gaining weight or becoming fat,” despite the individual’s low weight; a “disturbance in the way in which one’s body weight or shape is experienced, undue influence of the body weight or shape on self-evaluation, or denial of the seriousness of the current low weight;” and

amenorrhea (p. 589). There are two subtypes of AN: (a) Restricting Type, where the individual has not regularly engaged in binge-eating or purging behaviors, and (b) Binge-Eating/Purging Type, where the individual has regularly engaged in binge-eating or purging behaviors. In its development of the *DSM-5*, the American Psychiatric Association (2010) proposed that restriction of calories be included as a criterion and that amenorrhea be removed as a criterion. Additionally, the diagnosis of behaviors that indicate the particular subtype was proposed to focus exclusively on the most recent three months of illness.

Recovery-oriented websites. Recovery-oriented websites refer to Internet pages promoting recovery from eating disorders, as stated in the description or rules of the website. Websites will be included only when there is a section specifically for AN. Only post-and-reply sections of the sites will be included in the current research; chat room features, if they are present, will not be considered.

Body mass index. Body mass index (BMI) is a measure of weight in proportion to height. BMI is calculated by dividing an individual's weight in kilograms by their height in meters squared. BMIs of below 18.5 are considered to be underweight, 18.5-24.9 normal weight, 25.0-29.9 overweight, and 30.0 and above obese (Centers for Disease Control and Prevention, 2011).

Summary

AN is a serious mental illness that has adverse effects, both psychological and physical, on sufferers. Unfortunately, treatment has not been sufficiently effective with AN individuals who continue to experience symptoms after treatment has been completed. Social support has been cited as one reason that AN individuals may participate in websites designed to promote continuation of eating disordered behaviors. Thus it is argued that recovery-oriented AN websites

can provide social support as well for the challenges of the recovery process. Nonetheless, the content of recovery-oriented websites may actually be harmful. The present study analyzed themes that arose in participant communications on four select AN recovery-oriented websites. The following chapter, Chapter 2, provides a review of the literature on AN and recovery from AN.

Chapter 2: A Review of the Literature

AN is a serious mental illness that can have significant physical, psychological, and economic effects. Despite the variety of treatment options that have been developed, AN continues to be a problem after treatment has been completed. Here, an overview of AN is provided, including a history of the disorder, potential causal factors, current treatment options, consequences of the disorder, and research surrounding the effects of social support and websites designed for individuals with AN.

Social Support and the Internet: Non-Clinical Treatment

Social support has been found to be beneficial for mental health (e.g., Muris, Mayer, Reinders, & Wesenhagen, 2011). Social support is positively correlated with resiliency or recovery from a variety of mental disorders, including Major Depressive Disorder (e.g., Pfeiffer, Heisler, Piette, Rogers, & Valenstein, 2011), the depressive phase of Bipolar Disorder Type I (Weinstock & Miller, 2010), and AN (Estanol, 2010), among others. Research on Internet support groups for mental health issues has begun to indicate promising findings as well. For example, online support groups may be helpful in recovery from Major Depressive Disorder (e.g., Melling & Houguet-Pincham, 2011) and anxiety disorders (e.g., Glasser Das, 1999).

Use of Eating Disorder-Related Websites

As of 2000 in the United States, 69% of adults under the age of 60 have access to computers in their home, and 53% have home access to the Internet. Of this population, 31% use the Internet to obtain information on health-related issues. Although children and adolescents ages 10 to 17 are less likely to use the Internet for health-related information, 22% of girls and 13% of boys do use the Internet for this type of information. Of this demographic, 65% seek “information about diseases,” and 44% seek “information about diet, exercise, or how to look

your best” (Brodie et al., 2000, p. 261). Moreover, at one treatment center, 75% of AN patients had used the Internet to gain information on EDs (Wilson, Peebles, Hardy, & Litt, 2006).

In recent years, Internet support groups have begun for a variety of health conditions (Owen et al., 2010), and there are hundreds of websites devoted to discussions about AN (Chesley, Alberts, Klein, & Kreipe, 2003). Some of these websites, the so-called “*pro-anorexia* or *pro-ana*” websites, can have dangerous consequences (e.g., Bardone-Cone & Cass, 2007). These websites have been studied fairly extensively. Other websites, which are devoted to “*recovery*” from AN, have received far less attention. Here, literature on both types of sites are examined.

Pro-anorexia Websites

As of 2006, there were 257,000 websites that could be found using a Google search for the term “pro-anorexia” (Abbate Daga, Gramaglia, Piero, & Fassino, 2006, p. e69). Using links from such websites, Chesley, Alberts, Klein, and Kreipe (2003) identified approximately 500 websites devoted to promoting attitudes and behaviors typical of AN. These websites, known as “pro-anorexia” or “pro-ana” sites (Norris, Boydell, Pinhas, & Katzman, 2006, p. 443), provide readers with weight-loss techniques, including information on laxatives, diet pills, enemas, and fasts; methods of using extreme weight loss behaviors in “safe” ways (Norris et al., 2006, p. 446); advice on nutritional supplements and the most effective types of diet pills and where they can be purchased (Fox, Ward, & O’Rourke, 2005); calculations to determine BMI, basal metabolic rate (BMR), and calories burned based on type of activity; pictures of overweight (Bardone-Cone & Cass, 2006) and emaciated women designed to inspire readers to lose weight, known as “thinspiration” (Norris et al., 2006, p. 446); pictures and weight statistics of website users (Fox, Ward, & O’Rourke, 2005); weight loss competitions; advice on ways to “avoid

detection” of weight loss (Chesley et al., 2003, p. 124); and information on anorexia “accessories,” particularly the red “ana bracelet” (Norris et al., 2006, p. 445). The content of these websites include “religious metaphors,” most commonly the “Ana Psalm and Creed;” control; success; and perfection (Norris et al., 2006, p. 445). The majority of pro-anorexia websites also include the “‘Thin Commandments,’ a set of 10 rules to achieve the ‘anorexic lifestyle’ (e.g., ‘Thou shall not eat without feeling guilty’)” (Bardone-Cone & Cass, 2007, p. 538). Paradoxically, the majority of pro-anorexia websites also contain disclaimers about the potentially “triggering” nature of the sites (Bardone-Cone & Cass, 2007, p. 538). The degree of the devotion to anorexia encouraged by these sites is extensive. Norris and his colleagues (2006) describe one site that encourages readers to “make a pact with Ana and sign it in blood,” asserting that, “In a few cases, websites portrayed an almost cult-like feel” (Norris et al., 2006, p. 445).

Viewing pro-anorexia websites may have dangerous consequences. Bardone-Cone and Cass (2007) found that a single exposure to a prototypical pro-anorexia website was correlated with greater likelihood of exercising, more weight-related cognitions, lower socially-related self-esteem, greater degrees of negative affect, higher rates of thoughts about appearance, higher rates of self-comparison to images on the website, and perception of own weight as higher. These results were generated from a nonclinical sample and were significantly stronger in comparison to fashion and home décor control prototypic websites. The models used in the latter fashion sites were of healthy body weights (Bardone-Cone & Cass, 2007), and the effects of viewing pro-anorexia websites were not compared to the effects of viewing a standard fashion website, where the models are often at low weights (Santonastaso, Mondina, & Favaro, 2002). Additionally, the use of pro-eating disorder websites (e.g., pro-anorexia websites) is “positively

correlated with disordered eating behaviors and negatively correlated with disease-specific quality of life among adults” (Peebles et al., unpublished data, 2010; as cited in Borzekowski, Schenk, Wilson, & Peebles, 2010, p. 1526). Use of pro-eating disorder websites is also correlated with longer illness duration and greater rates of hospitalization (Wilson et al., 2006).

Despite the negative consequences, pro-anorexia websites are frequented by participants at high rates. Chesley and his colleagues (2003) found that, among approximately 100 randomly selected pro-anorexia websites, each was viewed an average of 34,998 times, whereas their 50 randomly selected pro-recovery websites received an average of 27,878 views. Studies on participants of pro-anorexia websites have demonstrated that these individuals find the sites to be helpful in several ways. Mulveen and Hepworth (2006) identified a social support theme in one pro-anorexia website. Participants at this site appeared to appreciate the opportunity to be genuine about their experiences, as opposed to the pressure they may feel to hide their eating disorders from other people. The freedom to openly discuss their eating disorders allowed participants to feel “safe” (p. 291). Pro-anorexia websites may be seen as particularly safe when compared to interactions that viewers may have experienced in their immediate environments. Additionally, pro-anorexia websites allow individuals with EDs to have constant access to social support through online posts and chat-room features (Mule & Sideli, 2009).

Online Recovery-Oriented Websites

As of 2003, there were approximately 100 websites promoting recovery from AN, a notable difference from the approximate 500 pro-anorexia sites (Chesley et al., 2003). Unlike the research on pro-anorexia websites, research on recovery-oriented websites for AN is scarce. Some research has shown favorable outcomes for Internet support for BN (Pretorius et al., 2009; Fernandez-Aranda et al., 2009), including the use of a guided self-help program (Nevonen,

Mark, Levin, Lindstrom, & Paulson-Karlsson, 2006). However, the use of recovery-oriented websites for AN has been largely unexamined.

In one of the few existent studies on recovery-oriented websites for AN, McCormack and Coulson (2009) provided a deductive thematic analysis on 325 messages on one recovery-oriented site, categorizing each message based on 10 pre-identified themes: “Information giving / information seeking,” “encouragement and esteem,” “personal experience,” “personal opinion,” “prayer,” “network,” “thanks,” “poetry and quotes,” “emotional expression,” and “miscellaneous” (para. 15). These themes were generated from previous research on online support for other conditions, with the exception of “poetry and quotes,” which was adapted from the previously identified theme “humor” (McCormack & Coulson, 2009, para. 14). McCormack and Coulson concluded:

From our results, it appeared to be case that the primary function of this group was the encouragement of others when battling anorexia and praising individuals for coping well, along with the provision of informational support notably in terms of diagnosis and treatment, and sharing personal experiences and suggestions. (discussion para. 1)

However, the authors acknowledged that a limitation of their study was that only one website was examined (McCormack & Coulson, 2009).

Despite the limited number of recovery-oriented websites, there are potential benefits to using these sites. Mulveen and Hepworth (2006) outlined several identified benefits of using the Internet to gain social support. One such benefit is that individuals have the opportunity to remain anonymous, which may motivate them to seek online support. The benefit of anonymity is particularly salient among people with “socially stigmatizing” illnesses (Davison, Pennebaker, & Dickerson, 2000, p. 213), a descriptor that applies to AN (Stewart et al., 2006).

The constant availability of social support that may be an allure of pro-anorexia websites (Mule & Sideli, 2009) is also a component of recovery-oriented websites, as websites remain accessible all the time. Because the Internet is used by people across multiple time zones, individuals in any time zone can seek and most likely find support at any time of the day. Therefore, a second benefit of gaining social support online is that it allows individuals to feel connected to others as opposed to feeling isolated (Joinson, 2003; as cited in Mulveen & Hepworth, 2006). Considering that individuals with AN tend to have fewer social supports than do individuals without EDs, and that social support is positively correlated with self-esteem in individuals with the disorder (Tiller et al., 1997), the accessibility of social support online could be of particular benefit to individuals with AN.

Online support groups allow individuals to generate “solutions” to problems that they are experiencing (Joinson, 2003; as cited in Mulveen & Hepworth, 2006, p. 284). People who are affected by illnesses can share strategies with one another to cope with their conditions (Davison, Pennebaker, & Dickerson, 2000). It is possible that this tendency occurs on recover-oriented websites for AN as well. For example, individuals experiencing difficulties in relation to following a meal plan designed by a dietician for weight gain could be discussed on a recovery-oriented site in order to learn strategies to cope with fears about gaining weight.

Discussions in recovery-oriented websites create group norms of fighting against EDs and focusing on inner values. Thus, in order to belong to the “in-group,” one must ascribe to recovery-oriented group norms (Riley, Rodham, & Gavin, 2009, p. 357). When website participants are anonymous, group polarization (i.e., the tendency to conform to a “pre-established group norm”) can occur (Spears, Russell, & Lee, 1990, p. 130). For individuals with EDs who participate on pro-eating disorder (e.g., pro-anorexia) websites, this tendency to

conform could normalize dangerous behaviors (Mulveen & Hepworth, 2006). However, it is possible that the same dynamic can occur on recovery-oriented sites, leading to increased beliefs of the benefits of recovery.

Cautions. Although some recovery-oriented websites ban discussions of specific weights, body measurements, clothing sizes, calorie counts, and BMIs, one study found that some participants post physical and medical complications of their eating disorders in a way that alludes to body size (Riley, Rodham, & Gavin, 2009). Riley and her colleagues (2009) cite one participant's post that suggests having a small body and being malnourished:

Physically wise my mom is pushing for me to gain back my muscle mass (apparently I have lost quite a bit) and some lbs... My blood pressure seems to be much more stable, I am not orthostatic now, meaning when I stand up I don't feel like passing out. (p. 353)

Furthermore, there were specific discussions of eating disordered behaviors, such as purging, on the recovery-oriented website (Riley et al., 2009). These discussions of indicators of illness, such as fainting, can construct a negative "group identity" (Riley et al., p. 355). Additionally, just as pro-eating disorder (e.g., pro-anorexia) websites are correlated with increased hospitalizations among users, pro-recovery sites are so as well (Wilson et al., 2006), perhaps due to increased focus on illness, exposure to triggering content, or suggestions from others on seeking treatment.

History of Anorexia Nervosa

AN as an eating disorder was first described in 1689 by Richard Morton, who referred to two patients who presented with "nervous consumption" (Silverman, 1997, p. 3). In 1873, "hysterical anorexia" was described by Charles Lasègue (1873; as cited in Silverman, 1997, p. 4). The disorder received its current name of Anorexia Nervosa in 1874, when William Gull (1874) published case studies of individuals affected by the disorder (as cited in Silverman,

1997). AN first appeared in the *Diagnostic and Statistical Manual First Edition (DSM; American Psychiatric Association, 1952)* as a form “psychophysiologic gastrointestinal reaction” (p. 30). To date, AN continues to be included in the latest edition of the *DSM*, the *Diagnostic and Statistical Manual, Fifth Edition (DSM-5)*, though amenorrhea is no longer a criterion (American Psychiatric Association, 2013). Thus, for decades, AN has been officially recognized as a psychological disorder by the psychological community, with the disorder recognized anecdotally for centuries.

Incidence and Prevalence Rates

Prevalence estimates of AN vary (Hoek, 2006). Person-years are defined as the number of participants in a sample multiplied by the number of years of participant observation (Arcelus, Mitchell, Wales, & Nielsen, 2011). Age- and sex adjusted incidence rates have been reported as 8.3 per 100,000 person-years in the United States (Lucas, Crowson, O’Fallen, & Melton, 1999) and 4.7 per 100,000 people in primary care sample in the United Kingdom (Currin, Schmidt, Treasure, & Jick, 2005). Similarly, the one-year incidence of first AN diagnosis in Dutch primary care settings was 8.1 per 100,000 person-years (Hoek et al., 1995). Hoek (2006) outlines that the highest incidence rates for AN are among adolescent females aged 15 through 19 (Hoek & van Hoeken, 2003). By the age of 20, the lifetime prevalence of AN, as defined by the *DSM-IV*, for females is 0.6% (Stice, Marti, Shaw, & Jaconis, 2009).

The ratio of females to males with AN in the United States is 10:1 (Lucas et al., 1999) and 12:1 in the United Kingdom (Currin et al., 2005). Hoek and his colleagues (1995) found a lack of statistically significant difference in incidence rates of AN across geographic areas with varying levels of urbanization. Research on prevalence differences across racial and ethnic groups have yielded contradicting results. Striegel-Moore and her colleagues (2003) found that

AN has a higher lifetime prevalence among White women than among Black women, while Marques and her colleagues (2011) found that differences in prevalence across ethnic groups do not reach the level of statistical significance.

Chronicity of Illness

It has been established that individuals recovering from AN often struggle with eating disordered behaviors and thoughts even after weight restoration (e.g. Windauer et al., 1993). As outlined by Pike (1989), even among those anorexics who have established a healthy body weight, 25-75% continue to eat in a restrictive manner, and 30-50% of anorexics discharged from inpatient treatment relapse within one year. One study (Herpertz-Dahlmann et al., 1996), for example, found that, at three- and seven-year follow-up, 25% of adolescents who formerly met criteria for AN continued to eat in a restrictive manner and/or over-exercised.

Consequences of Illness

Behaviors typical of AN have the potential to cause numerous, severe consequences, including death. Mortality rate estimates for individuals with AN vary widely (Steinhausen & Glandville, 1983). An early meta-analysis (Steinhausen & Glandville, 1983) examined 36 studies, of which 35 reported mortality rates. In these studies, mortality rates for participants ranged from 0% to 21%. More recently, Crow and his colleagues (2009) found the mortality rate for AN to be 4.0%. Similarly, in a recent meta-analysis, 12,808 individuals with AN were studied, of whom 639 died by the last follow-up (Arcelus et al., 2011), a rate of almost 5%. Deaths from AN are most commonly due to suicide (Birmingham, Su, Hlynsky, Goldner, & Gao, 2005). Other, less serious consequences of AN include anemia, hypoglycemia, osteoporosis (Gaudiani et al., 2012), and symptoms of anxiety and depression (Karatzias, 2010). All of these symptoms and conditions may require treatment.

Causal and Vulnerability Factors

Among eating disorder researchers, the biopsychosocial model of contributing factors is generally recognized, though the specific biological, psychological, and social components vary among theorists (Polivy & Herman, 2002). Because the possible causes of AN are numerous and have not been determined with certainty, several potential contributing factors are considered here.

Biological vulnerabilities and abnormalities. AN is a severe mental illness with biological bases; 50-83% of the variance in the development of EDs is explained by genetic factors (Klump, Bulik, Kaye, Treasure, & Tyson, 2009), with AN likely to have greater “genetic homogeneity” (Grice et al., 2002, p. 789), or similarity in genes, than other types of EDs. Potential biological vulnerability factors include abnormalities on chromosome 1 (Halimi, 2002), specifically on the HTR1D and OPR1D sequences (Bergen et al., 2003), and the biological changes associated with puberty, when genetic factors become activated by biological changes and increasingly influence eating disordered behaviors and attitudes (Klump, McGue, & Iacono, 2000).

A significant portion of neurobiological studies on AN have focused on individuals who have already developed the disorder, making it difficult to determine which factors are causal and which are effects of the disorder (Kaye, 2008). However, as is outlined by Kaye (2008), studies have shown abnormalities of the neuropeptides CRH, NPY, beta-endorphin, and leptin (Kaye, Strober, & Jimerson, 2004; as cited in Kaye, 2008) and the monoamine CSF 5-hydroxyindoleacetic acid (5-HIAA; Kaye, Ebert, Raleigh, & Lake, 1984; as cited in Kaye, 2008), also known as neurotransmitter serotonin (Carlson, 2010). Furthermore, abnormalities in the

neurotransmitter dopamine and the neuropeptide opioid have been identified (Kaye et al., 1984; as cited in Kaye, 2008).

