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Morana Lukač
University of Zadar

Down to the bone: A corpus-based critical discourse analysis of pro-eating disorder blogs

The pro-eating-disorder community is almost exclusively an online community of individuals who claim that eating disorders are not an illness, but rather a life-style choice. This study offers an insight into the ideologies constructed in the pro-eating-disorder online discourse by using micro and macro levels of critical discourse analysis (CDA) on 19 blogs written by the self-declared members of the community. Linguistic analysis of the pro-eating-disorder discourse has been largely under-represented and this study is the first to use a corpus-linguistics approach to CDA in analysing the websites' content. The results of the analysis show that the pro-eating-disorder community constructs the ideology of eating disorders as a life-style *via* demedicalised reference to the illness. The study also elaborates on the construction of the negative image of "an outsider" (any person not belonging to the community) as an element of self-determination. By using the corpus linguistic technique of keyness, main topics of the discourse are identified, suggesting relevant relations between the discourse of measuring and will power and the underlying pro-eating-disorder ideologies.

Key words: blog; pro-eating disorder community; critical discourse analysis; demedicalisation; corpus linguistics

*Woe's me, woe's me!
The earth bears grain,
But I Am unfruitful,
Am discarded shell,
Cracked, unusable, Worthless husk.
Creator, Creator,
Take me back!
Create me a second time
And create me better!*
(Ellen West¹)

1. Introduction

In recent years we have witnessed great changes brought about by the growing presence of social media which have enabled community building for people who share similar interests and occasionally belong to otherwise isolated groups. This paper deals with one of the subgroups which is limited to an exclusive online existence due to its controversy. The pro-eating-disorder community, or as its members refer to it, the “pro-ana” community, consists of individuals who consider eating disorders (primarily anorexia) to be a life-style choice rather than an illness (Day & Keys 2008: 6). The pro-eating-disorder websites offer group support and exchange of ideas concerning the members' chosen life-style. The most common content of these sites are dieting tips, weight-loss techniques, advice on hiding food disorders, calorie counters and materials serving as inspiration for further dieting, commonly referred to by the portmanteau “thinspiration.”

This paper uses the corpus-linguistics approach to critical discourse analysis (CDA) in examining a corpus of pro-eating-disorder blogs. There has been little linguistic analysis of pro-eating-disorder discourse and this is hitherto the first attempt of using quantitative analytic tools. The aim of this analysis is to identify the main topics of the pro-eating-disorder discourse in order to understand the underlying ideologies (Fairclough 2001: 2) which enable the members of this group to shift the topic of eating disorders from the conventional, medical, to the life-style sphere. The study also deals with the attitude of the pro-eating-disorder community members towards the outside world as one of the elements of their self-determination. The linguistic analysis is preceded by a general introduction to the pro-eating-disorder community and a short overview of the corpus-linguistics approach to CDA.

¹ Boeree, George C. (1997). *Ludwig Binswanger*. Available at: <<http://webpace.ship.edu/cgboer/binswanger.html>>. (Accessed on: 11.08.2011).

2. Background of the pro-eating-disorder community

The pro-eating-disorder community is an online community of people who engage in discourse on pro-eating-disorder websites which disseminate information about eating disorders, primarily *anorexia nervosa*, providing the users with space to discuss and share information about the condition they refer to as “ana” (Dias 2003: 6).

The pro-eating-disorder blogs, which are the object of the analysis of this paper, usually include short descriptions of the blogger, where the bloggers define themselves as belonging to the pro-eating-disorder community. The bloggers usually list their CW (current weight), their HW (highest weight), LW (lowest weight) and GW (goal weight). Their blogs are daily accounts of their lives, with a great emphasis on their concern with losing weight. The blogs often contain ideal weight calculators, calorie counters and “thinspiration” in the form of photographs, but also “thinspirational” songs, books and videos may occasionally be found on *YouTube*.

Due to the controversial, possibly even health-threatening effects of the pro-eating-disorder websites, most of the scientific research on these communities was done by psychologists who measured the impact of the pro-eating-disorder websites on the users and analysed their content (Custers & Van den Bulck 2009; Bardone-Cone & Cass 2007). Others have explored the advocacy of weight-loss drugs (Fox et al. 2005). Some studies also used the websites to compare the language of the recovering anorexics and the language of the pro-eating-disorder community finding that the latter use more positive and future-oriented language compared to the people in recovery (Lyons et al. 2006). Dias (2003) describes the social and emotional aspects of the pro-eating-disorder discourse and the relationships established between the members of the community. The most disturbing results revealed that viewing pro-eating-disorder websites has direct negative consequences on the users’ self-esteem and causes a negative affect (Bardone-Cone & Cass 2007).

The only study using discourse analysis in researching the pro-eating-disorder websites was conducted in 2008 by Day and Keys. The two authors performed a poststructuralist style of discourse analysis seen from a feminist perspective and found indications of both conformism, in the form of following the cultural ideals, and creation of alternative subject positions on the analysed websites (2008: 12).

Actions against this controversial community have been taken on the Web; Yahoo, YouTube and Facebook all state that they regularly remove pro-eating-

disorder content, and the websites are even considered to be illegal in some countries. In 2008, the French National Assembly passed a bill which outlawed materials advocating or encouraging *anorexia nervosa* (Proposition de loi adopté par l'assemblée nationale en première lecture 2008). The pro-eating-disorder community together with some non-members who believe that such actions violate freedom of speech reacted against these measures by signing online petitions.

