

Pro-Eating Disorder Communities on Social Networking Sites: A Content Analysis

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The purpose of this study was to assess the number of pro-ana groups on social networking sites and to analyze their content. A general inductive approach was used to analyze the content. Two main themes emerged from the content analysis: social support and eating disorder specific content. Themes were similar across all groups; however, a linguistic analysis indicated differences between groups on the two different networking sites. There was an absence of content typically found on Internet sites. Pro-ana groups on social networking sites are focused on social interactions, and lack eating disorder specific content found on Internet sites.

As the Internet becomes an exceedingly larger component of daily life, online communities have become prevalent. One Internet community that has received wide-ranging attention is the “pro-ana” community. “Pro-ana” refers to individuals with an eating disorder who focus on having an eating disorder as a lifestyle choice as opposed to a psychiatric disorder (Lyons, Mehl & Pennebaker, 2006). Although the exact number of these pro-ana Websites is difficult to determine, studies have estimated their number to exceed over 500 (Chesley, Alberts, Klein & Kreipe, 2003). In general,

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pro-eating disorder Websites contain a very specific set of information: biographical data about the creator of the Website, a disclaimer asking those who are under 18 and who do not already have an eating disorder to not enter the site, and a forum where users could talk with each other (Norris, Boydell, Pinhas, & Katzman, 2006). The sites often contain sections entitled “tips and tricks” (information on losing weight and how to conceal weight loss), and “thinspiration” (images of very thin women designed to encourage the viewers to lose weight) (Chesley et al., 2003; Harshbarger, Ahlers-Schmidt, Mayans, Mayans, & Hawkins, 2009; Norris et al., 2006).

The function of these sites has been widely debated, with studies indicating both negative and positive effects from identification as “pro-ana” (Bardone-Cone & Cass, 2007; Csipke & Horne, 2007; Harper, Sperry & Thompson, 2008; Lyons et al., 2006). Viewership of these Websites by individuals without an eating disturbance increases negative affect, decreases social self-esteem, and increases negative body image (Bardone-Cone & Cass, 2007). Although it is logical to assume that those with high levels of body dissatisfaction or who have an eating disorder may be even more likely to experience negative side effects from viewing these Websites, research suggests that their effect is not that straightforward. Participation in these sites increases feelings of being understood for those with active eating disorders, particularly if they are actively engaged in the Website and seek out emotional support from other members (Csipke & Horne, 2007). Individuals who describe themselves as pro-ana have a style of communicating on these Websites that suggests the use of a coping strategy that is aimed at stabilizing themselves emotionally (Lyons et al., 2004). These on-line communities may allow socially stigmatized individuals to share experiences and gain support from others; consequently the relationships made on these Websites may be beneficial to the users (Tierney, 2008). However, this does not imply that these Websites are entirely beneficial. Individuals who actively participate in these sites are more likely to encourage each other to fast, not seek recovery, and have higher levels of body dissatisfaction and eating disturbance than do those who do not view these sites (Csipke & Horne, 2007; Harper et al., 2008; Harshbarger et al., 2009).

Since their creation approximately 6 years ago, social networking sites have become popular amongst adolescents and young adults. The recent surge in popularity might be due to the fact that these Websites offer a very different way of communicating on the Internet. Social networking sites allow users to comment on their friend’s profile pages (often called “walls”), form common interest groups with other users, “talk” via forums or discussion boards, and send private messages to others (Boyd & Ellison, 2008). Many of these interactions are public and can be viewed by anyone with access to the networking site. Users are given the option to make their profiles or groups private, therefore preventing anyone from viewing their messages without permission. Nonetheless, a certain amount of self-disclosure is required.