Mood, appetite, sleep are affected by serotonin (Schloss & Williams, 1998), which is made from tryptophan. Because tryptophan is obtained primarily through the consumption of food, dietary restriction of foods rich in the substrate can lead to lower levels of serotonin in the brain (Iversen, Iversen, Bloom, & Roth, 2009). Limited food consumption, then, can add to any abnormalities in serotonin that already exist in individuals with AN. Dopamine, too, affects mood, as well as cognition and motor activity (Iversen et al., 2009). Opioid peptides influence the functioning of neurotransmitters (Froehlich, 1997). Although abnormalities in dopamine and opioid may be effects of restricted food intake rather than causal, Kaye (2008) hypothesized that abnormalities in serotonin predate the development of AN.

Physical characteristics. AN most typically begins in early to middle adolescence (American Psychiatric Association, 2000). Puberty has been cited as a more specific common period of onset. Lindberg, Grabe, and Hyde (2007), for example, stated that developing physical characteristics of puberty are associated with feelings of “body shame” (p. 732) in girls, though the same is not true for boys. The authors determined that pubertal development is correlated with an increase in body mass index (BMI), which, in turn, is correlated with body shame (Lindberg et al., 2007). Conversely, childhood obesity is not a statistically significant risk factor for AN (Fairburn, Cooper, Doll, & Welch, 1999).

Societal factors. Due to its emphasis on thinness as an ideal, the media have been frequently indicated as a contributing factor for EDs (Polivy & Herman, 2002). Owen and Laurel-Seller (2000) found that fashion models are getting thinner over time and that, as of 2000, the majority of these models on the Internet were underweight. When divided into weight

categories, 46.7% of Internet models were underweight, with BMIs of 18 to 19.99, and 34.2% were severely underweight, with BMIs of under 18. Of these models, 20.1% met the weight criterion for a diagnosis of AN. Only 18.8% of Internet models were classified as normal weight, and 0.3% were overweight.

Exposure to fashion images of underweight women can have consequences. For example, Tiggemann and Pickering (1996) found that viewing soap operas/“serials” and movies was positively correlated with “body dissatisfaction” in female high school seniors (p. 201). Additionally, watching music videos was found to be correlated with drive for thinness, as measured by the Drive for Thinness subscale of the Eating Disorder Inventory (EDI; Garner, Olmsted, & Polivy, 1983). The authors suggested that serials and movies are more likely than other programs to depict women in “stereotyped” roles, and that music videos may be “deliberately presenting” images to serve as female ideals for which to strive, both potentially leading to increased body dissatisfaction and/or drive for thinness (Tiggemann & Pickering, 1996, p. 202). Conversely, in the same study, Tiggemann and Pickering showed that watching sports-programming, without women portrayed in stereotypic roles, was negatively correlated with body dissatisfaction. When television viewing was examined as a whole, as opposed to by program type, there was no correlation with body dissatisfaction or drive for thinness. Based on these results, Tiggemann and Pickering concluded that while their results support the “sociocultural model” of the development of eating disorders, in that media exposure is a correlated with eating disorder symptomology, the correlation does not necessarily indicate causation; for example, adolescent females who have higher degrees of body dissatisfaction and drives for thinness may choose to watch more soap operas, movies, and music videos. The authors suggested that the relationship is likely to be bi-directional. That is, people with high

degrees of body dissatisfaction may choose to view certain types of videos, which, in turn, may decrease body satisfaction and increase drive for thinness (Tiggemann & Pickering, 1996).

Social networking websites are a relatively recent form of media that are gaining popularity. Two of the most frequently used sites are Facebook and MySpace (Kendall, 2008). As of March 2012, there were 901,000,000 active users of Facebook (Facebook, 2012). In a study by Thompson and Lougheed (2012), 94% of undergraduate students surveyed had Facebook accounts, on which they spent an average of 217.2 minutes per day. Among all Facebook users, 300,000,000 photographs per day, on average, are posted by website users (Facebook, 2012). According to Siibak (2009), photographs that Facebook users post of themselves appear to be selected carefully in order to depict themselves in specific manners. For example, 56.1% of adolescent girls sampled identified, “I look good in the photo” as the most important component of selecting pictures to post on social networking websites (Siibak, 2009, para. 16). MySpace, too, contains pictures of website users. Approximately 20% of profile pictures on the site have been categorized as having “body display” content, in which people wore “revealing clothing,” lingerie, underwear, bras, no clothing, and swimwear (Hall, West, & McIntyre, 2012, p. 7). “Slim” bodies were more likely to be displayed than bodies that were considered to be “extra” (Hall et al., 2012, p. 8). While research on the impact of social networking websites on EDs and body image is scarce, women have been found to use the sites to compare themselves to other website users (Haferkamp, Eimlet, Papadakis, & Kruck, 2012), and many users of Facebook make comparisons about weight (The Center for Eating Disorders at Sheppard Pratt, 2012). It is therefore possible that social networking websites are a contributing factor in the development of poor body image and EDs.

In a meta-analysis of over 90 studies, Grabe, Ward, and Hyde (2008) found a small to medium effect size for the relationship between exposure to the media and women's "body dissatisfaction," a small to moderate effect size between media exposure and internalization of the "thin ideal" (p. 469), and a small to moderate effect size between "media use" and ED symptomology (p. 470). Fifty-seven percent of the studies in this meta-analysis used experimental design and 43% were correlational (Grabe et al., 2008). However, there was a caveat: there was a publication bias, in that published data tended to have larger effect sizes than did unpublished data in the meta-analysis (Ferguson, Winegard, & Winegard, 2011).

Not all researchers agree about the extent to which the media impacts the development of EDs. Jones, Vigfusdottie, and Lee (2004), for example, found that adolescents' exposure to magazines had a "weaker" effect in comparison to other cultural factors, such as peer influences (p. 336). However, the authors did find a statistically significant positive correlation between "appearance magazine exposure" and body dissatisfaction (Jones et al., 2004, p. 331). Polivy and Herman (2002) also stated, "Exposure to the media is so widespread that if such exposure were *the* cause of [eating disorders], then it would be difficult to explain why anyone would *not* be eating-disordered" (p. 192). Moreover, research has shown that individuals with EDs report that the media has a higher degree of influence than do both women and men without EDs, with the female controls reporting a greater impact than male controls (Murray, Touyz, & Beumont, 1996).

Cases of AN have also been noted in individuals with congenital blindness, a population that is less affected than the general population by visual images in the media. Because the radio has been cited in less than 5% of adults as having an impact on "weight- and body shape-related attitudes and behavior" (Murray et al., 1996, p. 40), it is likely that the media as a whole does not

substantially impact weight-related attitudes and behaviors of individuals with congenital blindness. Although the research on blind individuals with AN is scarce, several case studies have been written. In one such case, the course of the disorder was similar to that in women who are sighted (Bemporad, Hoffman, Herzog, 1989). Therefore, it can be concluded that AN can occur even with little to no exposure to media ideals.

Impact of peers. Research has demonstrated that peer variables affect EDs and body satisfaction. For example, Jones and colleagues (2004) found that, among adolescent girls, “appearance conversations with friends” (p. 333) was the variable of their study that was most strongly related to internalization of the ideals portrayed in the media, and internalization of these ideals was the variable most strongly associated with body dissatisfaction. Appearance-related criticism from peers was also related to body dissatisfaction, though indirectly. Among adolescent boys, “appearance conversations with friends” and “peer appearance criticism” were positively correlated with internalization of media ideals, with the latter having a stronger correlation (p. 333-334). The effects of discussions with peers about appearance, however, were stronger among the adolescent girls. Additionally, as was the case with the adolescent girls, internalization of media ideals was positively associated with body dissatisfaction in adolescent boys (Jones et al., 2004). Paxton, Schutz, Wertheim, and Muir (1999) determined that the use of “extreme weight-loss behaviors” by girls’ peer group also increased individual girls’ own use of these behaviors (p. 263).

Peer teasing has also been found to be associated with body dissatisfaction. The results of one meta-analysis of 41 studies indicated that weight-related teasing has a medium to large effect size on body dissatisfaction, with this effect being more pronounced in children and adolescents and in females. In the same meta-analysis, based on 17 studies, a moderate effect size was found

for weight-related teasing on “dietary restraint” (Menzel et al., 2010, p. 267). Similarly, sexual harassment by peers is positively correlated with “self-surveillance” (i.e., the extent to which girls think about their appearance), which, in turn, is positively correlated with feelings of “body shame” (Lindberg et al., 2007, p. 733).

Impact of family. A number of familial characteristics have been identified as risk factors for AN. Fairburn, Cooper, Doll, and Welch (1999), for example, identified the following family issues: separation from parents, parental arguments, criticism from parents, high parental expectations, parental underinvolvement, minimal affection from parents, and the combination of low parental care and high levels of overprotection. Additionally, the authors found that family members dieting for any reason and critical weight-, shape-, or food-related comments by family members also increased the risk of AN. Finally, congruent with the genetic influences on AN (see Klump et al., 2009), a history of parents ever having AN or Bulimia Nervosa (BN) increases the risk for their children (Fairburn et al., 1999).

Adverse and stressful life events. Events in individuals’ lives can make them more vulnerable to AN. For example, frequently moving to new homes increases risk, as does the presence of severe physical health problems. A history of physical and sexual abuse also increases risk (Fairburn et al., 1999).

Weight loss and malnutrition. Dietary restriction often precipitates the development of AN (Fairburn & Harrison, 2003). However, unintentional weight loss can also trigger the disorder. Brandenburg and Andersen (2007) provided five case studies in which individuals had lost weight due to illness, surgery, medication side effects, and/or death of friends or a family member. None of these individuals had experienced body image or weight concerns prior to their weight loss. For one of these individuals who lost weight, social praise for weight loss triggered

her to intentionally continue losing weight. In others, there was an absence of socially-related triggers for weight loss; instead, they began to believe that they were fat for reasons that could not be explained by sociocultural factors. Following their unintentional weight loss, these individuals also began to lose weight intentionally.

Brandenburg and Andersen's (2007) findings were similar to the results of a larger scale study on the psychological effects of starvation. In 1944, Ancel Keys and his colleagues began a study on the effects of human semi-starvation. His sample consisted of 36 adult males, who were fed a maintenance diet of approximately 3,492 calories per day for three months. At the end of that time, the men were given a diet of an average of 1,570 calories per day for six months. During the period of semi-starvation, participants exhibited altered food-related behaviors, such as playing with food, mixing foods into "weird and distasteful concoctions," eating very rapidly or very slowly, and chewing gum to "approximate or substitute for satisfactions normally derived from eating" (Franklin, Schiele, Brozek, & Keys, 1948, p. 31). The authors noted that, "Food in all of its ramifications became the principal topic of the subjects' conversations, reading, and day dreams" (Franklin et al., 1948, p. 34). Despite these and other symptoms, only four participants were dismissed from the experiment for diet non-adherence (Franklin et al., 1948). These behaviors are strikingly similar to behaviors often associated with AN, including the ritualistic eating behaviors and preoccupation with food that are often seen in individuals with AN (Mayo Clinic, 2012). While weight loss is a symptom of AN, it is possible the symptoms of weight loss perpetuate the disorder.

Related to the correlation of starvation and weight loss with behaviors typical of AN is the impact of percentage of body fat after weight restoration. Bodell and Mayer (2011) found that female hospitalized patients with AN had better outcomes one year after discharge when

their percentage of body fat was higher upon hospital discharge, even though all participants had restored their weights to at least 90% of their ideal body weights [IBWs].

Personal characteristics. Research has demonstrated that there are intrapersonal characteristics that are associated with AN. For example, Fairburn and colleagues (1999) identified “negative self-evaluation” and “perfectionism” as risk factors for the disorder (p. 475). Lack of close friends and the presence of premorbid Major Depressive Disorder were found to be other risk factors (Fairburn et al., 1999). However, even positive traits can be associated with AN. For instance, one meta-analysis of 30 studies revealed that the population of individuals with AN has a higher mean intelligence quotient (IQ) than the average mean IQ of the “normative population” by approximately 5.9 points on the Wechsler Intelligence Scales, with recovered anorexics scoring even higher (Lopez, Stahl, & Tchanturia, 2010, p. 43).

Treatment Modalities

There have been few randomized controlled studies on the effectiveness of existing treatment modalities for AN (McIntosh et al., 2005). However, a variety of interventions have been used to treat the disorder, including individual psychotherapy, group psychotherapy, partial hospitalization programs, inpatient hospitalization, and medication.

Partial Hospitalization Programs

Partial hospitalization programs, also known as day treatment programs, provide intensive treatment for individuals during the day. While programs differ in their structure, Fittig and his colleagues (2008) provided an overview and evaluation of one such program. Treatment at the day hospital program was provided daily from 8:00 a.m. to 4:30 p.m. The program lasted for a period of four months, which was followed by less intensive outpatient care. Positive results were achieved for individuals with both subtypes of AN. Specifically, scores decreased

significantly for the following subscales of the EDI-1: Drive for Thinness, Body Dissatisfaction, Ineffectiveness, Interpersonal Distrust, Interoceptive Awareness, and Maturity Fears. The Perfectionism subscale scores also decreased for individuals with the restricting subtype of AN, as did scores on the Bulimia subscale in individuals with the binge-eating/purging subtype. BMI increased significantly for individuals in both subtypes, and general symptoms of psychopathology, such as obsessive-compulsive symptoms, interpersonal sensitivity, and depression, decreased significantly. At 18-month follow-up, 51.4% of the individuals with AN Restricting Type and 29% of individuals with AN Binge-Eating/Purging Type were classified as “remitted” (Fittig, 2008, p. 345). Gerlinghoff, Backmund, and Franzen (1998) also found favorable outcomes for participants in a different partial hospitalization program: treatment was associated with weight gain and reduction of the majority of EDI subscales. In this study, 70% of individuals interviewed at follow-up achieved either a “good” or “very good” outcome, though the authors noted that the participants who agreed to be interviewed at follow-up may have been functioning more favorably than those who did not (p. 104). Based on these and other studies, it is suggested that completion of partial hospitalization programs can be beneficial for individuals with AN.

Inpatient Hospitalization

For some individuals with AN, inpatient hospital is required. According to Lowe, Davis, Annunziato, and Lucks (2003), inpatient hospitalization is associated with weight gain, which tends to be retained at three-month follow-up. Given the fact that AN is characterized by low body weight (American Psychiatric Association, 2000), this weight gain is a positive result. However, long-term outcomes are not always favorable. For example, in one study of adolescent inpatient treatment for AN, Gowers, Weetman, Shore, Hossain, and Elvins (2000) found that at

two- to seven-year follow-up, only 45.3% of participants were considered to have a good outcome. Approximately 30% were considered to have an intermediate outcome, and 20% had poor outcomes.

Medication

There is a lack of large-scale trials on the use of medication in the treatment for AN. According to Lock and Growers (2005), “This is the case, in part, because there has been little in the way of promising data even in pilot form to encourage larger investigations” (p. 606). Lock and Growers do, however, provide data on the use of antipsychotics and antidepressants (Lock & Growers, 2005). Malina and her colleagues (2003) conducted a retrospective study of the use of the antipsychotic Olanzapine during inpatient hospitalization for AN. They determined that participants treated with the medication reported clinically significant reductions in fears related to body image and weight, reduced anxiety surrounding meals, and reduced distress surrounding weight gain.

Kaye and his colleagues (2001) found that the use of the antidepressant Fluoxetine was associated with higher weight and lower levels of “depression, anxiety, obsessions and compulsions, and core eating disorder symptoms” (p. 648) at one year follow-up after inpatient hospitalization for AN. However, it is important to note that approximately one-third of participants, who “appeared to have a poor response” to Fluoxetine, dropped out of the study before its completion (Kaye et al., 2001, p. 649). Moreover, some researchers have indicated that the use of Selective Serotonin Reuptake Inhibitors (SSRIs) does not affect weight or ED symptomology of underweight individuals with AN (Ferguson, La Via, Crossan, & Kaye, 1999).

Nutritional Counseling

Nutritional counseling has been described as an “essential” component of treatment for AN, though there is little research on nutritional interventions (Winston et al., 2005, p. 5), which is both psychoeducational and supportive in nature. However, research has demonstrated individuals with AN who received nutritional counseling without psychotherapy remained in treatment for a significantly shorter duration than did individuals receiving Cognitive-Behavioral Therapy (CBT), and had a 53% rate of relapse (Pike, Walsh, Vitousek, Wilson, & Bauer, 2003).

Individual Therapy

Outpatient individual psychotherapy is a widely used treatment for AN. One type of individual therapy is CBT. Outcomes of individuals treated with CBT vary considerably. For example, Ball and Mitchell (2004) found that after one year of outpatient CBT, 60% of participants with AN or subthreshold AN (i.e., weight between 85 and 90% of expected body weight) had “good” outcomes; 12% had “intermediate” outcomes; and 28% had “poor” outcomes (p. 309). However, Ball and Mitchell concluded, “Despite these improvements, the findings are modest as symptomatic recovery was not reached in the majority of patients. Furthermore, hospitalization was necessary for severely disordered patients” (p. 312). Other studies have yielded less positive findings. For example, McIntosh and her colleagues (2005) showed that after 20 weeks of CBT, only 5% of participants were rated a score of 1 on a scale of 1 to 4, which was considered a good outcome. Twenty-six percent were rated a score of 2, 26% were rated 3, and 53% were rated 4, which was the worst treatment outcome rating.

In addition to CBT, other psychotherapy frameworks have been utilized in the treatment of AN, such as interpersonal psychotherapy. In the McIntosh and colleague’s (2005) aforementioned study, 0% of participants were rated a score of 1 (i.e., the highest score) at the

completion of twenty weeks of interpersonal psychotherapy; 10% were rated 2; 24% were rated 3; and 67% were rated 4, a poor outcome. In the same study, however, “nonspecific supportive clinical management” yielded the most favorable outcomes: 25% of participants were rated a score of 1; 31% were rated 2; 6% were rated 3; and 38% were rated 4 (McIntosh, 2005, p. 742).

Narrative therapy has also been described as a treatment for AN (Nylund, 2002), though research on its efficacy is not available

Group Psychotherapy

While research on group therapy specifically for AN is scarce, Lázaro and colleagues (2011) showed that, as a component of a day hospital treatment program, group self-esteem and social skills therapy for patients with AN, BN, and Eating Disorder Not Otherwise Specified (EDNOS) resulted in improved “perception of physical appearance, self-concept related to weight and shape, self-concept related to others and perception of happiness and satisfaction ... and [decreased] social withdrawal” for patients with AN (p. 403). Based on this study, it appears that group therapy for AN has the potential to be beneficial. However, Polivy (1979) cautioned that group therapy for AN has the potential for negative effects. In one small group that she conducted, Polivy actively tried to prevent problems that may have arisen through the establishment of group rules. Specifically, teaching other group members behaviors typical of EDs was banned, and friendships among group members were discouraged in order to prevent “extreme dependency” on other patients (p. 11).

Family-based Treatment

A manualized approach to family-based treatment (FBT) was developed by Lock, Le Grange, Agras, and Dare (2001). Le Grange and his colleagues (2012) have summarized the significant components of the three phases in treatment. In the first phase, a psychotherapist

works with the parents of their anorexic child or adolescent to alleviate their feelings of responsibility for their child's illness, while at the same time, encourages the parents to take action to help restore the weight of their child. In the second phase, the therapist supports the parents as they transfer the responsibility of eating back onto their child. Finally, in the third phase of treatment, the therapist works to establish an adaptive parent-child relationship, in which eating disordered behavior is not used as a form of communication. FBT emphasizes weight gain and behavioral change as primary goals of treatment, as opposed to cognitions.

FBT has been demonstrated by clinical trials to be an effective treatment for adolescent AN. In one study on its efficacy, Coutrurier, Isserline, and Lock (2012) found that FBT was associated with weight gain; 86% of their 14 participants were at least 85% of their ideal body weight by the end of treatment, and 57% gained to at least 95% of their ideal body weight. Additionally, the subscales Interoceptive Deficits and Maturity of the EDI-3 also improved at a statistically significant level. However, changes in other psychological aspects of the disorder, including the EDI-3 subscales Body Dissatisfaction, Low Self Esteem, and Emotion Dysregulation, and the subscales Eating Concern, Weight Concern, and Shape Concern of the Eating Disorder Examination, did not reach clinical significance. It is also important to note that, during the study, 36% of participants were also taking antipsychotic and/or selective serotonin reuptake inhibitor medications. Other researchers have also found positive effects of FBT. Paulson-Karlsson, Engström, and Nevonen (2009) found that, at 18-month follow-up after FBT, 72% of participants were considered to be recovered. In a separate study by Le Grange and his colleagues (2002), FBT was demonstrated to be particularly effective for younger adolescents.

Effect of No Treatment

Schoemaker (1997) suggested that duration of illness before first treatment is “negatively related” to treatment outcome for individuals with AN (p. 11). Furthermore, even with treatment, longer duration of illness is correlated with poor outcome (Fichter, Quadflieg, & Hedlund, 2006), and the likelihood of recovery substantially decreases 10 years after the onset of symptoms of AN (Von Holle et al., 2008). However, although the duration of illness before treatment has been examined, no research on outcomes in individuals with AN who have not received treatment could be located. Treatment for the disorder is recommended by the American Psychiatric Association (2006).

Summary

Despite the variety of treatment modalities for AN, long-term outcomes are not always positive and, in some cases, are discouraging. Some treatments have not worked at all. Clearly, more resources are needed to promote recovery for a greater number of individuals with AN. One type of resource that may be helpful as an adjunct to psychological and medical treatments is online recovery-oriented support. However, research on these websites is scarce. In the following chapter, Chapter 3, the methodology used in present thematic analysis of recovery-oriented websites forums for AN is presented.

Chapter 3: Method

In the current study, Thematic Analysis (see Boyatzis, 1998) was used to generate themes that occur in recovery-oriented online forums for AN. The present author examined a sample of posts to answer four research questions and assess five research hypotheses. This chapter presents settings that hosted the data, procedures for data collection, and the qualitative method used to analyze the data.

Setting

This study was conducted on Internet-based, recovery-oriented discussion boards for EDs. The term “online anorexia recovery support forums” was entered on the search engine Google.com. The first four search results that met the inclusion criteria were chosen because the sites appearing earlier in the results list are more easily seen by Internet users. The inclusionary criteria for website selection included: (a) free usage of the main features of the website, (b) a section of the site specifically for AN, and (c) a site containing at least 20 threads. A website was excluded from the present study if it met any of the following criteria, (a) a pro-anorexia philosophy, (b) one or more fee-for-use sections, (c) a membership fee to access the website, (d) a differentiation of message boards for AN based on age, (e) a focus on other psychological disorders (e.g., schizophrenia) with a subsection for AN, or (f) a primary focus on caregivers for those suffering from AN. Below, each of the sampled websites is presented.

Mirasol. The first website to meet the inclusion criteria was Mirasol Online Eating Disorder Support Group, located at <http://www.mirasol.net/support/index.php?board=1.0>. This website was the first to appear on the results list when the search was conducted on April 27, 2012. This forum is affiliated with Mirasol Eating Disorder Recovery Centers. The registration guidelines stated that the site was not moderated on a regular basis, which means that staff or

volunteers do not screen or edit content on a regular basis. No age requirement for membership was listed. The registration agreement stated that posting material that was inaccurate, threatening, or related to sex was prohibited.

Because older threads were moved to the top of the page when new responses were posted, comments that were posted before May 1, 2012, when data collection started, appeared in the sample. The Mirasol sample included posts from December 28, 2010 to September 26, 2012. Due to an insufficient number of threads posted to the discussion boards, data collection continued till October 10, 2012.

Something Fishy. The second discussion board to meet criteria for inclusion was Something Fishy: Website on Eating Disorders, located at <http://www.something-fishy.org/online/options.php>. Something Fishy was the fifth site to appear on the results list. At the time of data collection, website users were required to be at least 13 years old in order to post content, though there was no indication that age would be verified. Additionally, the rules of the site stated that, in order to post, an individual must have an eating disorder or related concerns. The rules of the site state prohibited posts containing numbers, including clothing sizes, calories eaten, weight, and body mass index (BMI); medical questions; discussions of celebrities that are suspected of having EDs; and personal attacks on other website users. Something Fishy is a moderated website.

The Something Fishy sample was comprised of posts from April 18, 2012, to June 25, 2012. The data were collected on July 16, 2012. It should be noted that Something Fishy only displays threads for approximately one month, at which time viewers must change the settings on the page in order to view older posts. The author mistook the absence of older posts as the data

having been deleted. Consequently, threads with posts ending in May were not sampled; the sample only included threads that ended in June.

Anorexia Nervosa and Associated Disorders. The third website to meet inclusionary criteria was Anorexia Nervosa and Associated Disorders' (ANAD's) What is Recovery message board, located at <http://www.anad.org/forum/viewforum.php?id=4>. This site was the 48th to appear in the search results. Website rules prohibited posting numbers such as calories consumed, one's weight, comments designed to trigger other members, or thoughts related to hurting oneself or others. No age requirement was listed in the forum rules. The ANAD forum was moderated, and posts that violated the rules were subject to editing or removal from the site. The ANAD sample was collected on July 19, 2012 and included posts from July 14, 2010, to July 8, 2012.

PsychForums. Finally, the fourth website to meet criteria for inclusion was PsychForums.com: Anorexia Nervosa Forum, located at <http://www.psychforums.com/anorexia-nervosa/>. This website was the 61st to appear in the search results. Website rules prohibit posting content that promotes eating disorders, describes incidents or plans for self-injury or violence, recommendations by other website users to disregard the advice of their treatment professionals, or attempts to provide or dispute diagnoses for other website members. Harassing or posting malicious content toward other website users is also prohibited. PsychForums.com: Anorexia Nervosa Forum is moderated. The PsychForums sample was collected on July 16, 2012, and included posts from May 8, 2011, to June 17, 2012.

Summary of setting. In total, two of the four discussion boards prohibited posting potentially triggering content, such as numbers related to weight or calories consumed. One website stipulated a minimum age required to post, but there was no indication that age would be

verified. Three of the four sites were regularly moderated, meaning the content was expected to be read and edited by employees or volunteers at the website.

Participants

Individuals who wrote posts on the four selected recovery-oriented discussion boards for AN were the participants of the study. There were 171 participants. Participants on Something Fishy ($n = 47$) commented the most ($M = 1,767.02$ posts), followed by PsychForums ($n = 50$; $M = 1,276.41$ posts), ANAD ($n = 90$; $M = 6.32$), and Mirasol ($n = 29$; $M = 3.74$). Given that these websites were English-based, all posts were written in English. None of the websites posted spam. Accordingly, the present author included all authors of the posts as participants in the study.

Mirasol. Mirasol had the fewest posts ($n = 45$). The mean number of posts made by each participant was 3.74 including the administrator, and 2.92 excluding her. The modal number of posts was 1, posted by 10 participants, and the median was 2.

Something Fishy. Something Fishy had the highest number of posts. The mean number of posts per participant until the day of data collection was 1,767.02, including the moderators, and 1,278.96, excluding them. There was significant diversity in the number of posts; the modal number of posts was 12, posted by only 2 participants. All other participants posted unique numbers of times. The median number of posts was 398.

ANAD. For ANAD, there were 132 posts. The mean number of posts until the day of data collection was 6.32, including the moderator's and support group leader, and 5.19, excluding them. The modal number of posts was 1, and the median was 2.

PsychForums. For PsychForums, there were 111 posts. The mean number of posts on the website was 1,276.41, including the administrator and 2 of the moderators, and 715.04,

excluding them. There was diversity in the number of posts made by participants, ranging from 1 to 28,163. The modal number of posts was one, posted by six participants. The median was 30.

Procedures

Participants' posts on the website forums were organized by date of posting, with newer posts appearing at the top of the page, followed by older posts. However, because participants were able to respond to each others' posts, some older threads were "bumped" to the top of the list when participant replied to older posts. The sample was comprised of the first 20 threads that appeared on each website that were responded to on or after May 1, 2012.

Data collection, ethics, and security. Anyone who had access to the Internet could provide messages that would be data for the study. This includes individuals who had not registered as website users. Because the data were collected from the public domain, concerns for anonymity, confidentiality, and individual risk and safety were not pertinent to the study. Most participants posted under pseudonyms. The present author did, however, treat all posts and their writers with utmost respect, humility, and ethical care. The author changed all participants' names and stored the key to the name changes in a file on her password-protected computer. The results include relevant quotations from participant messages, but with citations of pseudonyms, thereby preserving participants' anonymity. The data were stored in a password-protected file on Dedoose, the data analysis software for the study.

Research Hypotheses and Questions

The study was exploratory and, accordingly, did not seek to utilize pre-identified themes. However, the following content and themes had arisen in prior research of AN recovery-oriented websites: "descriptions of bodily experiences," such as feeling faint (Riley et al., 2009, p. 355); medical advice; "nutrition content;" and motivation (Chesley et al., 2003, p. 124); family

pressures; recommendations for members to obtain professional treatment; adhering to meal plans and regular patterns of eating; and diagnostic symptoms for AN (McCormack & Coulson, 2009). These themes arose in three studies, though the sample size of two of the studies was only one website. Of the identified content, only medical advice, “nutritional content,” and motivation were obtained from a large sample ($N = 50$ websites; Chesley et al., 2003, p. 124). These research findings provided the present author with a tentative framework or conceptualization for the study. Similarly, the above-cited research led to the formulation of the five research hypotheses for this study:

- Hypothesis 1. Themes that will arise in the four recovery-oriented websites’ forums will include, but not be limited to:
 - Motivation and encouragement to other website users
 - Recommendations for members to receive professional help, including psychotherapists and dieticians
 - Advice on adhering to meal plans and regular patterns of eating (e.g., eating three meals and snacks throughout the day).
- Hypothesis 2. Themes will be recovery-oriented.
- Hypothesis 3. Types of support to other members will include encouragement, suggestions on challenging maladaptive thoughts and behaviors, and recommendation that members explore the cause of their eating disordered thoughts and behaviors.
- Hypothesis 4. Potentially triggering content (e.g., numbers of calories eaten) will appear more frequently on the website that is not consistently moderated.
- Hypothesis 5. Potentially triggering content will be edited by moderators on the three moderated websites (e.g., numbers and other banned content will be deleted).

In addition to the hypotheses, four research questions were developed:

- Question 1. What are the themes that arise on recovery-oriented AN Internet discussion boards?
- Question Two: What types of support are given on AN recovery-oriented websites?
- Question Three: How frequently are postings that are potentially “triggering” material on AN recovery-oriented websites?
- Question Four: What are the responses of site moderators to triggering material that is posted on AN recovery-oriented websites?

Data Analysis

Thematic Analysis is a qualitative research method focusing on the content of narratives. Researchers who use this type of analysis seek to understand what someone has said rather than the person who said it or how it is said (Riessman, 2008). Researchers who use Thematic Analysis identify patterns in data. Details of the content can be given as exemplars to provide a rich account of discovered themes. Both explicit and latent themes are identified (Braun & Clark, 2006). For each research question, the following qualitative steps were followed.

Question one: What are the themes that arise on recovery-oriented AN internet discussion boards? Braun and Clarke (2006) outlined six phases of Thematic Analysis. These phases are listed as follows: “phase 1: familiarizing yourself with your data” (p. 87), “phase 2: generating initial codes” (p. 88), “phase 3: searching for themes” (p. 89), “phase 4: reviewing themes” (p. 91), “phase 5: defining and naming themes” (p. 92), and “phase 6: producing the report” (p. 93). These phases provided the structure of the analyses for the present study.

The first step in data analysis was to read all of the collected posts on the online AN recovery support forums. Each post was entered into the computer software program, Dedoose.

Every first post on every thread was entered with the title for the post, which appeared on the discussion boards. Replies to each initial post were entered into the program using the title of the original post followed by the number of the reply. Posts were separated by website, with the content of each of the four selected websites entered into a separate file on Dedoose. By inputting the data in this manner, each post could be traced to its thread and the website on which it appeared.

Codes are core ideas expressed in a text and are generated during phase 2 of the data analysis. In the present study, codes were generated through identification of overt content (e.g., fear of gaining weight) and latent messages (e.g., discussions of medical complications as a way to convey pride in one's anorexia). Themes emerged from these codes.

The third phase involved organizing and combining identified codes into potential themes in the data (Braun & Clarke, 2006). During this phase, the present author combined similar codes into overarching themes. The author placed similar codes in each file next to each other on the list of codes generated on Dedoose. Once the code lists were arranged by similarity, overarching candidate themes for each website were identified, with codes being retained as subcodes where appropriate. For example, data that were coded as fear, anxiety, and anger were identified as the overarching candidate theme "unpleasant emotions." In cases in which subthemes were appropriate, codes were categorized accordingly.

In the fourth phase of thematic analysis, potential themes lacking sufficient supporting data were identified. Excerpts that were congruent with candidate themes were kept; those that were more congruent with different themes were relabeled, and those that did not correspond with an identified code or candidate theme were discarded. Subsequently, the posts were reviewed in order to ensure that the same posts were not labeled with the same theme more than

once. For posts that had been labeled with a theme twice, one of the identical themes was discarded, thus eliminating duplicates.

During the fifth phase of thematic analysis, data for each theme were organized into “coherent” accounts,” with narratives developed to describe each theme (Braun & Clarke, 2006, p. 92). Braun and Clarke stated that the narratives should not merely be paraphrases of the data. Rather, the authors indicated that the story that accompanies each theme should be described, particularly in terms of how the stories relate to the research questions and the overall story of the data. Created narratives remained sorted by website, allowing the themes of each website to be considered separately, as themes unique to a website were allowed to emerge.

This sixth phase of thematic analysis consists of producing the report (Braun & Clarke, 2006). Sufficient evidence must be provided in the report to support the presence of each theme. Excerpts from the data are quoted as support for discovered themes. The frequency of each theme was identified through Dedoose. When two or more subthemes within the same theme were identified in a post, the use of the overall theme was only counted once. This process was utilized to avoid artificially inflating the presence of themes. The most frequent themes on each website were described first, followed by less frequent themes. Each theme was described along with the percentage of data supporting the theme in relation to the overall total number of the themes. For example, if a code of “unpleasant emotions” appeared in the data 22 times out of 200 posts on a website, the code would be present in 11% of the data. Therefore, the theme would appear in the report before a theme that was present in 8% of the data. The 10 most frequently occurring themes across the four websites were identified. These themes were described in order to provide a general description of recovery-oriented websites for AN.

Question Two: What types of support are given? The themes were analyzed to identify types of support given to other members of the websites. All of the themes identified for Question 1 were analyzed for the type of support provided.

The present author identified posts that were directed to other members of the discussion board. For instance, a post was identified when one member provided emotional support or encouragement to follow one's meal plan. Examples of each type of support were subsequently extracted from the data and provided as examples of the type of support provided.

Question Three: How frequently are postings that are potentially "triggering" material? During the initial phase of data analysis, potentially triggering data (e.g., specific weights, calories eaten, food lists, weight-loss tips) from each website were recorded, including the title of the thread, the response number, the content of the data, a brief description of the ways in which the content may have been triggering to other users of the website, and the responses from moderators. Lists of potentially triggering content were reordered so that similar triggers were placed together in each document.

Question Four: What are the responses of site moderators to triggering material that is posted? When the present author identified potentially triggering content in order to answer question three, she also noted the responses from forum moderations and administrators. These responses were recorded in the same chart used for question three.

Potential Limitations of the Study

Prior to the completion of the study, the present author anticipated potential limitations. First, participants self-identified as having AN. While some may have been professionally diagnosed, others may have identified with AN without actually meeting *DSM-IV-TR* criteria. The sampling of websites was small. The sample was not representative of the recovery-oriented

forums (approximately 100 at the time of writing the dissertation proposal) for people with AN. Instead, the study was designed to allow practitioners gain an understanding of the nature of these boards. It is possible that other AN recovery-oriented websites contained themes that were different from themes that arose from the study's select websites. Similarly, the sample consisted of only the first 20 threads posted within a timeframe. As a result, the present author anticipated that the select messages might not be representative of the entire year. The author was aware that certain time-specific reactions in site users may have arisen that would not at other times of the year (e.g., possible increased family interactions because of graduations in May), while other issues that may be present at other times of the year (e.g., holiday-related food struggles) might not have arisen.

Summary

Data analysis is an important component of research because it provides answers to research questions and accepts or rejects hypotheses. In the present study, thematic analysis was utilized to identify themes that emerged on AN recovery-oriented discussion boards. On the basis of inclusion criteria, four websites for individuals recovering from AN were chosen from a list of Google results for a search on "online anorexia recovery support forums." The author utilized Braun and Clarke's (2006) guidelines for conducting thematic analysis to test research hypotheses and find answers to research questions that she posed. By gaining an understanding of these discussion boards from the study's findings, clinicians might be able to determine whether recovery-oriented websites would be beneficial to their clients diagnosed with AN.

Chapter 4: Results

This chapter presents overarching themes and subthemes that emerged from four recovery-oriented discussion boards for AN, which were selected for the study. The study's research hypotheses are first addressed. The results of each of the four research questions are presented sequentially.