Networking sites may appeal to those with eating disorders for other reasons as well. Many individuals with an eating disorder also suffer from depression or social anxiety, making it difficult to form offline social networks. Shyness or the presence of social anxiety has been shown to be positively correlated with increased use of social networking, but negatively correlated with the number of “friends” one has on these sites (Orr et al., 2009; Pierce, 2009). Although the typical social network user communicates primarily with pre-established friends with whom they also interact offline (Pempek, Yermolayeva, & Calvert, 2009), users who are shy or have limited offline social networks may be more likely to form social networks with those that they did not already know. Individuals with eating disorders have deficient social support, both in terms of quantity and quality (Tiller, Schmidt, & Troop, 1995). The lack of support may lead them to seek out support in on-line communities—particularly in terms of disorder specific behavior.

The present study investigated the prevalence and content of pro-eating disorder groups on two popular social networking sites, Facebook and MySpace. Of primary interest was whether or not these networking groups would differ dramatically from the previously established and well documented content of pro-ana sites found on the Internet. Given that social networking sites are geared towards providing a place for individuals to communicate; whereas Websites tend to be used to provide information, it was hypothesized that these groups would be rich in interactions among group members. In order to conduct a general inductive qualitative analysis, specific hypotheses about the types of interactions were not formulated.

METHODS

Sampling

In order to observe interactions among pro-eating disorder groups, a faux profile of a young woman was created on both Facebook and MySpace in the fall of 2008. To identify pro-eating disorder groups a number of searches were conducted within each social network. These words were derived from previous research on pro-ana Websites and included the following terms: pro ana, pro mia, pro ana mia, thinspiration, anorexia, bulimia, anorexia and bulimia, eating disorders, and the names of four actresses frequently referred to in pro-ana posts on pro-ana Websites. Searches yielded a large number of groups, with a range of 17 to 421 on MySpace and 33 to 500+ on Facebook.¹ All

¹ In the Spring of 2010 a second search was conducted using the same terms. The number of groups on MySpace ranged from 8 to 398 and on Facebook the number of groups ranged from 74 to 500+. Thus, there appears to have been an increase in the number of groups on Facebook since this study was conducted, while the number of groups on MySpace appears to have been relatively stable.

of the group results generated for each search term were examined and groups with the most members/most frequent activity were chosen for observation.

Groups on Facebook and MySpace are either of closed or open status. Any member of the community can join an open group; however, one must make a request to join a closed group to fully observe the group's content. Closed groups were contacted and the purpose of the study explained in a standardized letter asking for permission to join the group. Group creators were notified that the authors of this study would only observe their interactions that had previously taken place or were currently taking place for a period of one month and would not post any comments or discussion. Of those contacted, seven MySpace groups responded and allowed researchers entry to the groups. On Facebook, three responded and two allowed researchers entry into the group. Administrators of open groups were not informed of the researchers' presence as the group was available for anyone to join and all information posted was public. Therefore, the researchers concluded that this constituted public behavior. All procedures were approved by the ethical review board at Towson University.

Analysis of Content

Once access was attained, the content of selected groups was analyzed in three ways. First, groups were examined for the presence or absence of characteristics common to pro-ana Websites. Specific characteristics of each group were also recorded (i.e., sex of the group leader, type of group, statement of Website purpose, description of the group, and photos). Next, content of the groups was examined, in order to determine themes present in discussions, wall posts, and other interactions. In order to ensure that data from each networking site was analyzed independently, one author was responsible for each group (A. Juarascio & A. Shoaib); and the third author reviewed coding for each to provide reliability (C. A. Timko). Content was coded using an inductive approach (Lofland, Lofland, Snow, & Anderson, 2006), which is appropriate for summarizing and organizing qualitative information with the purpose of discovering themes or concepts (Thomas, 2006). After a number of posts had been coded and overlapping themes or general types of information began to emerge, a more focused coding was used. The focused coding involved using constant comparison to determine overarching themes or interaction types. Coding continued for each group until saturation was reached. Finally, in order to provide quantitative information, content from 14 groups was entered into a word processing file and analyzed via the Linguistic Inquiry Word Count program (LIWC; Pennebaker, Francis, & Booth, 2001). This application is designed to analyze written text and provides a count of the various types of words that are used in the section. The LIWC examines multiple linguistic categories including basic linguistic processes, psychological processes, personal concerns, and spoken categories.