Research Hypotheses

Although the present study was exploratory in nature, it had five research hypotheses. The thematic analyses of posts, presented later in this chapter, provided evidence for the acceptance and rejection of the hypotheses. Data supported hypotheses 1-3:

1. Themes that will arise in the four recovery-oriented websites' forums will include, but will not be limited to:

- Motivation and encouragement to other website users
- Recommendations for members to receive professional help, including psychotherapists and dieticians
- Advice on adhering to meal plans and regular patterns of eating (e.g., eating three meals and snacks throughout the day).

2. Themes will be recovery-oriented.

3. Types of support to other members will include encouragement, suggestions on challenging maladaptive thoughts and behaviors, and recommendation that members explore the cause of their eating disordered thoughts and behaviors.

Hypothesis 4 was rejected owing to absence of data support:

4. Potentially triggering content (e.g., numbers of calories eaten) will appear more frequently on the website that is not consistently moderated.

The highly moderated Something Fishy contained infrequent triggers, as did the infrequently moderated ANAD. In contrast, the infrequently moderated Mirasol contained frequent triggers, as did the highly moderated PsychForums. Therefore, it appears that the activity level of forum moderators does not affect the frequency at which triggering data are posted.

Hypothesis 5 had mixed results and cannot be accepted or rejected.

- Potentially triggering content will be edited by moderators on the three moderated websites (e.g., numbers and other banned content will be deleted).

Although the Mirasol forum was infrequently moderated, it did receive one administrator response. Therefore, all four websites were moderated. In all of these samples, potential triggers were addressed inconsistently, ranging from 5.26% to 44.83% of the time.

Overarching Themes Across Four Discussion Boards for Research Questions 1 and 2

In the four combined discussion boards, there were 432 posts. Themes that emerged from the four websites did so with similarities but were of varying frequencies, while some were unique to each website. First, similar themes were grouped together to determine the 10 most frequent themes on the combined discussion boards; these are called overarching/overall themes (see Table 1 for overall themes). Second, the most frequent themes of social *support* on the combined discussion boards were identified (see Table 2 for overarching/overall themes of support). The coding and presentation of results were audited by the author's dissertation chair through several meetings and drafts.

The first research question, "What are the Themes That Arise on Recovery-Oriented AN Internet Discussion Boards?" and the second research question, "What types of support are given?" were answered with emerging themes whose content overlapped in answers to both questions. The themes for the two questions are, therefore, presented together.

Table 1

Ten Most Frequent Themes Across Four Anorexia Recovery Websites

Theme	Frequency
Symptom Severity and ED Thoughts	26.10
Advice and Suggestions	24.31
Forum Support	24.30
Unpleasant Emotions	16.20
Recovery, Improvement, and Motivation	10.88
Treatment	10.65
Requests	10.19
Interpersonal Issues	8.10
Insights	7.18
Benefits of the Website and Gratitude	6.71

Note. $N = 432$ posts on the four combined discussion board. Frequency is measured in percentage of overall posts on four combined forums. The most frequent themes are called overarching/overall themes.

Table 2

Overarching Themes of Support Across Four Recovery-Oriented AN Discussion Boards

Theme	Frequency
Advice and Suggestions	24.31
Forum Support	24.31
Challenges and Recovery-Oriented Confrontations	4.63
Information	4.40

Note. $N = 432$ posts on the four combined discussion board. Frequency is measured in percentage of overall posts on four combined forums. The most frequent themes are called overarching/overall themes.

Each overarching theme and its description are provided below.

Symptom severity and ED thoughts. Symptom Severity and ED Thoughts emerged as the most frequent overall theme. Specific website themes included Symptom Severity and ED Thoughts (Mirasol), Severity of Illness and ED Thoughts (ANAD), and ED Symptoms and Illness Severity (Something Fishy and PsychForums). Participants discussed their ED symptoms, the severity of their illnesses, and the presence of ED thoughts, both explicitly and implicitly. For instance, on Mirasol, April discussed her low weight.

So I'm 5'6" and weigh somewhere around 90 lbs. I just moved so I don't have a scale and it kills me every day to not know how much exactly I weigh. I used to go into the kitchen and see the scale and weigh myself every time... getting so happy when it dropped a few pounds. It used to be the biggest joy of my life when I could weigh myself and then go to a BMI calculator and see it drop even more. (April, August 22, 2012)

Advice and suggestions. Advice and Suggestions emerged as an overarching theme, as well as a theme of support. On the individual websites, Recovery Advice (Mirasol), Advice (Something Fishy), and Advice and Suggestions (ANAD and PsychForums) emerged.

Participants provided advice and suggestions about ED recovery and related issues, such as exercise, healthy eating patterns, and interpersonal concerns. In some instances, comments may have been incongruent with recovery needs, and, therefore, counterproductive. An example of advice appears on Something Fishy, where Daniela provided advice on treatment.

I don't have much experience with treatment centres besides me [sic] own. But I'll tell you what my T [(therapist)] said. Basically [sic] if you are still majorly struggling despite regular therapy a week. If you are still struggling with food etc[.] and need the help of a N [(nutritionist)] or RD [(registered dietician)]. If you find you don't get much covered in your one hour a week because there seems to just be so much work to do. If you could do with more support than what you've got basically!!! [implying the need for treatment.]

(Daniela, June 13, 2012)

Forum support. Forum Support was the third prominent theme. Specifically, messages contained Welcomes and Offers of Support and Encouragement (Mirasol, Something Fishy, and ANAD), Praise (ANAD), Providing Comfort (ANAD), and Forum Support (PsychForums). For example, on ANAD, Josie (February 5, 2012) wrote, "Please continue to ask questions and keep us posted. Caring people on this site understand what you are going through. Thinking of you and sending you strength."

Unpleasant emotions. Participants discussed unpleasant emotions, such as sadness, anxiety, and anger. For instance, on PsychForums, Kaydance (September 26, 2011) wrote, "If I see thin girls walk by, I look down in embarrassment, doubting myself, and that doesn't feel good at all."

Recovery, improvement, and motivation. The individual websites contained the themes Recovery, Progress, and Motivation (Mirasol, Something Fishy, ANAD, PsychForums);

Symptom Improvement (ANAD; PsychForums); and Redirection to More Recovery-Oriented Discussion (PsychForums). Participants discussed improvement in their symptoms, increased motivation for recovery, and recovery itself, both as a concept and as applied to specific participants and individuals known by participants. For example, on Mirasol, Lucy discussed her recovery experience.

Getting well has been as much about developing self-trust as it has been about eating healthily. I need to ‘say it as it is’ rather than what I think others want to hear. Discovering this about myself has been a wonderful gift, it’s still a novelty for me and sometimes still I don’t have the courage to honour it. (December 28, 2010)

Treatment. The theme Treatment emerged on Something Fishy and ANAD, but not on the other two websites. Participants discussed current and past treatments received, specific treatment programs, and possible treatments that participants could receive in the future. For instance, on Something Fishy, Faith gave information about treatment using the Mandometer Method.

There’s a huge emphasis on numbers hence the whole ‘mandometer’ thing. As the others have said there’s really no psych therapy involved. Their philosophy is that once the body gets back to a normal weight all the psych symptoms go away. (Faith, June 22, 2012)

Requests. Messages contained Seeking Feedback and Help (Mirasol, Something Fishy, ANAD, PsychForums) and Requests for Advice (Something Fishy, ANAD, PsychForum). Participants asked each other for feedback, help, and advice on ED recovery and related issues, such as treatment and exercise. Although the requests were usually explicit, at times they were implied requests. A post written by George on ANAD asked, “Are there any tips for starting recovery? I really want to stop living like this, but I just don’t know how” (May 28, 2012).

Interpersonal issues. Interpersonal Issues were comprised of Relationship Issues (Mirasol), Interpersonal Problems (Something Fishy), Secrecy (ANAD), and Interpersonal Concerns (PsychForums). Participants discussed problems that they were experiencing with others, including friends, family, and treatment professionals. Such posts on ANAD were, however, infrequent. On PsychForums, Isabella described issues with her mother and friends.

My mom just told me that I have no friends and that it's sad that anyone would go to a machine/internet instead of friends to talk about problems. I have friends, but none of them understand what I'm going through. (May 24, 2012)

Insights. The theme Insights was comprised of Explanations for the ED (Mirasol), Insights (Something Fishy and ANAD), and PsychForums contained Possible Causes of the ED. Such posts on ANAD, however, were infrequent. Within these posts, participants discussed things that they had realized or learned about their EDs, recoveries, and related issues. For example, on PsychForums, Mary replied to another participant about a lack of love as it related with her ED.

What you said about me not receiving enough love, so I put myself in danger to get it—that makes a lot of sense. It kind of surprised me because I've never drawn that conclusion before, but it seems like a possibility. (May 4, 2012)

Benefits of the website and gratitude. On individual websites, this theme appeared as Benefits of the Website and Thanks (Something Fishy), Benefits of the Website and Gratitude (ANAD), and Benefits of the Website (PsychForums). This theme was not present on Mirasol. Participants discussed positive aspects of the websites and/or expressed gratitude toward other participants or the discussion board as a whole. For instance, on Something Fishy, Kelly (June 13, 2012) wrote, “Thanks again Daniela, for your reply. I am doing some thinking...”

Appendix A, Table 3 provides frequency of overarching/overall themes for individual websites. Below, additional overall themes of support in answers to Question 2, which were not included in the 10 most overall frequent themes, are presented. Each of these themes of support was present on two websites; Challenges and Recovery-Oriented Confrontations appeared on Mirasol and Something Fishy, and Information appeared on ANAD and PsychForums.

Additional Overall Themes of Support for Question 2

Two additional themes of support emerged: Challenges and Recovery-Oriented Confrontations and Information. Below, each is presented. Appendix B, Table 4 provides frequency of overarching/overall support themes for each site.

Challenges and recovery-oriented confrontations. These posts appeared as Challenges (Mirasol) and Challenges and Recovery-Oriented Confrontations (Something Fishy). These posts contained content intended to promote recovery by challenging disordered thoughts and behaviors. Although the challenges and confrontations were at times blunt, they were intended to help other participants in their recoveries. Accordingly, this theme emerged as a theme of support. For example, on Something Fishy, Cira (June 19, 2012) stated, “It sounds like you may well lose more than your job [by continuing] doing what you are doing. EDs kill and [can at] any weight.”

Information. The posts were categorized as Information (ANAD) and Information on EDs and the Recovery Process (PsychFourms). The theme did not appear on Mirasol or Something Fishy. Some of the information provided was based more on opinion than fact, and, at times, was medical in nature. For instance, Susan (May 3, 2012) wrote, “This is completely normal while you’re in the process of re-feeding and dealing with weight gain. It takes a while [sic] for your body to adjust to having solids in your stomach and having to digest food again.”

Research Question 3

The third research question was “How frequently are postings that are potentially triggering material?” Within these posts, 64 potentially triggering statements were identified, which were present in 44 posts. In total, 10.19% of posts contained at least one potentially triggering statement.

Different types of potentially triggering statements were posted, including statements about:

- weights and/or BMIs (e.g., amount of weight lost or gained, current BMI)
- food and calories (e.g., number of calories eaten per day, foods to avoid)
- ED behaviors (e.g., restricting food, methods of purging)
- severity of participants’ illnesses (e.g., number of hospital admissions, reliance on a feeding tube)
- weight loss resources and diet advice (e.g., name of a calorie counting website, foods to avoid) disordered exercise advice (e.g., advice to exercise as much as possible)
- ED thoughts (e.g., plans of restricting food in the future)
- emphasis on body “perfection” (e.g., lyrics expressing the desire for a perfect body regardless of the pain that may accompany such)
- body-related self-depreciation (e.g., negative descriptors of one’s body)
- ED glorification (e.g., statements indicating strong positive feelings for fasting and protrusion of bones)
- medication associated with weight gain

While the types of triggering statements varied, they most commonly contained statements about food and/or calories ($n = 19$), weight or BMI ($n = 19$); ED- or weight-loss behaviors and/or

advice ($n = 13$); and thoughts indicative of EDs ($n = 9$). These trigger statements made on the recovery-oriented AN websites were at times indistinguishable from some of the statements made on pro-Anorexia websites.

Research Question 4

The fourth research question, “What are the responses of site moderators to triggering material that is posted?” corresponded with the potentially triggering statements addressed in response to Research Question 3. Out of the 44 potentially triggering posts present on the discussion boards, 28 posts (63.64%) did not receive a response. An additional 4 posts (9.09%) of potentially triggering posts received responses over 7 months after the posts appeared on a website. Therefore, only 27.27% of potentially triggering posts received prompt responses.

Eighteen statements (28.13%) with potentially triggering posts received responses from moderators. Three statements (4.79%) were automatically edited by a feature on Something Fishy that removed numbers. Moderators’ responses included deleting the name of a weight-loss tool and an entire post; advising moderation in exercise; banning a participant from a discussion board; redirecting the conversation; and praising efforts to eat, despite the small quantity that was consumed.

Subthemes Within Individual Discussion Boards for Research Questions 1 and 2

Individual website subthemes are presented as these fell under overarching/overall themes described in previous sections. Select texts for particular subthemes for each website are provided here. Table 3 lists the subthemes for Question 1 for all four websites (see Appendix A). Table 4 lists the subthemes of Support for Question 2 for all four sites (see Appendix B). For additional subthemes for each website, see Appendices C through F.

Mirasol subthemes. The Mirasol sample contained multiple themes that were included as overall themes. Recovery Advice was an overall theme that had several subthemes.

Subthemes of Recovery advice. The overarching/overall theme, Recovery Advice, was divided into three subthemes: Resource Recommendation, Advice on Finding Treatment, and Things that Helped in Recovery. For instance, Lauren (subtheme, Advice on Finding Treatment, June 15, 2012) advised, “Find an eating disorder clinic near you that can give you an evaluation, and maybe a day program could work for you.”

Something Fishy subthemes. Something Fishy contained multiple themes that were included as overall themes. Below subthemes of Advice, Treatment, Encouragement and Support, ED Symptoms and Illness Severity, and Challenges and Recovery-Oriented Confrontations are described.

Subthemes of advice. The overarching/overall theme, Advice, also considered an overarching theme of *support* (for Question 2), contained four subthemes: Treatment Advice, Recovery Advice, Advice to Communicate Honestly, and Relationship Advice. Within these posts, participants provided advice to one another about things such as seeking treatment, describing types of treatment that might be beneficial, making healthy choices, communicating honestly with others, and discussing relationships. For instance, Ivy (subtheme, Recovery Advice) advised another participant to consider inpatient treatment and to check with others about the accuracy of her perceptions.

If you truly want a chance at a happier life, or a better life, or any life at all, then you really do need to think about going IP [(inpatient)]. If that really isn't what you want, then maybe you need to check with those around you - because if the a/n is taking over, and you aren't thinking clearly, then maybe you need to ‘check in’ with the people around you

who might be thinking clearer and seeing things you either can't or don't want to. (June 22, 2012)

Subthemes of treatment. The overarching/overall theme, Treatment, was comprised of two subthemes: General Treatment Discussion and Treatment Information. Within these posts, participants discussed aspects of treatment, such as their own treatment experiences, treatments that could be obtained, and specific treatment programs. In five of these cases, all on one thread, participants discussed Mandometer treatment, which involves using technology to help patients modulate the quantity of food that they eat, the speed at which they eat, and improve their social skills. This type of discussion was depicted in a post (subtheme, Treatment Information) written by Abbie.

It's expensive and only part of it is covered by private health. But I think it's worth it - they have a ninety-something percent success rate at follow up five years later... that sounds like pretty good odds to me. (June 22, 2012)

Subthemes of encouragement and support. The overarching/overall theme, Encouragement and Support, had three subthemes: Words of Comfort, General Encouragement, and Praise. Within these posts, participants comforted, encouraged, and praised one another on recovery and related issues. For instance, Daisy (June 16, 2012) wrote (subtheme, Praise), “Kelly that is really great, you should be proud of yourself for taking that step.[]Good luck on Monday. Let us know how it goes!”

Subthemes of ED symptoms and illness severity. Within the overarching/overall theme, ED Symptoms and Illness Severity, there were two subthemes: Symptom Severity and ED Thoughts. In all of these posts, a significant component was either demonstrating the extent of one’s illness, whether it was physical or mental, or a discussion that included distorted thoughts.

In some of these posts, participants seemed unaware of the extent of their illnesses or the distortions in their thoughts. In others, participants appeared to intentionally convey that their illnesses were severe. For example, Rhea described (subtheme, Symptom Severity) the severity of her ED in the past, as well as of her current struggles

I really can't force myself to eat more. last [sic] time I had to go IP [(inpatient)] because i [sic] could not eat and was really sick. was [sic] really relieved when dr. took control and tube fed me till I was strong enough to eat on my own. (June 19, 2012)

Subthemes of challenges and recovery-oriented confrontations. The overarching/ overall theme, Challenges and Recovery-Oriented Confrontations, was comprised of two subthemes: General Challenges for Others and Confrontations about Consequences of Behaviors. Within these posts, participants challenged one another on their behaviors and thoughts and/or stated consequences that could occur as the result of ED behaviors. Often, these challenges were blunt, as could be seen in a post (subtheme, Confrontation about Consequences of Behaviors) written by Deanna.

Then you must live with the consequences of that... which is that your mum *will* find out, you will be hospitalized, and you will lose control over what happens to you and when... and you will have to take leave without pay and that will be up to your employer as to whether they grant you that or not. You will lose all independence. These are are [sic] just the practical consequences of choosing anorexia over and above anything else. I'm not even going near the physical and psychological consequences. (June 22, 2012)

ANAD subthemes. ANAD contained multiple themes that were included as overall themes. Providing Comfort is now presented.

Subthemes of providing comfort. The overarching/overall theme, Providing Comfort, was comprised of four subthemes: Finding Strength in Religion, I'm Here for You, Reassurance, and Caring Wishes. Within these posts, participants encouraged others to find strength in religion, particularly through use of the Serenity Prayer; expressed their availability to provide support; reassured one another; and/or expressed their care. For instance, Josie (subtheme, Caring Wishes, February 5, 2012) wrote, "Please continue to ask questions and keep us posted. Caring people on this site understand what you are going through. Thinking of you and sending you strength."

PsychForums subthemes. PsychForums contained numerous themes that were included as overall themes. Below, ED Symptoms and Illness Severity, as well as Forum Support, are described.

Subthemes of ED symptoms and illness severity. The overarching/overall theme, ED Symptoms and Illness Severity, had three subthemes: ED Thoughts, ED Behaviors, and Being Sick. Within these posts, participants demonstrated the extent to which they were ill through descriptions of ED symptoms and/or thoughts. In some posts, illness severity was expressed with ambivalence. Others demonstrated the high value that they placed on being thin. Participants who wrote such posts often made statements that were incongruent with ED recovery. Twenty of these posts appeared on the same thread, responding to Katherine's (May 8, 2011) question, "Why do you want to be thin?" An example of one such post (subtheme, ED Thoughts) was written by Eliana.