RESULTS

Search procedures yielded 23 groups from MySpace and 34 from Facebook deemed appropriate for analysis. For the former, 10 of the groups were open, 10 were closed and allowed members to request to join, and three were closed and required an invitation directly from the creator. Seven of the 10 closed groups responded and allowed researchers access to the group. The remaining three did not respond. Of the open groups on MySpace, the seven largest groups were chosen resulting in seven open and seven closed groups. For Facebook, 27 groups were open and seven were closed. Of the open groups, the ten groups with the most members and that were most frequently used were selected and joined. The closed groups were contacted and three responded. Of those, researchers were allowed to join two. This resulted in ten open groups on Facebook and two closed groups. When examining the content of the groups, it became apparent that both networking sites had *anti* pro-ana groups as well. Four of these were chosen from MySpace and four from Facebook for comparison.

As the two social networking sites and the type of standardized content posted on them is slightly different, this information was examined separately. Of the 14 MySpace groups, membership ranged from 8 to 335 members. Of the 12 Facebook groups, memberships ranged from 20 to 796. A summary of the basic information found on the group pages on both sites is presented in Table 1.

Content Analysis

Wall posts were examined for themes present in each post. Two main themes were found: “*social support and interaction*” and “*eating disorder specific*” content. Figure 1 displays the type of content observed in the groups. The former included introductions/non-eating disorder disclosure, statements of social support and friendship, negative reactions to unexpected or inappropriate content, and expressions of negative affect. The latter included information that was directly related to the eating disorder, and emotional distress that was directly related to eating disorder behavior. Although both Facebook and MySpace were analyzed together, there were some differences between the two groups. On Facebook, the eating disorder and related symptoms were much more a part of the immediate discussion as opposed to the backdrop upon which conversations took place.

SOCIAL SUPPORT AND INTERACTION

Interactions or comments coded under this theme were characterized by the salience of the social interaction as opposed to the eating disorder. Though

TABLE 1 Number of Groups Who Had Characteristics of “Pro-ana” Websites on Their Main Page

Characteristic of web-site	MySpace (<i>n</i> = 14)	Facebook (<i>n</i> = 12)	Total
Gender of group leader			
Female	13	12	25
Male	1	–	1
Type of picture			
Emaciated female form	9	5	13
Body parts	3	2	5
Overweight women	1	–	1
Flower	1	–	1
Celebrity	–	1	1
Food	–	2	2
Inspirational quotes	–	2	2
Disclaimer			
Yes	1	6	7
No	13	6	19
Thin commandments			
Yes	2	0	2
No	12	12	24
Thinspiration (photos)			
Yes	10	9	19
No	4	3	7
Quotations and links			
Yes	7	9	16
No	7	3	10
Weight information			
Yes	13	6	19
No	1	6	7
Food records			
Yes	6	3	9
No	8	9	17
Ana creed			
Yes	3	0	3
No	11	12	23
Tips and tricks			
Yes	12	9	21
No	2	3	5
Type of group			
Health and wellness	4	4	8
Culture and community	1	1	2
Activities	2	–	2
Beauty	–	4	4
Other	7	3	10

the presence of an eating disorder and its impact on one's life was naturally part of the discussion, the eating disorder was not the primary focus or did not take “center stage” in the interactions/comments. Comments and interactions coded under this broad theme were characterized by emotional distress and need for social connection and support. As one group administer stated in a wall-post “*the inspiration for this group was that feeling of being alone, being hopeless.*”

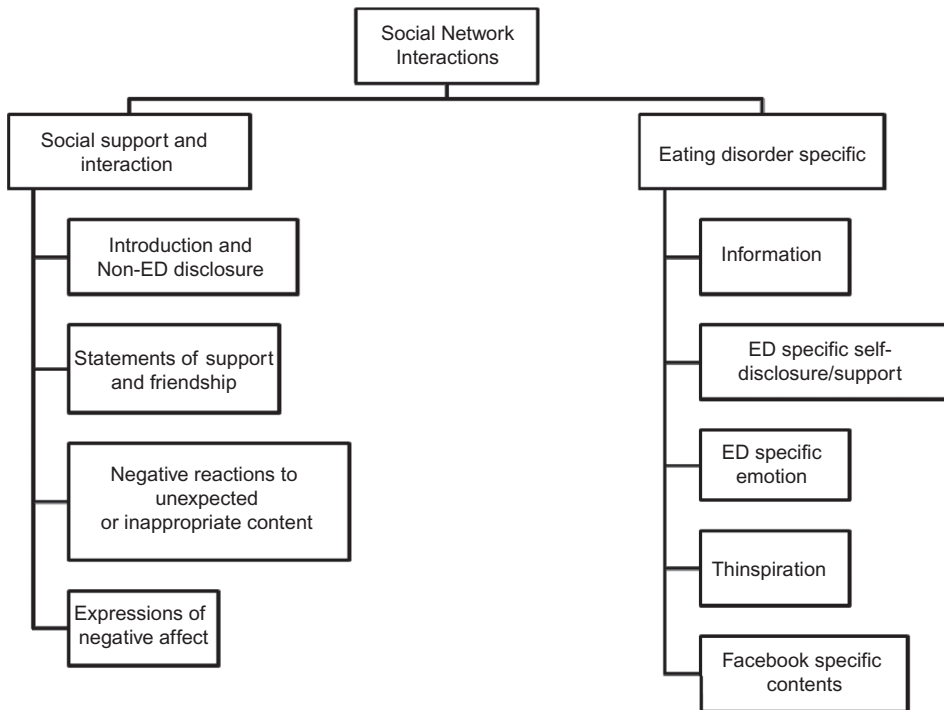


FIGURE 1 Content themes as determined by inductive analysis.

Introductions/Non-eating disorder disclosure. Group members provided information about themselves including their personal statistics (age, relationship status, height, weight, years with an eating disorder, reason for joining the group). The majority of these postings were one-way, that is, there was no expectation for a response. These posts tended to be unemotional in tone and lacked qualities of two-way social interaction such as:

Name: [removed]. Height: 5'3, high weight: 160 (I was pregnant), low weight: 85, current weight: 98, goal weight: I'll never be content w/any number to be honest

Statements of support and friendship. Wall posts found under this sub-theme were often highly emotional; examples include members requesting friendship due to feelings of extreme loneliness and isolation, advice or feedback about relationships, and emotional support. A number of wall posts provided information about emotionally charged or confusing emotional face-to-face interactions and requested support or advice in regards to the situations. When one member mentioned having to attend a holiday party, another member stated, “*You can do it!!! Just think of the end results!*”

It's been hard for me. Holidays are hard, so much food thrown in your face all the time! You are strong!" Another example is when a group member reported cutting for the first time in months, someone responded with:

Do you know what triggered it? Try not to panic, I still slip up, I have to really ask myself what I was feeling at the time, or perhaps it was because you wasn't feeling [what] you needed to feel, that was n is my biggest trigger, being numb and wanting to feel connected.

Offers of being available to talk on the phone, via email, or chat were also common. Posts that addressed support or friendship were generally positive, with most group members supporting social cohesion. These posts included requests for advice about family and relationship problems (sometimes surrounding ED issues, though not always), questions and discussions of sexuality, request for or the giving of non-eating disordered emotional support, and venting about life problems. Positive posts in this realm were also joking and often provided motivation for other members. Though the motivation was sometimes in support of the eating disorder, it was also regarding other life issues and concerns. One poster mentioned that she had binged and purged all night before an exam and did not study enough. Other posters responded by saying *"Best of luck though! Apparently biology is the hardest a-level. But I'm sure you'll be great! Don't let mia get in the way—you can just start studying now."* In most of these conversations, the eating disorder served as the context in which these discussions occurred, not the content.