I feel pure and clean when I'm fasting and losing. It's one of the only times I feel slightly attractive. Everything looks better. My face, my body, my clothes fit better, I walk better, I feel better, if not hungry... I LOVE FASTING!!!!!!!!!! (March 20, 2012)

Subthemes of forum support. Posts containing the overarching/overall theme of Forum Support were designed to support other participants on the forum. Within this overarching theme, were four subthemes: Words of Care, Praise, Encouragement, and Reassurance. All of these posts were recovery-oriented in nature and many were concise. For instance, Meiling (May 6, 2012) praised (subtheme, Praise) another participant for making a decision to seek help from a therapist, stating, “This is brilliant news! I’m so glad to read this. You should be so proud of yourself for [making] this big step[.]”

Research Question 3 per Website

On all four websites, there was content that was potentially triggering, although the frequency of this content varied considerably by website. Below, the potentially triggering content is presented by website. Because some statements contained more than one type of potential trigger, the breakdown of trigger incidence does not equal the total number of potentially triggering statements.

Mirasol. In the 45 posts comprising the Mirasol sample, 12 (26.67%) contained potential triggers (see Appendix G for Triggering Content on Mirasol). Within these posts, there were a total of 18 potential triggering statements. Such statements included body weights or BMIs (10 instances); amount of food eaten, specific foods eaten, or specific foods or food groups avoided (5 instances); and ED behaviors or methods used to lose weight (4 instances).

One example of a potentially triggering statement can be seen in Kaylee’s post. She discussed her height and weight, which other participants may have compared to their own. Reading such a statement could have caused other participants to feel ashamed about having higher weights than Kaylee, or to believe that their EDs are not serious and do not require

treatment if their weights are higher. Many people with EDs feel competitive with others with EDs, which can lead them to be triggered by statements about weight. Here, Kaylee wrote:

Last Summer I was down to 63 pounds at five feet tall and it almost killed me... I am again working as a reporter and have allowed myself to get up to 80 pounds but I am not comfortable at 80, and I really don't want to gain any more through [sic] my doctor wants me at 100 pounds. (Kaylee, June 27, 2012).

Something Fishy. Out of 144 posts in the Something Fishy sample, 9 (6.25%) contained potential triggers (see Appendix H for Triggering Content on Something Fishy). Within these posts, there were a total of 14 potential triggering statements, including statements about severity of illness (5 instances), weight or BMI (4 instances), food and calories (4 instances), body-related self-depreciation (1 instance), and a weight-loss resource (1 instance), with one statement containing two types of triggers. In one triggering post, Celia discussed the extent of her hospitalizations.

I wish I had been more open and more able to be honest with my team about what was going on--it's taken me another ten admissions over four years to be able to do that [I've been out one year today!] (Celia, June 13, 2012).

Reading Celia's post could have triggered feelings of competition in other participants, or led them to view their own EDs as less serious.

ANAD. Out of the 132 posts in the ANAD sample, 7 (5.30%) contained potential triggers (see Appendix I for Triggering Content on ANAD). In these posts, there were a total of 8 potentially triggering statements, including statements about weight (2 instances), weight loss and dieting (2 instances), food and calories (2 instances), emphasis on body "perfection" (2

instances), and disordered exercise advice (1 instance), with 2 statements containing 2 types of potential triggers within each statement.

In one triggering statement, David implied that another participant should lose weight. Although the participant to whom David was replying had expressed concern that she would not be able to stop eating, she did not state that she needed to lose weight. Moreover, the forum was for individuals with AN, for whom dieting was contraindicated. In his post, David (June 6, 2012) wrote, “To gain control over this kind of over eating [sic] and enhance your weight loss journey, you must learn to eat for good health.”

PsychForums. Out of the 111 posts in PsychForums, 16 (14.41%) contained potential triggers (see Appendix J for Triggering Content on PsychForums). In these posts, there were a total of 24 potentially triggering statements, including statements about food and calories (9 instances), ED glorification (5 instances), ED behaviors (4 instances), weight (4 instances), severity of illness (2 instances), methods of losing weight (2 instances), ED thoughts (1 instance), medications associated with weight gain (1 instance), and “offensive and cruel content” (1 instance), the exact content of which was removed by a moderator. Five statements contained more than type of trigger each.

In one triggering statement, Katherine discussed a reason that she liked to be thin. The glorification of EDs that she demonstrated in her post could have led others to desire the same feelings through losing weight. She wrote:

oh [sic] well, my body is my best friend. i [sic] love to stare at it, to lust after it, to have it in my possession and live in it and feel it too. if i [sic] am thin i [sic] don't need others. i [sic] don't even need happiness or the feeling of being human. (May 9, 2011)

Research Question 4: Responses of Moderators to Triggering Material per Website

When potentially triggering content was posted, the responses by forum moderators and others affiliated with the websites, such as administrators, varied. The responses ranged from nothing to complete removal of a post, with many responses falling in between. Some responses from the forum moderators and other participants affiliated with each website are provided below.

Mirasol. The administrator on the Mirasol forum responded only one time to a website user. The other 11 potentially triggering statements received no response.

In the post that did receive a response, one participant described her sister's potential ED, including information about her weight. Janet, the forum administrator, responded to the participant's post in general, without addressing the potentially triggering nature of the participant's comment on weight for other participants on the Mirasol website. She stated, "What you have described is cause for alarm" (Janet, September 26, 2012), and recommended that Jane help her sister find medical help at the school she attended.

Something Fishy. There were two moderators active at the time of data collection. The moderators were responsive to posts containing numbers, such as weights or number of calories consumed, and to the name of a weight-loss resource. In all posts containing numbers, the numbers were deleted, either by the moderators or automatically by a feature of the website. When numbers were written with numeric characters, the website automatically replaced the numbers with asterisks, with four asterisks for each digit of the number. For numbers that participants spelled, a moderator replaced the number with three to four Xs. The name of the weight-loss resource was also replaced with Xs. The moderators did not edit the other triggers, nor did they reply in a manner that addressed the triggering statements. However, they did at

times give a reply to participants' posts without addressing the triggers, such as with a challenge, advice, or encouragement. In total, 6 of the potential triggers (42.86%) were addressed, either automatically by the website or by a moderator.

ANAD. There were one moderator and one support group leader active in the sampled posts. Out of the 8 potentially triggering statements, the support group leader responded once, and the moderator did not respond at all. In total, 12.50% of potential triggers received a response.

The support group leader, Josie, who responded to a potential triggering statement, did so in reply to a participant's disordered exercise advice. She provided a more recovery-oriented perspective on exercise, stating:

However, I would just caution you to make sure you continue to exercise moderately so that you maintain stable in your recovery. More is not necessarily better (and could be a red flag), so check in regularly with your dietician and therapist. (Josie, March 23, 2012)

PsychForums. There were two moderators/consumers, Hayley and Susan; one site administrator, Fawn; and a third moderator, Rosy. Out of the potentially triggering statements, 13 (44.83%) received a response, usually from Susan. Six of these triggering statements were addressed in a single post. Fawn and Rosy each responded to a potentially triggering post once, both to the same post.

The responses to potentially triggering statements included removing specific foods eaten and numbers of calories consumed, removing the entire content of one post, praising a participant for her efforts, and one redirection to more recovery-oriented discussion. In this redirection, Susan replied to the general nature of the thread, which contained a number of posts—including six triggering statements—that were incongruous with recovery. From the time

Table 5

Website Comparison

Statistic	Mirasol	Something Fishy	ANAD	PsychForums
Themes of support	37.78	47.92	46.21	34.23
Potential triggers	26.67	6.25	5.30	14.41
Triggers addressed	5.26	42.86	12.50	44.83
Mean posts	2.92	1,278.96	5.19	715.04
Median posts	2	398	2	30
Mode posts	1	12	1	1

Note. Themes of support, potential triggers, and triggers address are measured in percentage of posts per sample. Frequency data excluded those for forum moderators, support group leaders, and administrators.

the first triggering statement was posted in this thread, 10 months and 12 days had elapsed before Susan responded. Susan wrote:

Hey lovely people, The [sic] direction of this thread is starting to worry me a little, so I'd like to take the time right now to remind everyone that this forum is pro-recovery and glorifying ED is an unhealthy behaviour. When talking about urges to engage in fasting, purging, etc, [sic] it's helpful to speak about the emotions you're experiencing and exploring those emotions to see what you can learn from it. (Susan, March 21, 2012)

In conclusion, in all four websites, a significant proportion of the posts contained supportive themes. Table 5 provides some summary statistics.

Summary

In order to provide an overview of the discussion boards, the 10 most frequent themes on the combined four websites were described, along with 2 additional themes of support that had not appeared in the 10 most frequent themes. These themes were called overarching/overall themes, and they are listed with their frequencies in Tables 1 and 2. Subthemes for overarching

themes on each website were described and are listed in Tables 3 and 4 (see Appendices A and B for Tables). Ranging from gentle advice to blunt confrontations, the posts were quite varied, but similarities in themes threaded through the contents.

Subsequently, the types of potentially triggering statements across the four websites, as well as moderators' responses to these statements, were presented. Triggering statements for each website, as well as the responses by moderators and other participants affiliated with each website to the triggering statements, were presented. In Chapter 5, the author discusses the results and their clinical implications.

Chapter 5: Discussion

The purpose of the present study was to explore themes that arise on recovery-oriented discussion boards for individuals with AN, and, ultimately, the benefits that they may offer. The research questions were as follows:

1. What are the themes that arise on recovery-oriented AN Internet discussion boards?
2. What are the types of support that are given?
3. How frequent are postings that are potentially “triggering” material?
4. What are the responses of site moderators to triggering material that is posted?

In order to answer these questions, the author conducted a thematic analysis of four Internet discussion boards for individuals with AN. The results of the analyses, provided in Chapter 4, are given a brief overview here, accompanied with a discussion of implications, and compared to those from prior research. Subsequently, themes that emerged are interpreted in the light of select psychological theories: psychodynamic theories of defense mechanisms and Winnicott’s (1990a) facilitating environment, Yalom and Laszcz’s (2005) therapeutic factors of group therapy, and social psychology’s concepts of availability heuristics and in-group membership. The limitations of the study are considered and future directions in research are suggested.

Overview of Results and Implications

The 4 sampled websites were Mirasol (<http://www.mirasol.net/support/index.php?board=1.0>), Something Fishy (<http://www.something-fishy.org/online/options.php>), ANAD (<http://www.anad.org/forum/viewforum.php?id=4>), and PsychForums

(<http://www.psychforums.com/anorexia-nervosa/>). The total number of posts analyzed were $N = 432$. The themes that arose on each discussion board, when combined, showed 10 common themes:

1. Symptom Severity and ED Thoughts
2. Advice and Suggestions
3. Forum Support
4. Unpleasant Emotions
5. Recovery, Improvement, and Motivation
6. Treatment
7. Requests
8. Interpersonal Issues
9. Insights
10. Benefits of the Website and Gratitude.

The sampled websites were generally recovery-oriented, with the majority of the posts discussing participants' recovery endeavors. There was, however, one thread on PsychForums that became antithetical to ED recovery. The responses on this thread may have become pro-anorexia because of the question that was asked in the first post on the thread: "Why do you want to be thin?" (Katherine, May 8, 2011). When suffering from AN, it can be easy to be overcome by ED thoughts and harder to maintain a recovery-oriented mindset. As the responses indicated increasing distorted thinking, it appeared easier for others to post their own overvalued belief in thinness.

Apart from occasional slips, participants on the forums appeared to have a genuine interest in helping one another recover. Because the majority of participants suffered from

similar challenges of AN, they were able to relate to one another in ways that may not have been possible with others who do not suffer their difficulties and pain. The social support, based on personal experience, that participants provided may have had an impact on users of the websites.

All four recovery websites also contained triggering content. It is possible that the extent to which moderators were able to identify potential triggers and respond in a recovery-oriented manner had an impact on group norms. Moderators' tolerance of ED behaviors may have also had an impact on users. For instance, triggering comments on PsychForums were often not edited and even overtly accepted by a website moderator; however, triggering comments on Something Fishy were more rigorously addressed. When potential triggers, such as the amount one eats or how much one weighs, are consistently edited, participants on these forums may be less likely to post them. When moderators limit their activity, group norms for healthy behaviors may not develop. It is assumed that website moderators are not mental health professionals and may themselves be recovering from AN.

Participants on the Something Fishy forum posted the most comments overall, followed by those who visited PsychForums. The reason for the variations in post frequencies is unknown. However, because of the higher posting frequency on Something Fishy and PsychForums, participants on these forums may have been better acquainted with each other than were the participants on ANAD and Mirasol. Essentially, the frequency of participants' postings may indicate a greater sense of community on the Something Fishy and PsychForums forums.

Four criteria determined the thematic analyses of postings: prevalence of themes of support, prevalence of potentially triggering content, responses by website officials to potentially triggering content, and patterns of website usage. Taken together, the Something Fishy discussion board might have been of greatest benefit to clients in treatment for AN. Here, support

provided was high, triggering content was low, a high percentage of triggers were edited or removed from the site, and the frequency of postings was high. Use of the Something Fishy forum is likely to help individuals challenge their distorted thought processes and maladaptive behaviors and engage in behaviors congruent with recovery.

Benefits and Risks of Particular Websites

Use of ANAD may also be beneficial to individuals with AN because of the high number of supportive postings and low number of potential triggers. However, because postings were not frequent, there may be less of a sense of community on ANAD than there is on Something Fishy. Based on the posts sampled, it does not seem that using ANAD would be detrimental to individuals' well-being. Indeed, the presence of the theme Benefits of the Website and Gratitude suggests that, at least to a portion of individuals, ANAD helps individuals' progress in recovery.

Mirasol and PsychForums are less likely to be beneficial; both hosted a large number of potentially triggering statements, most of which were not well addressed by website moderators. Additionally, the use of these two discussion boards may even be detrimental for a portion of website users because of triggering statements. Furthermore, although the medical information provided by a website moderator on PsychForums may have been accurate, it is also possible that it was incorrect and thus could have been potentially harmful. For example, a moderator provided an opinion about the benignity of a participant's physical ailment, which could have caused the participant and others to abstain from seeking needed medical care. Although the tone of Mirasol was more consistently recovery-oriented than that of PsychForums, its use for recovery is questionable.

Website Benefits While Client's in Treatment

Because clients may benefit from the use of Something Fishy and, to a lesser extent, ANAD, clinicians may benefit from their clients' use of these forums. For instance, when clients' motivation to recovery increases as a result of using these discussion boards, further improvements may be made in therapy. Additionally, with the social support provided on these discussion boards, clients may be better able to maintain gains between treatment sessions, as social support has been identified as a factor that promotes recovery from AN (Tozzi et al., 2003). Clients could also discuss with their therapists understandings they have gained as a result of website discussions. Given possible benefits from Something Fishy and ANAD, therapists may be more hopeful when working with clients with AN. For example, AN is an ego-syntonic disorder, which often leads individuals with AN to be ambivalent about or resistant to recovering. The lack of motivation in many individuals with AN can lead therapists to spend a great deal of time helping them want to change. If Something Fishy and ANAD help individuals understand the benefits of recovery, these individuals may be more receptive to their therapists' interventions. However, because website themes could change over time, it is important that clinicians examine the websites prior to recommending Something Fishy and ANAD to their clients, using their clinical judgment as to whether they would be appropriate for the needs of their clients.

Comparisons with Prior Research

In one of the few published studies on recovery-oriented forums for AN, Riley and her colleagues (2009) provided an analysis of one recovery-oriented forum. The authors discussed that descriptions of participants' body sizes were prominent. The present study also found that participants made statements about their weights fairly often. Furthermore, Riley and her

colleagues found descriptions of “doing something with the body,” such as purging, as prevalent (p. 354). The present study also found “Symptom Severity and ED Thoughts,” which included descriptions of ED behaviors linked to participants’ bodies. Finally, Riley and her colleagues identified discussions of “bodily experiences,” such as fatigue and feeling faint (p. 355). Again, the present study found that “ED Symptoms and Illness Severity” included descriptions of physical symptoms. Unlike Riley and her colleagues, who focused on “body talk” and the portrayal of identity (p. 357), the present author elicited themes from discussion boards because she believed such a focus would illuminate a wide range of trends within and among recovery-oriented websites.

McCormack and Coulson (2009) also studied recovery-oriented discussion boards for AN. They found support for 10 pre-identified themes on one such website; these were: (1) “information giving/information seeking,” (2) “encouragement and esteem,” (3) “personal experience,” (4) “personal opinion,” (5) “prayer,” (6) “network,” (7) “thanks,” (8) “poetry and quotes,” (9) “emotional expression,” and (10) “miscellaneous” (McCormack & Coulson, 2009, p. 3). The present study’s themes approximated the themes found by McCormack and Coulson; however, their themes “Poetry and quotes” and “Miscellaneous,” were not identified by the present study. All themes in the present study could be labeled and so a miscellaneous category was not necessary. Table 6 shows similarity of themes from the present study and from McCormack and Coulson (2009).

Themes emerged in the present study that were not identified by McCormack and Coulson (2009). Specifically, on Mirasol, Challenges did not have a direct comparison with any of the themes identified by McCormack and Coulson, nor did Challenges and Recover-Oriented Confrontations that emerged on Something Fishy. However, all of the themes on ANAD and

Table 6

Related themes between McCormack and Coulson's (2009) study and the present study

McCormack and Coulson (2009)	Hersey (present study)
Information giving/Information seeking	Mirasol: Resource recommendation (subtheme) Something Fishy: Treatment information (subtheme) ANAD: Information PsychForums: Information on EDs and the recovery process
Encouragement and esteem	Mirasol: Welcomes and offers of support; Encouragement Something Fishy: Encouragement and support PsychForums: Forum support
Personal Experience	Mirasol: Symptoms severity and ED thoughts; Things that helped in recovery; Recovery, progress, and motivation Something Fishy: Treatment information (subtheme); ED symptoms and illness severity; Recovery and Progress ANAD: Recovery and symptom improvement; Severity of illness and ED thoughts; Treatment PsychForums: ED symptoms and illness severity; Recovery and improvement
Personal opinion	Mirasol: Recovery advice; Explanation for the ED Something Fishy: Advice ANAD: Advice and suggestions PsychForums: Advice and suggestions; Possible causes of the ED
Prayer	ANAD: Finding strength in religion (subtheme)
Network	Mirasol: Welcomes and offers of support

	ANAD: I'm here for you (subtheme)
Thanks	Mirasol: Benefits of the involvement of others and gratitude ANAD: Benefits of the website and gratitude
Poetry and quotes	Theme not found
Emotional expression	Mirasol: Unpleasant emotions Something Fishy: Unpleasant emotions ANAD: Unpleasant emotions PsychForums: Unpleasant emotions

PsychForums could be seen in McCormack and Coulson's study. The themes in the present study were more specific; for instance, McCormack and Coulson's theme "Personal Experience" included "personal experiences on [of] the disorder and its symptoms, treatment, relationships with family and friends, and methods of coping" (p. 5). Thus, McCormack and Coulson's Personal Experiences encompassed specific themes identified in the present study, including Symptom Severity and ED Thoughts, Relationship Issues, Treatment, and Recovery and Progress. The present author suggests that the specificity of the themes that she identified allows for a more in-depth understanding of contents of posts on recovery-oriented discussion boards for AN than did the study by McCormack and Coulson.