Negative reactions to unexpected or other inappropriate content. This sub-category was characterized by reluctance to and negative responses in regard to requests for tip giving. This was most common on MySpace. When group members would ask for tips, others would respond with anger, annoyance, and outright hostility when the requester could not successfully starve themselves alone. When one poster asked for tips on how to purge, another member responded:

Ugh don't even try to do it. I went through trying and failing to be able to throw up for a couple months. Yeah I can do it now but sometimes it happens even when I don't want. I hate doing it but I can't stop. Its' not worth starting and it's not cool that you are asking for this kind of advice here. It sounds like you don't even really have an eating disorder.

Expressions of negative affect. Expressions of loneliness, sadness, and confusion were common. These emotions were often expressed in relation to relationships, particularly regarding a lack of friendship or not having a significant other. These comments were normally followed by other group

members offering support and trying to cheer up the poster by reminding them of their friends within the group. After one user posted:

I'm tired of it. I don't want to deal with the world. No one understands me or even tries to. No one will just sit and listen to what I have to say. I'm so unhappy, and I'm not doing anything but hurting the people around me.

Many others offered support and advice to help her feel better. Content in this sub-theme often lead to women comforting each other and declaring the importance of their social network within the pro-ana community.

EATING DISORDER SPECIFIC CONTENT

Eating disorder specific content was designated as content that occurred outside of discussions of friendship and support. Content that fell under this over-arching theme was specifically related to the eating disorder, and was the primary discussion as opposed to the backdrop upon which conversations took place. This content was primarily found on Facebook.

Information. Group members often asked for factual information regarding the disorder or insight about the disorder and the role it plays in someone's life. It was common for members of the groups to present a specific example of how their disordered eating affected their life (i.e., hair falling out, skin very dry, etc.) and ask other members for advice on how to treat this problem without giving up their weight loss attempts. Despite acknowledging that their disordered eating had likely caused the physical ailment, they were usually unwilling to change their eating behavior, and thus welcomed opinions from others who could relate to these challenges. One poster stated:

My liver function tests were "elevated" the last few times I had my blood work done . . . Does anyone know how this happens and how to reverse it? I haven't been eating much lately and I am worried my doctor will find out. . . . What can I do besides eat to fix this?

A great deal of information regarding "nutritional science" was also posted (e.g., the benefits of drinking green tea or the advantages and disadvantages of eating negative calorie foods). In some cases the material provided was accurate (particularly in regards to side effects and diagnostic criteria); however, content specific to nutrition or physiology was often incorrect.

Eating disorder specific disclosure/support. Content coded under this theme was characterized by participants disclosing information about their eating disorder, specifically areas in which they were struggling or needed

support. This type of content was found primarily on Facebook, where eating disorder content often took the form of reporting the daily routine (e.g., food diaries and exercise logs). The purpose of this appeared to make one accountable to others in order to increase the likelihood of adhering to a strict diet.

In the morning I have a Black Coffee. At noon I have a mix of shredded lettuce, carrots and cabbage. At around dinnertime I have 9 mini whole wheat crackers. Throughout the day I drink tons of Poland Spring water. On a bad day which happens once a week or so I may have in the morning with my black coffee an egg white with a few whole wheat crackers.

Participants requested solidarity in achieving goals and were praised when daily intake was “appropriately” low and encouraged not to give up if they binged. Facebook groups often contained a number of interactions surrounding giving “tips” that were characterized by helping and encouraging group members in pursuit of the eating disorder. These interactions were similar to what has been found on pro-ana Internet sites (e.g., Harshbarger et al., 2009). Negative reactions to “tips and tricks” requests did occur when the behavior was considered to be very dangerous, such as requests for how to buy syrup of ipecac. In these instances, “healthy” tips and techniques were usually given, and the member was lectured about how to “properly” control eating.