In addition to the similarities between the results of the present study and previous research that have been discussed here, the present author found personal factors that influence the development of AN, which have been identified in the eating disorder research (Fairburn et al., 1999), in the present study. Specifically, participants in the websites studied by the present author discussed negative self-evaluation, family issues, and lack of close friends (Fairburn et al., 1999).

Applications of Psychological Theories

The results of present study can be explained by certain psychological theories and their concepts. Here, these psychological theories and their concepts are applied to the author's understanding of the results. Psychodynamic theories and group psychotherapy, as practiced in clinical psychology, seem to be relevant approaches. Subsequently, the author applies a social psychological view.

Psychodynamic factors of mental health. Participation on website forums are interpreted from two theoretical constructs: defense mechanisms (McWilliams, 1994) and the facilitating environment Winnicott (1990a) of psychodynamic theory. Both constructs explain how a person can have good mental health.

Defense mechanisms. Psychological defense mechanisms serve the purpose of helping individuals avoid threatening emotions and maintain self-esteem. These defenses include denial, omnipotent control, repression, isolation, compartmentalizing, undoing, and turning against the self (McWilliams, 1994). All of the aforementioned defenses have the potential to be used by individuals with AN. For example, individuals with the Binge-Eating/Purging subtype of AN tend to have higher pain thresholds than do individuals without EDs, perhaps in part due to a result of a parasympathetic reaction in the body following purging (Papežová, Yamamatová, & Uher, 2005). Emotional pain, too, may be blunted in individuals with AN. For instance, Toman describes an “‘anaesthetic [sic] weight,’ below which [anorexics] do not feel pain and negative emotions” (as cited in Papežová et al., 2005, p. 433). If indeed AN leads to emotional blunting in some of the individuals afflicted, it may also promote the utilization of denial and repression.

On the recovery-oriented discussion boards, symptoms of AN were at times portrayed as methods of coping with unpleasant feelings or circumstances. However, utilization of ED

behaviors was also challenged by other participants. Through discussions by participants of ED behaviors as methods of coping and through receiving challenges on such, the use of recovery-oriented discussion boards may illuminate for individuals their AN symptoms. Consequently, participation on these forums could reduce the likelihood of engagement in defensive processes like rationalization, denial, and/or repression. Instead, participants may adhere to recovery-oriented advice that is provided.

Facilitating environment. Winnicott's concept of the facilitating environment is about care that is provided to meet the needs of infants and young children (Winnicott, 1990a). The facilitating environment is primarily about adaptation to meet the needs of an individual, which leads to maturation (Winnicott, 1990a). When that care is adequately provided, an infant's ego is strengthened and the child is able to develop a self that feels spontaneous, creative, and authentic (Winnicott, 1990b), barring significant developmental disruption.

An individual's primary caregivers are not the sole sources of a facilitating or holding environment; psychotherapists have been discussed as providing these environments, both traditionally (i.e., in person; Winnicott, 1990c) and through email (Kondo & Tabata, 2003). For instance, Winnicott (1990c) discussed therapist's provision of the facilitating environment as allow clients to temporarily regress in order to foster the development of their true selves.

In addition to psychotherapist's abilities to provide facilitating environments, it is possible that online communities could provide these environments. On all four of the websites sampled, participants offered one another support. They provided empathy, praise, encouragement, and expressions of care. Their affirming words provided environmental conditions, albeit online, that promote intrapersonal development.

Group therapy. Conclusions on the benefits of group therapy for individuals with AN have been mixed. Group treatment for this population has been demonstrated to have positive effects on self-concept, mood, and social connectedness (Lázaro et al., 2011); but when individuals with AN make interpretations about others' views of their bodies, increases in body image concerns can occur (Espeset, Gulliksen, Nordbø, Skårderud, & Holte, 2012). Furthermore, group members are at risk of developing feelings of competition toward one another, as well as learning new ED behaviors. While Yalom and Leszcz (2005) discussed therapeutic factors in group psychotherapy, including “imparting information,” “imitative behavior,” and “interpersonal learning” (p. 1-2), these factors could lead to the aforementioned problems with interpersonal comparison and competition in group settings. Thus, conflicting positive-negative outcomes may occur in group contexts.

Yalom and Leszcz (2005) discussed additional therapeutic factors as well, including: “instillation of hope,” “universality,” “development of socializing techniques,” “group cohesiveness,” and “catharsis” (p. 1-2). Just as these factors occur in group therapy, they may also occur on Internet discussion boards for AN. Despite their lack of leadership by trained psychological treatment providers, these discussion boards accommodated groups of individuals. On each discussion board, there was a sense of community that could benefit participating members through the above-mentioned mechanisms, identified by Yalom and Leszcz. For instance, participants could gain hope from reading posts written by individuals who are further in the recovery process. They could learn positive coping techniques from others, and gain a sense of connectedness. This sense of connectedness might have been particularly strong for individuals who participated on Something Fishy and PsychForums, as the number of posts made by each participant, on average, was high.

Social psychology. Social psychology is the study of the ways in which people “*think about, influence, and relate* to one another” (Myers, 2009, p. 1). Given the small group nature of Internet discussion boards, the relevance of themes that emerge from exchanges among members of an internet discussion group and certain constructs of social psychology are clear, such as availability heuristic and in-group membership.

Availability heuristics. Individuals’ thought processes are based on experiences in their lives. Relatedly, availability heuristic (Tversky & Kahneman, 1973) explains that individuals’ judgments of the frequency of events are based on examples of experiences that are easily remembered. As Myers (2009) explains, when these examples are recollected, individuals automatically assume that they represent common occurrences, which is an overgeneralization.

The aforementioned cognitive tendency to see an individualistic reaction as universal may lead AN individuals’ perceptions of their behaviors as common, or to the perception that mistakes are indicative personal deficiency, which is the self-blame option of attribution theory. Participation on recovery-oriented discussion boards for AN could challenge their fellow members’ availability heuristics. AN is also associated with low self-esteem (Davis & Scott-Robertson, 2000), and individuals with the disorder may lack “a broad and diverse collection of positive self-schemas” (Stein, 1996, p. 102). Participation on recovery-oriented discussion boards for AN could challenge such distorted cognitions.

All four of the discussion boards contained themes of encouragement, and three contained the subtheme of praise. When individuals take the time to provide these types of support, it displays warmth for and value of others, which serve as instances of disconfirmation of maladaptive perceptions. Correspondingly, participants expressed positive effects of website usage. This finding supports the notion that one benefit of the discussion boards is that

individuals' availability heuristics are challenged within sustained support and encouragement, which, in turn, may increase the likelihood that individuals will engage in recovery-oriented behaviors and rational thought processes.

In-group membership. Group membership has been demonstrated to influence eating behaviors in a nonclinical sample, with those in an individual's in-group serving as models (Cruwys et al., 2012). On pro-anorexia websites, these tendencies can be problematic. Riley and her colleagues' (2009) analyses of a pro-anorexia website suggested that positive discussions of ED symptomology shaped in-group norms. Similarly, the same authors found different group norms on a recovery-oriented website. They concluded that, in contrast to the pro-anorexia website's group norms, the recovery-oriented website in-group "focused on the 'person inside' and being 'mentally healthy'" (Riley et al., 2009, p. 357).

In the present study, in-group trends on all four discussion boards were, for the most part, recovery-oriented. Participants attended to the recovery process and encouraged engagement in recovery-oriented behaviors. However, on one PsychForums thread, many of the posts focused on the idealization of thinness and starvation by several of the participants, though the majority of the posts on the forum remained recovery-oriented. This thread on PsychForums illustrates the possibility for in-group attitudes to shift (e.g., from a general attitude of recovery to an attitude of acceptance and appreciation of EDs).

In addition to the tendency of in-groups to influence behaviors, group membership has been demonstrated to promote trust among strangers (Platow, Foddy, Yamagishi, Lim, & Chow, 2012). Given this finding, it is possible that membership in a recovery-oriented website for AN increases the likelihood that individuals will trust and follow advice from experienced people who are both strangers and yet alike. Thus, in general, it is likely that the trust established

through forum membership increases the likelihood that forum users will utilize recovery-oriented behaviors and skills.

Limitations of the Study

Several limitations have been identified in the present study. One limitation was the lack of diagnostic homogeneity among participants. Participants' diagnosis of AN was not provided. Some may not have met the criteria for the diagnosis of AN. A small number of participants sought help for a loved one with an ED or identified with having another ED (e.g., Bulimia Nervosa). Others may have self-identified as having AN, while they may have met the less stringent criteria for EDNOS. The aim of the study was to better understand the nature of recovery-oriented discussion boards for individuals with AN; yet there was no confirmation that participants had the disorder. Although the themes present on these discussion boards remain the same, regardless of participants' diagnoses and representing communications on AN recovery sites, it is clear that the posts were not always written by individuals with AN.

A second limitation is the relatively small sample size; 20 threads were analyzed from each of only 4 websites. There was also a time limitation on one of the samples. Three of the website sampled contained threads with posts dating from at least May of 2011. Consequently, these samples were inclusive of multiple months. However, because the AN discussion board on Something Fishy was more frequently utilized, the threads sampled contained posts from only April, May, and June of 2012. Therefore, the most frequent themes present in the Something Fishy sample may have been specific to that time of the year. However, because of the non-seasonal nature of the themes, it is unlikely that they would have been significantly different if they had been taken from another time in the year. Still, sampling limitation remains a possibility.

All discussion boards sampled were ongoing; there was no indication that they would be shutting down. The results of this study, however, depicted the themes during one period of time, which is a limitation. It is entirely possible that the themes present on any of the sites could change over time.

There may have been limitations in the diversity of participants. Specifically, individuals without the financial means to pay for computers and Internet access would have great difficulty accessing recovery-oriented discussion boards. Some participants may have used computers at schools, workplaces, or libraries, but there are, nonetheless, many people without access to the Internet. Researchers of the Pew Internet Project, for example, found that 15% of adults do not use the Internet, often citing cost or difficulty of use as reasons (Zickuhr, 2013). Additionally, some individuals without insurance may not be aware that their symptoms are indicative of EDs. This lack of awareness may be particularly so in racial and ethnic minority and immigrant communities where mental illness is regarded with stigma. For some European Americans, this lack of awareness could be a result of denial about the problem, while for others, especially those with less social privilege, it could reflect a lack of awareness about the nature of EDs. In the present study, the voice of these populations is, regrettably, not reflected.

Future Directions in Research

The present study has implication for future research. For instance, researchers, using an experimental design, may investigate the efficacy of clients' use of recovery-oriented discussion boards for AN as an adjunct to treatment as usual, comparing this combined treatment to the same treatment, but with no discussion board adjunct. Based on the results, clinicians could make an evidence-based decision about the statistical benefits of recommending particular sites for their clients with AN. Based on the results of the present study, the author proposes that

recommending the use on Something Fishy, and, to a lesser extent, ANAD, would be beneficial to individuals with AN. Further research could determine the extent to which the two websites help clients improve.

A related possibility for future research is studying the efficacy of participation on a recovery-oriented discussion board created by a clinic. The website could be open to current clients with EDs, clients on waiting lists, and individuals who identify as having an ED but who are not yet ready to receive treatment. Graduate-level practicum students could moderate the site, ensuring that potential triggers are removed and site rules are enforced. Outcome measures could be used before, during, and after participation on the website, provided through a function on the website itself. The results of the measures could then be compared to those of clients who either did not want to participate on the website or were chosen to be in a control group.

Another possible area for future research is on website moderators and administrators. Because of their administrative titles, it is likely that at least some website users trust the moderators based on their social power and status. Yet, little is known about the qualifications and characteristics of moderators on the discussion boards studied by the present author. The author only learned their posting frequencies and the content of their posts. Future research could provide a greater level of understanding of these individuals perhaps through online or telephone interviews. However, moderators may prefer to remain anonymous and keep their views confidential.

Conclusion

The primary aim of the present study was to provide information that could enhance clinical treatment for individuals with AN. Based on the results of the thematic analyses of four recovery-oriented discussion boards, the author would recommend that clinicians examine two of

these websites and possibly suggest them to their clients with AN. However, because the effects of participation on these forums have not been studied in site users, it is recommended that clinicians encourage a dialogue on any issue that may arise for clients should they choose to participate on the forums. In contrast, should clinicians learn that their clients are participating on the Mirasol or PsychForums AN discussion boards, the author recommends cautioning clients about the potential for the posts to be triggering. Communication about discussion board usage may be particularly important because of the ego-syntonic nature of AN, which was also demonstrated in a portion of posts on all four websites. Perhaps through the addition of participation on Something Fishy and/or ANAD, clients' recovery journeys will be at least a little bit easier.

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Appendix A

Table 3

Subthemes on all Four Websites and their Frequency

Theme	Subtheme	Mirasol	Something Fishy	ANAD	PsychForums
Symptom Severity and ED Thoughts		48.89			
	ED Behaviors and Symptoms	31.11			
	ED History	22.22			
	ED Affecting Life	13.33			
	ED Thoughts and Treatment Resistance	6.67			
Recovery Advice		15.56			
	Resource Recommendation	6.67			
	Advice on Finding Treatment	4.44			
	Things that Helped in Recovery	4.44			
Advice			31.25		
	Treatment Advice		13.19		
	Recovery Advice		10.42		
	Advice to Communicate Honestly		4.86		
	Relationship Advice		2.78		

Treatment		25.69	
	General Treatment Discussion	18.06	
	Treatment Information	8.33	
Encouragement and support		20.14	
	Words of Comfort	10.42	
	General Encouragement	6.25	
	Praise	4.86	
ED Symptoms And Illness Severity		16.67	
	Symptom Severity	13.19	
	ED Thoughts	6.94	
Challenges and Recovery-Oriented Confrontations		12.50	
	General Challenges for Others	7.64	
	Confrontations about Consequences of Behaviors	6.25	
Providing Comfort		12.12	
	Finding Strength in Religion	4.55	
	I'm Here for You	4.55	
	Reassurance	2.27	
	Caring Wishes	1.51	
ED Symptoms and Illness Severity			41.44
	ED Thoughts		26.44
	ED Behaviors		14.41

	Being Sick	8.11
Forum Support		21.62
	Words of Care	10.81
	Praise	5.41
	Encouragement	4.50
	Reassurance	2.70

Note. $N = 432$ posts on the four combined discussion boards. Frequency is measured in percentage of overall posts.

Appendix B

Table 4

Support Subthemes on All Four Sites and Their Frequency

Theme/Subtheme	Mirasol	Something Fishy	ANAD	PsychForums
Recovery Advice	15.56			
Resource Recommendation	6.67			
Advice on Finding Treatment	4.44			
Things that Helped in Recovery	4.44			
Advice		31.25		
Treatment Advice		13.19		
Recovery Advice		10.42		
Advice to Communicate Honestly		4.86		
Relationship Advice		2.78		
Encouragement and Support		20.14		
Words of Comfort		10.42		
General Encouragement		6.25		
Praise		4.86		
Challenges and Recovery-Oriented Confrontations		12.14		
General Challenges for Others		7.64		
Confrontations about Consequences of Behaviors		6.25		
Encouragement and Praise		18.94		
Encouragement		12.88		
Praise		8.33		

Providing Comfort	12.88	
Finding Strength in Religion	4.55	
I'm Here for You	4.55	
Reassurance	2.27	
Caring Wishes	1.51	
Forum Support		21.62
Words of Care		10.81
Praise		5.41
Encouragement		4.50
Reassurance		2.70

Note. $N = 432$ posts on the four combined discussion boards. Frequency is measured in percentage of overall posts.

Appendix C

Mirasol Subtheme Examples

Theme	Subtheme	Text Examples
Symptoms Severity and ED Thoughts	ED Behaviors and Symptoms	“I have also been addicted to diet energy drinks but I’m quitting them cold turkey because my heart is starting to do funny things. I have a sugar free chewing gum addiction as well which wreaks havoc on my digestive system. I know I should cut down but it’s so hard! I haven’t gotten my period is [sic] 6 months and I’m just scared as hell right now. My body could be necrotizing itself for all I know.” (Liz, July 31, 2012)
	Weight	<p>“So I’m 5’6” and weigh somewhere around 90 lbs. I just moved so I don’t have a scale and it kills me every day to not know how much exactly I weigh. I used to go into the kitchen and see the scale and weigh myself every time... getting so happy when it dropped a few pounds. It used to be the biggest joy of my life when I could weigh myself and then go to a BMI calculator and see it drop even more.” (April, August 22, 2012)</p> <p>“I currently have a bmi [body mass index] of 13.3 and I’m afraid that my organs will start failing but it’s like I can’t stop.” (Olivia, July 31, 2012)</p>
	ED History	“I am 19 years old and I struggled with anorexia several years ago. I started out by simply reducing my caloric intake very minimally, and I lost a few pounds at first. This progressed into reducing my meals and cutting out more foods...I eliminated desserts, fats, and processed foods...As my obsession with food increased, my body weight decreased. My period stopped, and I no longer had any energy. I found myself laying (sic) around the house, too weak to exercise or engage in activities that I once enjoyed.” (Aimee, August 28, 2012)
	ED Affecting Life	“Now here I am today. I am so broken. I sit and cry

		in front of the mirror. I am compulsively and obsessively looking in every mirror. This Sunday is my graduation party and I went to buy a new bathing suit. I couldn't do it. I don't think I am ready to be in front of a bunch of people half naked when I can hardly stand in front of myself." (Jen, May 25, 2012)
	ED Thoughts and Treatment my eyes, and Resistance	"Now my brother is becoming anorexic right before my eyes, and while I can't help but be worried, I'm also so jealous." (Megan, June 5, 2012)
	Welcomes and Offers of Support	"If you ever need or want someone to talk to, I'm totally here for you." (Megan, June 3, 2012)
	Unpleasant Emotions	"i [sic] feel worthless, ugly, fat, and like I will never find love." (Leah, August 2, 2012)
	Encouragement	"I know this is the hardest thing to overcome, but if you have the ability to maintain an ed [sic], then you have the ability to overcome one. Just be patient. but [sic] never stop trying." (Allison, June 9, 2012)
	Recovery Advice	
	Resource Recommendation	"I ordered a book called "Goodbye Ed, Hello Me." It is very highly rated. It is supposed to guide you through steps to take to get rid of the eating disorder for good! I also ordered a book called "A new guide to rational living" by Albert Ellis. This book is supposed to show you a different way of thinking about things so you are able to break vicious patterns and habits in your life." (Rachel, May 28, 2012)
	Advice on Finding Treatment	"Find an eating disorder clinic near you that can give you an evaluation, and maybe a day program could work for you." (Lauren, June 15, 2012)
	Things that Helped Recovery	"One thing that helped me was trying to think of in how life would continue to be...I was in so much depression and pain, and I definitely did not want to continue my life in that fashion. I no longer wanted to obsess over food and weight." (Aimee, August 30, 2012)

Relationship Issues	“... nor will my family stop harassing me and my therapist to commit me to a hospital. I ignore her but she continues. How do I make this drama stop?” (Courtney, April 23, 2012)
Seeking Feedback and Help	“Help!” (Liz, July 31, 2012)
Recovery, Progress, and Motivation	“Getting well has been as much about developing self-trust as it has been about eating healthily. I need to ‘say it as it is’ rather than what I think others want to hear. Discovering this about myself has been a wonderful gift, it’s still a novelty for me and sometimes still I don’t have the courage to honour it.” (Lucy, December 28, 2010)
Benefits of the Involvement of Others and Gratitude	“I became very ill and it actually took people’s, what I considered, meddling to eventually give me a glimpse into my own helplessness to the illness.” (Lucy, May 3, 2012)
Challenges	“Are you prepared to eat and/or change your disordered patterns to appease them?” (Lucy, May 3, 2012)
Explanations for the ED	“I have been anorexic and bulimic for 30 years, on and off, and I finally realized myself that I want to be fragile, I want to look awful, I want to experience pain because I feel unworthy to be healthy. Also when I am a normal weight, people expect too much from me.” (Kaylee, June 27, 2012)

Note. All ellipsis points in the text excerpts in this table were used by the authors of the posts and do not indicate omission of material, with the exception of Courtney’s (April 23, 2012) post containing Relationship Issues.