Eating disorder specific emotion. While general emotional content that was not eating disorder specific was often met with positive caring responses from other group members, eating disorder specific emotional content was responded to more negatively—particularly on MySpace. Also coded under this theme were interactions in which women compared themselves to each other, particularly in regards to disease severity. Following a 3 day fast that many group members participated in, the girl who lost the most weight stated “*You all need to work harder—If I can lose 5 pounds in three days then you all should be able to too. I’m pretty disappointed that 5 pounds was the most anyone was able to lose.*” Overall, emotions specific to the eating disorder tended to be more negative and to decrease social support when compared to other types of emotional disclosure.

Thinspiration. Thinspiration, or the use of photos, songs, and short films to encourage and support the pursuit of the eating disorder was more common on Facebook than on MySpace, although the content was present on both types of social networking sites. Information about celebrities, including their weight, diets associated with the celebrity, and where one could find information about that celebrity was common. Wall posts often included links to other areas on-line where one could find other thinspiration

(e.g., YouTube). As one poster noted “*Thin is about control. Total control over your body. Your feelings. Your desires.*”

Facebook specific content. A large portion of the wall posts on Facebook were exchanges of information on how to hide the group membership from friends and family. Members would provide tips for hiding their profile, hiding their membership in the group, and creating a second profile under a different user name that was not shared with family or friends. Some posts also contained information asking for information about other groups that had been shut down. Other Facebook specific content included group management issues, how to cope with others who find out about group membership, and wanting to know group rules. When individuals would introduce themselves, they often asked for clarification regarding the exact nature of the group (pro-eating disorder, anti-eating disorder, how to lose weight healthily, pro-recovery).

OTHER CONTENT IN BOTH MYSPACE AND FACEBOOK

Both networking sites had a number of groups that identified as “anti pro-ana.” Some of these were actively working toward having pro-ana groups removed from the social networking sites; whereas others were geared more towards expressing dislike, lack of understanding, or derision of individuals with eating disorders. Content analysis was not conducted on the anti pro-ana groups; nonetheless, a number of observations were made. The anti pro-ana groups tended to have far fewer members than the pro-ana ones. There were less daily comments or wall posts from the members; and there was less social cohesion. It seemed as if group members joined in order to show support, but did not participate beyond the initial gesture.

In addition to anti-eating disorder sites, searches revealed pro-recovery groups on both networks. These sites focused on helping those with an eating disorder overcome their struggle. Recovery groups tended to be run by individuals who reported recovering from an eating disorder. A subgroup of recovery based groups were groups organized by former patients of treatment facilities. These groups also offered support for recovery, but were characterized by more of social quality (e.g., discussions about certain counselors, therapists, groups available, etc.). In some cases, women joined these groups to find out about the treatment facility before their admission.

Linguistic Analysis

The linguistic content of the wall posts was analyzed using the Linguistic Inquiry and Word Count (LWIC; Pennebaker et al., 2001). Content analysis revealed some differences between the two social networking sites use; thus, the LWIC program was used to compare the psychological processes

and personal concerns of pro-ana users amongst the two social networking sites. The analyses indicated that although MySpace users tended to use more social words [$t(22) = 5.68, p < .05$], Facebook users actually talked more about their families and friends [$t(11.28) = -4.13, p < .05$ and [$t(11.19) = -5.26, p < .05$, respectively]. The use of general affect words was not significantly different between the two groups ($p > .05$), but MySpace users tended to use more positive and negative emotion words [$t(22) = 5.63, p < .05$ and $t(22) = 5.79, p < .05$, respectively]. MySpace users also used significantly more insight related words [$t(22) = 5.37, p < .05$]. There was no difference in the degree to which users of the two Websites used anxiety words; however, Facebook users were significantly more likely to talk about feelings of sadness or anger [$t(11.76) = -5.47, p < .05$ and $t(11.76) = -4.05, p < .05$, respectively]. In regards to actual discussions of body or food, both groups were equally likely to talk about food, but MySpace users were more likely to use words about their bodies [$t(16.51) = 3.66, p < .05$].

DISCUSSION

You never really get cured. You can learn how to manage an ED, but I don't think it is ever really gone. It's always there, lurking in the background, waiting for you to come back. I don't know if it's the same for everyone, but that's how it is with me.