Appendix D

Something Fishy Subtheme Examples

Theme	Subtheme	Text Examples
Advice	Treatment Advice	<p>“I don’t have much experience with treatment centres besides me [sic] own. But I’ll tell you what my T [(therapist)] said. Basically [sic] if you are still majorly struggling despite regular therapy a week. If you are still struggling with food etc[.] and need the help of a N [(nutritionist)] or RD [(registered dietician)]. If you find you don’t get much covered in your one hour a week because there seems to just be so much work to do. If you could do with more support than what you’ve got basically!!!” (Daniela, June 13, 2012)</p>
	Recovery Advice	<p>“In order to recover, you have to put your weight fears out of your mind. At this point, concerns about that just play into your ED and work against your recovery.” (Sadie, June 16, 2012)</p> <p>“Do you have a meal plan or anyone to be accountable to for eating all your meals and snacks?” (Gabriella, June 23, 2012)</p>
	Advice to Communicate Honestly	<p>“Your mom probably really needs to know how bad your ED has gotten. Your mom might need to be worried and concerned. No one wants their parents to worry about them. You can’t let that keep you from getting the help you need to get better. It would be much better to tell your mother about this and get the help you need, than to go even further down the sick road and have her find out when you end up in a hospital somewhere.” (Sadie, June 19, 2012)</p>
	Relationship Advice	<p>“It sounds like this is not a good relationship for you at this point in time. I think you both need to spend some time away from each other, and set a boundary that you only do things that do not involve mealtimes together; going out for a movie for instance. It also sounds like you need to set the</p>

		condition that you do not talk about things eating disorder related with each other, until you are both in recovery.” (Nicole, June 25, 2012)
		“try [sic] and make a family that you are good with. it [sic] made things even easier for me.” Ella (June 17, 2012)
Treatment	General Treatment Discussion	“My psychologist who i [sic] see every friday [sic] after work wants to see me on tuesday [sic] as well, just to see how i [sic] am. I don’t deserve her support. See my mum (who i [sic] live with) has gone away for a week to visit my brother and his family, and my T knew my eating would get worse while shes [sic] away, so hence her wanting to see me on Tuesday. She keeps saying shes [sic] really concerned about me, and wants me to consider going back into hospital, but thats [sic] the last thing i [sic] want or need! i [sic] was in hospital in march [sic] as it was, and they didnt [sic] even monitor my lack of eating dramas. So i [sic] cant [sic] see how hospital will help this time.” (Jill, June 17, 2012)
	Treatment Information	“There’s a huge emphasis on numbers hence the whole ‘mandometer’ thing. As the others have said there’s really no psych therapy involved. Their philosophy is that once the body gets back to a normal weight all the psych symptoms go away.” (Faith, June 22, 2012)
Encouragement and Support	Words of Comfort	“Thinking of you and sending positive, healing vibes your way.” (Jessica, June 25, 2012)
		“The point is to reach a healthy weight, not to get fat. If you’re working with qualified professionals, they will be able to help you reach a healthy place.” (Sadie, June 16, 2012)
	General Encouragement	“Because mostly the anticipation is worse. You’re only asking question. They can’t see you. They don’t know who you are. And worst case scenario you can hang up. This [sic] is a first time phone call for you. But I’m sure the person who answers the phone has had a similar phone call hundreds of times! You [sic] can do it! You can!” (Daniela, June 13, 2012)

	Praise	“Kelly that is really great, you should be proud of yourself for taking that step. Good [sic] luck on Monday. Let us know how it goes!” (Daisy, June 16, 2012)
ED Symptoms and Illness Severity	Symptom Severity	“I really can’t force myself to eat more. last [sic] time I had to go IP [(inpatient)] because i [sic] could not eat and was really sick. was [sic] really relieved when dr. took control and tube fed me till I was strong enough to eat on my own.” (Rhea, June 19, 2012)
	ED Thoughts	“I want a better life but i [sic] want anorexia more.” (Jill, June 22, 2012)
		“Do you really thing I won’t need to cut back later? Coz [sic] I can’t go through that horrible stage of reducing my intake again. I can’t face it. I feel weak for saying that – but I just can’t. I would rather never increase my intake by the extra amount and then have to reduce again, perhaps to below this level. I just can’t do it any more [sic].” (Willow, June 24, 2012)
Unpleasant Emotions		“I am feeling a lot of shame right now and feeling very useless right now. I really want to be able to go back to work but tonight walking my dog just around the block, again I was getting so tired. I know I need to gain weight to get my strength back, but I can’t seem to do it. I know I will hopefully be able to start the IOP [(intensive outpatient)] program soon, but right now, I feel stupid and useless.” (Kelly, June 19, 2012)
Challenges and Recovery-Oriented Confrontations	General Challenges for Others	weight loss amount for a ‘normal person’. For “Willow, Reality [sic] check. You will never have to reduce your intake to or below this this [sic] level. You said it yourself: you are eating what would be a god’s sake you are eating such a small amount you are maintaining a DRAMATICALLY UNDERWEIGHT weight (I refuse to accept the ed [sic] bs saying it’s not dramatically underweight, sorry). Seriously, if what you are eating keeps you anorexic then it isn’t enough food. It’s not a healthy amount. You will have to eat MORE than this to get

to and stay at a healthy place.” (Jessica, June 24, 2012)

“In IP [(inpatient)] we had to have something most people considered “unhealthy” every single day – and still many people on weight gain struggled to gain weight so it’s not going to make you magically gain weight or do anything really “bad” to your body overnight. Is there another way you could reframe that thought that it’s ‘too unhealthy[?]’” (Celia, June 21, 2012)

Confrontations about Consequences of Behaviors “Then you must live with the consequences of that... which is that your mum *will* find out, you will be hospitalized, and you will lose control over what happens to you and when... and you will have to take leave without pay and that will be up to your employer as to whether they grant you that or not. You will lose all independence. These are [sic] just the practical consequences of choosing anorexia over and above anything else. I’m not even going near the physical and psychological consequences.” (Deanna, June 22, 2012)

Requests for Help, Advice, and Information

“Would you recommend this program? How were the meals...trays or cafeteria style? How many people do they allow in the program at once? Does everyone have their own therapist and nutritionist? Do they allow laptops or anything? I have so many questions. I would love your help with this one!” (Samantha, June 17, 2012)

Insights

“I thought about it all day and I realized that it’s at the crux of why I feel so horrible now: I have this fantasy that I can somehow magically change the past so that none of this ever happened. My anorexia is playing a key role in that...as if somehow I can ‘erase’ my body (and therefore the trauma), reinvent it, and make it new and different.” (Gabriella, June 25, 2012)

Interpersonal Problems

“We had a family gathering today because it’s father’s day. I almost felt like I was back in high school. My [sic] grandma called me lazy and talked about how I shouldn’t be tired. I guess working five days a week plus appointments plus battling myself

plus trying to stay in a recovery mindset with a bunch of shit going on isn't enough for her. My sister had a comment for everything I said. I want to make my dog a therapy dog so I was happily talking about that and my sister chimmed [sic] in every couple minutes saying you can't do that, you can't afford that, your dog is stupid, your dog is untrainable...blah blah blah. Then my sister in law chimmed [sic] in as well with my sister with the dog stuff, called me lazy, comments on how I don't drive (still awaiting for my doctor to sign off on it) and whispered things to my sister." (Cady, June 17, 2012)

Recovery and Progress

"... i'm [sic] absolutely SURE that we can recover fully.I [sic] actually have made it to a not so bad body image. I have a normal weight, I don't have a perfect body (but what's perfect to whom anyway?) but I'm quite satisfied." (Madia, June 20, 2012)

Appendix E

ANAD Subtheme Examples

Theme	Subtheme	Text Examples
Advice and Suggestions		<p>“Eat food! But make healthier choices. You can still eat a lot of food and maintain or even lose weight if you eat whole foods like produce, beans, cooked grains, etc. and avoid sugars and too many processed grains like pasta, bread, and other snacks. A really big place where calories and sugars hide is in beverages, switching to water can help. (Rob, June 20, 2012)</p>
Recovery and Symptom Improvement		<p>“Thanks for the help! I appreciate it a lot! I’ve [sic] started eating more little by little each week. Hopefully I’ll be able to bump my way back to a healthy lifestyle soon. I found that by increasing my caloric intake by just a little bit each week I don’t feel as overwhelmed as increasing it all at once. (George, June 8, 2012)</p> <p>“For me recovery would be being able to feel happy again.” (Mariah, June 8, 2012)</p>
Encouragement and Praise		<p>“You’re at such an exciting time of your life (congratulations on graduating soon!), and if you work towards getting healthy again, you’ll be able to seize all the great opportunities coming your way. Stay strong!” (Elizabeth, May 3, 2012)</p>
Severity of Illness and ED Thoughts		<p>“When I look in the mirror I loath [sic] the way my body looks back at me, I don’t see what everyone else sees. ‘I wish I was as skinny as you.’ ‘You are so tiny.’ No [sic] matter what anyone says, I don’t see it. I see this fat sack of loser.” (Autumn, February 4, 2012)</p>
Unpleasant Emotions		<p>“My life is so unmanageable right now. I have no energy, no patience, circulation issues, anemia, joint pain, altered mental state, can’t sleep... I can’t do this again, but nothing seems to help” (Chelsea, June 7, 2012).</p>

Benefits of the
Website and
Gratitude

“Hi guys. I wanted to say that this site is amazing and is helping me in my recovery. Yes, I was anorexic, and I have been through ‘recovery’. But as anyone knows, it is still a day to day thing. There are days when you are up, and days when you are down. I was having a bad day today and needed some guidance, so I ended up here, looking at people’s posts. The ones I’ve posted on, and the ones I haven’t. All I could see in front of me is help. The good help. And it lifted up my heart and spirits. (Taisha, June 26, 2012)

Providing Comfort

Finding Strength
in Religion

“I wanted to share something that my aunt always says to me. It helps me get through a lot, and I wanted to pass it on in case anyone wanted needed [sic] the push: ‘God grant me the serenity to accept the things I cannot change; courage to change the things I can; and wisdom to know the difference.’” (Taisha, June 26, 2012)

I’m Here for
You

“Write me if you’d like more chatting or just caring support! I care and want you to get out of AN...just like I am getting out!” (Julia, February 5, 2012)

“Do not feel any of those negative feelings, we are here for you to help you and guide you. You came to us, and that is the first step, because you are asking for help and advice.” (Taisha, June 22, 2012)

Reassurance

“You have a great family and friends, you said so yourself. If they are so great they will stand behind you in helping you get healthy and stay that way. Instead of lying, at least try telling the truth. I am sure the people that love you will stand with you and hold your hands through the hard times. It is what they are there for.” (Taisha, June 22, 2012)

Caring Wishes

“Please continue to ask questions and keep us posted. Caring people on this site understand what you are going through. Thinking of you and sending you strength.” (Josie, February 5, 2012)

Requests for
Help and Advice

“A student who lives in my dorm is about to celebrate his birthday, and my roommate baked

cupcakes for him. I have been sitting here for the past three hours, trying to do work, wondering how in the hell am I going to get out of eating this stupid cupcake without everyone thinking there is something wrong with me, and thinking well, maybe it would be okay to eat it, because that way I would be more relaxed and social, but the thing is, if I eat one, then I will want another, and it never stops. I seriously considered going into the kitchen and sabotaging the cupcakes in some way just to avoid having to make the decision. Do I go to the party, and resist the cupcake, and feel unbearably stressed and miserable the whole time? Do I make some stupid excuse and not attend? (He's not a personal friend, but everyone on my hall will be there.) Do I go and eat it, and feel horrible afterwards? Why does a simple little cupcake have the power to make me feel so awful? The moment I saw her cooking them, I started freaking out over this, because I knew I would have to make this choice somehow, and I didn't know what I would do." (Michelle, September 12, 2011)

Information

"3-4 times a week is very good, because your body need [sic] resting in between workouts. If you start to workout [sic] more often, you will probably get a bad result because like stated your body really need [sic] resting to rebuild muscles – And proper food." (Kelsey, May 5, 2012)

Treatment

"After a series of long discussions with my ED therapist...I have decided to pursue a more intensive program for ED recovery. I still have to be evaluated to see what 'level' I will start at (hospitalization, partial, etc.) but when my counselor made the referral and gave some details on me, the treatment program said I would almost definitely start at the hospitalization stage." (Harmony, April 29, 2012)

Note. All ellipsis points in the text excerpts in this table were used by the authors of the posts and do not indicate omission of material.

Appendix F

PsychForums Subtheme Examples

Theme	Subtheme	Text Examples
ED Symptoms and Illness Severity	ED Thoughts	<p>“I am confused. I want to loose [sic] weight, i [sic] am almost happy welcoming anorexia back in my life, like saying hello again to a long lost friend but on the other hand i [sic] want to be strong, healthy and alive.” (Aaisha, June 14, 2012)</p> <p>“I feel pure and clean when I’m fasting and losing. It’s one of the only times I feel slightly attractive. Everything looks better. My face, my body, my clothes fit better, I walk better, I feel better, if not hungry... I LOVE FASTING!!!!!!!!!!” (Eliana, March 20, 2012)</p>
	ED Behaviors	<p>“I bought fruits and vegetables, I drank only water, made turkey bacon and avoided bread. I stopped eating junk food altogether.” (Mary, April 25, 2012)</p>
	Being Sick	<p>“I was motivated by the dropping jeans sizes. I felt like throwing myself a party when I dropped another size. I asked friends for shoulder massages so they could feel how bony my shoulders were. I wore low-cut shirts so people could see my collar bone [sic] sticking out. I liked feeling my ribs. By the beginning of my senior year, I was technically ‘underweight.’” (Mary, April 25, 2012)</p> <p>“I get extremely uncomfortable around food.I [sic] don’t like eating around people. It makes my anxiety even worse.I [sic] don’t know how to deal with my anxiety. When I’m around food, I start shaking and crying and my heart races. Usually, when that happens, I go calm down first and once I’m calmed down, I’ll try eating again. After my anxiety attacks, I tend to only eat in small amounts.” (Isabella, April 24, 2012)</p>

Forum Support	Words of Care	<p>“Keep writing, there are plenty of other people going through the same type of ordeal. Many still fight it, others have recovered. You’re not in this alone.” (Susan, May 26, 2012)</p>
		<p>“I’m going to let you in on a little secret that therapists and doctors rarely ever share: ‘recovered’ does not mean that the anxiety and nagging, negative voice inside your head fully goes away. What changes is how you choose to act or deal with triggering situations. It takes a very long time to fully recover from an eating disorder. One professional I spoke with said she believed it took over 10 years for someone to change their thinking patterns with food enough to fully be considered anything close to cured. That doesn’t mean recovery is pointless, though. Imagine waking up one morning, eating what you’d like without feeling terrified over it, being able to go for a run without thinking of the calories you’ve burned, being able to eat with friends and have fun, and focusing on something you really enjoy instead of counting calories. That’s what freedom from the eating disorder is like. There’s a good chance you’ll never be completely ‘normal’ in regards to food, but you can be happy again once that fear stop [sic] calling the shots in your life.” (Susan, May 28, 2012)</p>
	Praise	<p>“This is brilliant news! I’m so glad to read this. You should be so proud of yourself for [making] this big step[.]” (Meiling, May 6, 2012)</p>
	Encouragement	<p>“you [sic] don’t have to lose faith in yourself. it’s [sic] hard at first but finding the right support and treatment you will be able to pass this trial through. stay [sic] strong and everything will follow.” (Grace, April 27, 2012)</p>
	Reassurance	<p>“You are not tearing your family apart. It sounds like there were already issues driving them apart. Usually a serious illness brings a family closer together. This isn’t your fault.” (Susan, May 28, 2012)</p>
Advice and Suggestions		<p>“It sounds like you’re still in school, and if you’re able to access a youth worker or guidance</p>

	<p>counsellor it would be a good idea to connect with them. By doing so you'll also have access to treatment options.” (Susan, May 10, 2012)</p>
Unpleasant Emotions	<p>“I feel disgusting being a normal size, my body has an odd shape and when I'm skinny it evens itself out more. I feel really self-conscious at my normal weight so I want to be thin. Also [sic] I'm really unhappy with my life at the moment but am stuck where I am with no escape in sight – not eating helps me cope better with my situation.” (Scarlett, November 11, 2011)</p>
Interpersonal Concerns	<p>“I got into a fight with my mum about my eating. You are right I do need to tell her, but I'm weak and afraid. I've explained to her many times what its [sic] like, that I need help mentally, and I understand that she'll never fully get it, but I just wish she wouldn't yell at me all the time.” (Mimi, April 25, 2012)</p>
Possible Causes of the ED	<p>“I think I can relate to this. I've been so depressed, for so long, and on top of that I cannot control my life (my parents chose what university I attend, which subject I shall major in etc[.]) nor can I control my moods (bi-polar). All I can control is my eating and honestly? it's [sic] a way I'm trying to kill myself because at the end of the day me living is the only thing I can control. (Haddie, January 1, 2012)</p>
Requests for Help, Advice, and Feedback	<p>“But, I know that the most difficult part will be those days when I look down and physically see that I have gained weight. In fact, already every day I feel it. Deep down I know this is normal, this is going to happen, because recovery is going to involve keeping down the food that I have been purging for weeks and weeks... but that doesn't make it any easier. So can anyone give me advice on how to CALM DOWN about this?” (Claudia, April 28, 2012)</p>
Information on EDs and the Recovery Process	<p>“This is completely normal while you're in the process of re-feeding and dealing with weight gain. It takes a while for your body to adjust to having</p>

solids in your stomach and having to digest food again.” (Susan, May 3, 2012).

Recovery and
Improvement

“I’m doing great, tiny slip ups here and there and I want to quit every day but I know it will be worth it to keep fighting. Hands down the hardest thing I’ve ever had to do.” (Erin, April 26, 2012)

Benefits of the
Website

“I was doing A LOT worse when I first posted. Coming here helped. I know I’m not eating enough, but I’m eating better and I think that matters too.” (Isabelle, May 23, 2012)

Appendix G

Triggering Content on Mirasol

Nature of trigger	Thread and reply number	Content	Response from moderators
Weight/BMI	Tread 1, original post	“They say at 5’4” and 105 pounds I am dying...” (Courtney, April 23, 2012).	No response
	Thread 2, original post	“... i [sic] am 5’4” last year I weight [sic] 130 pounds now I am 112 the worst my weight got was 107...” (Sandy, May 14, 2012).	No response
	Thread 10, original post	“I had gone from 120 lbs. to 104 lbs. in only two months” (Jen, May 25, 2012).	No response
		“If it wasn’t one thing, it was another. If I weigh 101 lbs, I want to weight [sic] 90 lbs” (Jen, May 25, 2012).	No response
	Thread 10, reply 5	“Last Summer I was down to 63 pounds at five feet tall and it almost killed me... I am again working as a reporter and have allowed myself to get up to 80 pounds but I am not comfortable at 80, and I really don’t want to gain any more through [sic] my doctor wants me at 100 pounds” (Kaylee, June 27, 2012).	No response
	Thread 11, reply 1	“I currently have a bmi of 13.3...” (Olivia, July 31, 2012).	No response
	Thread 14, original post	“Im [sic] 17 and I weight [sic] 102 lbs and 5’5 ft [sic]” (Leah, August 9, 2012).	No response

	Thread 15, original post	“I’m 5’7” and 85 pounds” (Liz, July 31, 2012).	No response
	Thread 17, original post	“So I’m 5’6” and weigh somewhere around 90 lbs” (April, August 22, 2012).	No response
	Thread 20, original post	“She’s about 5’3” 5’4” and definitely weighs under 100 pounds” (Jane, September 25, 2012).	An administrator suggested that the participant help her sister find medical help at her school. She did not address the triggering content other than to say, “What you have described is cause for alarm” (Janet, September 26, 2012).
Food and calorie talk	Thread 5, original post	“I ate 4 bites of mashed potatoe [sic] an hour ago. all [sic] i [sic] can think about since is if i [sic] should go throw it up” (Zoe, February 5, 2012). Δ	No response
	Thread 7, original post	“I only remember being at a point where I would eat a banana for breakfast, 8 carrots for lunch, and as little as I could get away with for dinner with my family (which was normally a small salad)” (Megan, June 5, 2012).	No response
	Thread 10, original post	“In August of 2011, I started limiting everything in my diet. No meat, no dairy, no bread, no sugar, almost no nothing” (Jen, May 25, 2012).	No response
	Thread 15, original post	“I eat 300 calories a day at most” (Liz, July 31, 2012).	No response
	Thread 17, original post	“People say eat 3 meals a day. Is that even possible? I struggle to eat one. And it is normally fairly small (so others say... I personally think it isn’t very small. Like the other day we had chicken and stir fry for	No response

		dinner, and even though my plate was as big as the 8 year old at the table's plate, I still didn't finish it all" (April, August 22, 2012).	
ED Behaviors	Thread 5, original post	"I ate 4 bites of mashed potatoe [sic] an hour ago. all [sic] i [sic] can t hink about since is if i [sic] should go throw it up" (Zoe, February 5, 2012). Δ	No response
	Thread 10, original post	"October of last year, I discovered laxative teas" (Jen, May 25, 2012).	No response
		"I went to the store and bought laxatives and diuretics" (Jen, May 25, 2012).	No response
	Thread 12, original post	"i [sic] also take a pgx. After every meal I take a laxative" (Leah, August 2, 2012).	No response

Note. The statements marked with Δ are reflected in the table twice, once because of its Food and Calorie Talk and once because of its description of ED Behaviors.

Appendix H

Triggering Content on Something Fishy

Nature of trigger	Thread and reply number	Content	Response from moderators
Severity of Illness	Thread 6, reply 2	“I wish I had been more open and more able to be honest with my team about what was going on- it’s taken me another ten admissions over four years to be able to do that (I’ve been out one year today!)” (Celia, June 13, 2012).	No response
	Thread 7, reply 12	“I have been hospitalized nine times already” (Samantha, June 19, 2012).	No response
	Thread 14, reply 5	“last [sic] time i [sic] had to go IP because i [sic] could not eat and was really sick. was [sic] really relieved when dr. took control and tube fed me till i [sic] was strong enough to eat on my own. He saved my life” (Rhea, June 19, 2012).	No response
	Thread 14, reply 9	“there r [sic] OP [(outpatient)] treatments around but because of my low weight no one wants to work with me OP” (Rhea, June 19, 2012).	No response
	Thread 15, reply 6	“The first one got better with just five months of treatment in Sweden (as in, went from an impossibly low BMI and given two weeks to live, to a borderline healthy BMI an now weight restored with no relapse since, it’s now about five years later) and the second one had about six or eight months in Melbourne, she’s just finishing a nursing degree three years later and hasn’t even thought about relapsing” (Abbie, June 23, 2012).	No response

Weight/BMI	Thread 1, original post	“In the past few years, I’ve lost over xxxx. I’ve always had problems eating wise... I’d eat nothing at all, or everything in sight... Which is was led me to a whopping ***** pounds. Now I’m at ***** (I’m *****’*****)” (Aallyah, June 16, 2012).	A moderator edited out one number, and the rest were automatically deleted by the website
		“I knew I had a problem when I got to *****... My BMI was healthy, I was at a healthy weight for *****’*****”, but I literally felt chunky...” (Aallyah, June 16, 2012).	No response; numbers automatically deleted by the website
		“The other night, my boyfriend said to me, ‘You really only weigh *****?’” (Aallyha, June 16, 2012).	No response; number automatically deleted by the website
	Thread 10, Reply 7	“I am mostly out of my restrictive eating ‘phase’ right now and I gained xxx pounds!” (Daisy, June 14, 2012).	A moderator deleted the number
Food and calorie talk	Thread 1, original post	“I eat ***** calories per day to maintain my weight...” (Aallyah, June 16, 2012).	No response; number automatically deleted by the website
	Thread 16, original post	“My weight is yo-yoing. Not just little amounts, I guess it clings to food I consume, when it is bread etc.” (Gretchen, June 25, 2012).	No response
		“She is a personal trainer so has to eat a lot more than me, but we are both clever with calories, and fill up on vegetables” (Gretchen, June 25, 2012).	No response
	Thread 16, reply 4	“She tells me so long as I don’t eat more than what is half of my BMR, including days I do the gym, I will be fine” (Gretchen, June 25, 2012).	No response

Body-related self-depreciation; Weight-loss resource	Thread 16, original post	“A word of warning to all, I guess many of you have tried it. Never use a calorie counting site. I use xxxx and it tells me how much I should eat, in red if I go over even a tad. It tells me I am gaining, logs my weight and exercise and it freaks me but I [cannot] not use it for intense fear of gaining and ending up back where I was, I feel so fat, ugly and disgusting to look at. I have a great big amount of loose skin, and I know weight loss is making this increase all the time” (Gretchen, June 25, 2012).	A moderator deleted the name of the weight-loss tool
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Appendix I

Triggering Content on ANAD

Nature of trigger	Thread and reply number	Content	Response from moderators
Weight talk	Thread 12, original post	“In February, I was 5’7.5” and weighed 120 pounds. Now I weigh 102 pounds and I feel like my weight loss is becoming out of control” (George, May 28, 2012).	No response
		“A couple of times I have tried to get myself to maintain rather than lose more weight with a daily caloric plan of 1700-1800 calories. That plan usually works for a week until the next time I step on the scale and my fear of gaining weight causes me to drop a pound or two the following week” (George, May 28, 2012). Δ	No response
Weight-loss/diet advice	Thread 16 reply 9	“To gain control over this kind of over eating and enhance your weight loss journey, you must learn to eat for good health” (David, June 6, 2012).	No response
	Thread 16, reply 11	“Eat food! But make healthier choices. You can still eat a lot of food and maintain or even lose weight if you eat whole food like produce, beans, cooked grains, etc. and avoid sugars and too many processed grains like pasta, bread, and other snacks. A really big place where calories and sugars hide is in beverages, switching to water can help” (Robert, June 20, 2012). Δ	No response

Food and calorie talk	Thread 12 reply 11	“A couple of times I have tried to get myself to maintain rather than lose more weight with a daily caloric plan of 1700-1800 calories. That plan usually works for a week until the next time I step on the scale and my fear of gaining weight causes me to drop a pound or two the following week” (George, May 28, 2012). Δ	No response
	Thread 16, reply 11	“Eat food! But make healthier choices. You can still eat a lot of food and maintain or even lose weight if you eat whole food like produce, beans, cooked grains, etc. and avoid sugars and too many processed grains like pasta, bread, and other snacks. A really big place where calories and sugars hide is in beverages, switching to water can help” (Rob, June 20, 2012). Δ	No response
Emphasis on body “perfection”	Thread 10, reply 10	“I don’t care if it hurts! I wanna have control want a perfect body! I want a perfect soul!” (Lyrics by Radiohead, 1992; as posted by Maria, July 22, 2010).	No response
	Thread 10, reply 30	“I don’t care if it hurts I wanna have control I want a perfect body I want a perfect soul!” (Lyrics by Radiohead, 1992; as posted by Carrie, May 4, 2012).	No response
Disordered exercise advice	Thread 5, reply 1	“I just give you a small tip that as you have started doing exercise and going gym [sic] so never stop it, do it regularly as much as you possible!!” (Ethan, March 23, 2012)	A “support group leader” stated in the next post, “However, I would just caution you to make sure you continue to exercise moderately so that you maintain stable in your recovery. More is not necessarily better (and could be a red flag), so

check in regularly with your dietician and therapist” (Josie, March 23, 2012).

Note. Statements marked with Δ appear more than once, reflecting different types of triggers present.

Appendix J

Triggering Content on PsychForums

Nature of trigger	Thread and reply number	Content	Response from moderators
Food and calorie talk	Thread 8, reply 31	“I just don’t care anymore, about my herbal teas and I’m back to drinking milk and eating bread and desserts and sweets and I look horrible” (Eliana, March 20, 2012).	A moderator/consumer, Susan, redirected the discussion in thread 8, reply 33, the day after this was posted.
	Thread 8, reply 34	“Through nothing related, other than wanting to be healthy again, I became a pestatarian [sic]... I lost some of the weight I had gained (about 15 lbs?)... other than emotional weight.I [sic] later became a vegetarian soon after and lost about another 20 lbs, but I was still eating too much fat/sugar” (Sophia, May 13, 2012). Δ	No response
	Thread 11, reply 3	“Today, I ate half of a bagel before I went to school and a small tv [sic] dinner thing when I got home. That’s probably all I’ll eat today” (Isabella, May 23, 2012).	In the following post, a moderator/consumer, Susan, praised the poster’s efforts to eat the foods listed.
	Thread 11, reply 7	“I just ate a small bowl of spaghetti for dinner and now I feel extremely fat” (Isabella, May 24, 2012).	In the following post, a moderator/consumer, Susan (May 25, 2012) replied, “Spaghetti or any type of pasta is usually a hard meal to eat. It’s good that you ate it.”
	Thread 12, original post	“I didn’t calculate how many calories I had but I did estimate and I’m sure I’m right when I say it’s well over edited. In fact, I’m now definite and figured out it’s	The numbers of calories eaten were edited out by Susan, a moderator/consumer. The food list was edited out by the original

		closer to edited. – cri.--edited, I removed the obscene list of food, just in case <3...” (Emma, May 26, 2012).	poster.
	Thread 13, original post	“I completely disregarded my many years of exercising twice a day, six days a week, eating a maximum of numbers removed, and purging if I went over it” (Mel, May 26, 2012). Δ	A moderator/consumer, Susan, deleted the number of calories eaten per day.
	Thread 14, original post	“For a few days at a time, I’ll set limits for myself, like, ‘You have to eat less than edited today’” (Paige, May 28, 2012).	A moderator/consumer, Susan, deleted the number of calories.
	Thread 15, original post	“Today, I actually ate a small bowl of cereal for breakfast, a tv [sic] dinner for lunch, and some chicken and fries for dinner. So many calories already” (Isabella, May 27, 2012).	No response
	Thread 17, original post	“Just eating half a cucumber and a single low cal [sic] biscuit today i [sic] have experienced immense guilt” (Aaisha, June 14, 2012).	No response
ED glorification	Thread 2, original post	“I was motivated by the dropping jean sizes. I felt like throwing myself a party when I dropped another size. I asked friends for shoulder massages so they could feel how bony my shoulders were. I wore low-cut shirts so people could see my collar bone sticking out. I liked feeling my ribs” (Mary, April 25, 2012). Δ	No response
	Thread 8, reply 2	“oh [sic] well, my body is my best friend. i [sic] love to stare at it, to lust after it, to have it in my possession and live in it and feel it too. if [sic] i [sic] am thin i [sic] don’t need others. i [sic] don’t even	A moderator/consumer, Susan, redirected the discussion in thread 8, reply 33, 10 months and 12 days after this was posted.

		need happiness or the feeling of being human” (Katherine, May 9, 2011).	
	Thread 8, reply 3	“When I was at my thinnest I felt like I was on a plane soaring high above everyone else. I idealize high fashion models. The thinner the better. I don’t know why but I love looking like a starved little girl. Weak and vulnerable. Sunken in eyes, bones protruding, flat chested. That’s perfection to me and even now I can’t get over it” (Lacy, May 9, 2011).	A moderator/consumer, Susan, redirected the discussion in thread 8, reply 33, 10 months and 12 days after this was posted.
	Thread 8, reply 7	“To the OP [(original poster)], I want to be thin for the emaciation, the purity & the control” (Hayley, May 12, 2011).	A moderator/consumer, Susan, redirected the discussion in thread 8, reply 33, 10 months and 12 days after this was posted.
	Thread 8, reply 31	“I feel pure and clean when I’m fasting and losing. It’s one of the only times I feel slightly attractive. Everything looks better. My face, my body, my clothes fit better, I walk better, I feel better, if not hungry [smile emoticon] I LOVE FASTING!!!!!!!!!!” (Eliana, March 20, 2012).	A moderator/consumer, Susan, redirected the discussion in thread 8, reply 33, the day after this was posted.
ED behavior discussion	Thread 8, reply 14	“im [sic] not ana [(anorexic)] now, i [sic] eat healthy, though mostly veggies, and i [sic] work out. but [sic] still, no food or no romantic involvement can make me as fulfilled and as happy when i [sic] am just drinking water and tea and treat myself with an apple...” (Nora, August 20, 2011).	A moderator/consumer, Susan, redirected the discussion in thread 8, reply 33, 7 months and 1 day after this was posted.
	Thread 12, original post	“Nearly two weeks worth of eating nothing has obviously taken it’s toll on my body” (Emma, May 26, 2012).	No response

	Thread 13, original post	“I completely disregarded my many years of exercising twice a day, six days a week, eating a maximum of numbers removed, and purging if I went over it” (Mel, May 26, 2012).	A moderator/consumer, Susan, deleted the number of calories.
	Thread 15, original post	“Edit: Ended up eating most of it. Ew. I’m ridiculously fat. I can’t believe I ate that. Yep. Definitely not eating tomorrow. Of the next day” (Isabella, May 27, 2012). Δ	No response
Weight talk	Thread 8, reply 34	“In high school, after I was off the add medication & allergies were under control, I was put on Prozac/Paxil and gained 74 lbs!!!!!![sic] in a very short time” (Sophie, May 13, 2012). Δ	No response
		“Through nothing related, other than wanting to be healthy again, I became a pestatarian [sic]... I lost some of the weight I had gained (about 15 lbs?)... other than emotional weight.I [sic]later became a vegetarian soon after and lost about another 20 lbs, but I was still eating too much fat/sugar” (Sophia, May 13, 2012). Δ	No response
		“I have 2.5 lbs to go.I [sic] am now 27, when was 13 I weighed 8 pounds more than I do now” (Sophia, May 13, 2012).	No response
	Thread 17, original post	“I have lost 6 kilos in 3 weeks and no I hardly ever feel hungry and therefore it’s easy to avoid eating without the troubles I usually have with restricting severely (with constantly obsessing about and thinking of food)” (Aashia, June 14, 2012).	No response

Severity Of illness	Thread 1, original post	“I’ve had symptoms since the age of 5, and was first hospitalized for it (extremely low hr [(heart rate)], weight, body temp, etc) when I was 14. Over the next five years I was hospitalized 12 times, with my weight getting dangerously lower. Two years ago I went to a residential treatment facility for 5 months, and I am so glad I did” (Lily, April 27, 2012).	No response
	Thread 2, original post	“I was motivated by the dropping jean sizes. I felt like throwing myself a party when I dropped another size. I asked friends for shoulder massages so they could feel how bony my shoulders were. I wore low-cut shirts so people could see my collar bone sticking out. I liked feeling my ribs” (Mary, April 25, 2012). Δ	No response
Methods of losing weight	Thread 2, original post	“I started taking caffeine pills to suppress my appetite. They make me nauseous and dizzy for a few hours, but they do the trick” (Mary, April 25, 2012).	No response
	Thread 8, reply 34	“Through nothing related, other than wanting to be healthy again, I became a pestatarian [sic]... I lost some of the weight I had gained (about 15 lbs?)... other than emotional weight.I [sic] later became a vegetarian soon after and lost about another 20 lbs, but I was still eating too much fat/sugar” (Sophia, May 13, 2012). Δ	No response
ED thoughts	Thread 15, original post	“Edit: Ended up eating most of it. Ew. I’m ridiculously fat. I can’t believe I ate that. Yep. Definitely not eating tomorrow. Of the next day” (Isabella, May 27, 2012). Δ	No response

Medications associated with weight gain discussed	Thread 8, reply 34	“In high school, after I was off the add medication & allergies were under control, I was put on Prozac/Paxil and gained 74 lbs!!!!!! in a very short time” (Sophia, May 13, 2012). Δ	No response
“Offensive and Cruel Content”	Thread 19, original post	“Edited by Mod” (deleted content by Rosy, June 15, 2012).	A moderator, Rosy, deleted the post, and the forum administrator, Fawn (June 15, 2012) replied, “Your comments will absolutely not be tolerated. You have been banned[.]”

Note. Statements marked with Δ appear more than once, reflecting different types of triggers present