The current study sought to investigate the prevalence and the content of pro-eating disorder groups on social networking sites. Given the recent surge in the popularity of social networking, the lack of regulations on the type of groups that can be created, and the populations that they serve, it was hypothesized that pro-eating disorder groups would be common. In fact, searches for pro-ana or pro-bulimia on two of the most popular social networking sites yielded hundreds of results. The large presence of pro-ana groups on these networking sites is likely due to the fact that social networking sites tend to be more lax than many Website hosts and therefore sites that have been closed down often “reopen” in these new arenas. Another reason why pro-ana groups may be common on networking sites is the possibility of making the group private, closed, and/or unsearchable.

Previous studies have demonstrated that viewing pro-ana Websites might be harmful to the viewers; and that they might provide a much needed avenue for social support to young women suffering from an eating disorder who feel isolated from their friends and family (Csipke & Horne, 2007). The two social networking sites examined in this study did contain positive social interactions between participants; thus supporting the hypothesis that pro-ana groups may provide social support. Groups on networking sites were less likely to contain eating disorder specific content that is often

present on traditional pro-ana Websites. The emotional content was varied and deep, and often focused on content such as family trouble, boyfriends, school and work.

Although Facebook and MySpace are both typical examples of social networking sites, they do differ in several ways. The largest difference was that MySpace users tended to spend more time engaged in general social interactions such as introductions, support and friendship, discussing negative thoughts and feelings with others, and reacting negatively to content that was considered overly eating disorder specific. Some of the differences may be due to an apparently older sample on MySpace, as data from comScore (2006, 2007) indicate that Facebook tends to have a younger user. The older members of MySpace might be less likely to engage in conventional pro-eating disorder behavior, and instead may be seeking out friends with similar experiences. Results from the LIWC confirm that MySpace users were more insightful and more likely to discuss positive and negative emotions and social processes.

In general, the results of this study indicate that pro-ana groups on social networking sites are primarily geared towards providing social support. This finding highlights the need to re-evaluate the reasons that individuals with an eating disorder may visit pro-ana groups, and how harmful these Websites are to this population. Previous research has documented that individuals with both anorexia nervosa and bulimia nervosa report a more limited social network both in terms of quality and quantity (Tiller et al., 1995). Therefore, these social networking sites may provide a valuable opportunity for increased social interaction and emotional support. However, research has indicated that in the long term those who are lonely or socially isolated do not benefit from on-line interactions (Sheldon, 2008). Future research is needed to determine whether online social interactions on pro-ana groups on social networking sites are helpful or harmful. At this point, it seems that one cannot say across the board that these groups are negative. There is a great deal of potential for harm; however, it does appear as if some short-term social needs are being met by these groups—albeit not in the healthiest manner.

Although this analysis does shed some light on the prevalence and content of pro-eating disorder groups on social networking sites, there is substantially more research that could be done. Quantitative research comparing pro-eating disorder content on social networking sites and more typical Websites would be beneficial to better understand the impact of these sites. It would also be useful to empirically determine whether viewing or interacting with members of a pro-ana group on a social networking site is more or less likely to cause negative consequences than viewing a pro-ana Website. Although these sites seem like they might have some benefits vis a vis social interaction, future research would see if the benefits outweigh the costs of receiving additional exposure to eating specific content and having

friends who support a continuation of the disorder. Lastly, a search for pro-ana groups did reveal a number of groups that may be geared more towards recovery or continued support in the recovery process. An analysis of the content and benefit of these groups would be useful.

This study had several limitations. One major limitation was that the authors only had access to sites that were either open or that granted permission to view their sites. It is possible that the sites with the most eating disorder specific content refused permission to view the groups. Therefore, the findings reported herein may be an underestimation of the type and frequency of social interactions versus eating disorder content. Another limitation is the lack of a direct comparison group of pro-ana Websites for this study. Although several studies have published content analyses for this type of Website, it is possible that newer pro-ana Websites are less extreme and that the increase in social networking is just an overall trend in the pro-ana community.

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