3. Research aims

Previous research on the pro-eating-disorder discourse resulted in new insights concerning the psychological effects and user impact such discourse has on the website users; however, the nature of the language used among the pro-eating-disordered has been rather unexplored. This study sets out to identify the linguistic techniques the group members use in constructing their ideology of “eating disorder as a life-style” by using the methods of corpus-based CDA. The study also analyses the language the pro-eating-disorder community uses when talking about “the outsiders”, meaning about those who do not share their worldviews. Finally, by using quantitative tools, I analyse the main topics of the pro-eating-disorder discourse.

4. Corpus-linguistics approach to critical discourse analysis

Critical discourse analysis is today considered to be one of the significant fields of linguistic research (Fairclough 2001: ix). However, its founders refrain from calling it a linguistic discipline (Van Dijk 2003: 352, Wodak 2002: 6), but rather use terms such as “a research programme” (Wodak 2002: 6) or “a type of discourse analytical research” (Van Dijk 2003: 352). One of the main reasons for such wariness lies with the heterogeneity of the CDA approaches (Wodak 2002: 7). Though united in the object of their analysis, which is “the way social power abuse, dominance and inequality are enacted, reproduced, and resisted by text and talk in the social and political context” (Van Dijk 2003: 353), in the element of criticism and in their resistance to social inequality (Van Dijk 2003: 353), different CDA approaches differ in their methods. In the book offering the most up-to-date overview of CDA, Wodak and Meyer name six different CDA approaches (2009: 20) and their most relevant representatives: Discourse-Historical Approach (Ruth Wodak, Martin Reisigl), Corpus-Linguistics Approach (Gerlinde Mautner), Social Actors Approach (Theo Van Leeuwen), Dis-

positive Analysis (Siegfried Jäger, Florentine Maier), Sociocognitive Approach (Teun Van Dijk) and Dialectical-Relational Approach (Norman Fairclough).

This research uses the corpus-linguistics approach and follows the guidelines presented in the work of Paul Baker (2006a). The idea of the “methodological synergy” (Baker et al. 2008: 273) of critical discourse analysis and corpus linguistics was already introduced by Hardt-Mautner in 1995. The same author made a contribution in 2009 to the above mentioned CDA handbook (Mautner 2009: 122-144), with a chapter on corpus-based CDA, clearly demonstrating that during the last years, the respective approach has become one of the established movements within CDA. The most relevant and the largest study conducted in this field until now is the RASIM Lancaster project (Baker et al. 2008) which analysed the discourse of refugees and asylum seekers in the UK press within a ten year time span (1996-2006). This project, based on a 140-million-word corpus, would not have been possible by applying only the traditional in-depth qualitative analysis.

In arguing the benefits of the corpus-linguistic approach, I here refer to Mautner (2009: 123) and what she calls the three most relevant factors introduced by corpus-based CDA: (a) working with large data volumes, (b) reducing researcher bias and (c) combining quantitative and qualitative analysis. By working with a greater number of texts which belong to the same genre and by building a specialised corpus, we are able to analyse particular types of text and not only individual texts which might have been selected because they best suite the pre-existing line of argumentation. According to the post-modern researchers (Baker 2006: 10), objectivity is almost impossible to accomplish and critical discourse analysts themselves do not claim full objectivity of their interpretation (Marko 2008: 92). What can, nevertheless, be accomplished and more easily reached by using corpus-based techniques are higher levels of intersubjectivity, i.e. explicitness which makes the analysis accessible to other subjects, and systematicity, i.e. consistency in the use of tools (Marko 2008: 92).

5. Analysis of the pro-eating-disorder blog discourse

5.1. Corpus compilation and methodology

A specialised corpus of nineteen pro-eating-disorder blogs was compiled for the purpose of this research. The blog entries were collected in the time span of three weeks in May 2010 and all of the blog entries date from 2008 to 2010. The data was collected by using the Google search engine and selecting publicly available blogs whose authors claimed to be “pro-ana.” The total number of to-

kens of the collected texts is 222,464. The nineteen blog authors are all either teenagers or adolescents, the youngest blogger being seventeen, and the oldest twenty-six. Out of the nineteen bloggers, two are male and one claims to be a member of a minority group (African). Fourteen bloggers come from the USA, four from Great Britain, and one from the Netherlands. The majority of the bloggers are still either secondary school or university students. The demographics of this group of bloggers corresponds to the American national statistics; according to the South Carolina Department of Health (2008), approximately 85-90% of people suffering from an eating disorder in the USA are female and 95% are in the age group 12-25.

When defining themselves as pro-eating-disordered, the bloggers often specify the illness they are suffering from, which is almost always anorexia, sometimes combined with bulimia. The third option is being ED or eating disordered, meaning someone who is neither exclusively bulimic nor anorexic, but has a generally distorted self-image and attitude towards food. Some of the blogs contain recent posts, however, a significant number of the pro-eating-disorder blogs have been abandoned at a certain point in time by their founders. The texts used for the analysis consist exclusively of the bloggers' entries, and do not include comments of the blogs' followers.

By applying corpus-based CDA, I have conducted a qualitative and a quantitative analysis, the latter by using linguistic software, Wordsmith Tools 5.0 (Scott 2008). In the first part of the analysis I focus on the language related to eating disorders. Expressions used for the disorders are isolated from the corpus word list sorted by frequency and a qualitative aspect is added to the analysis by using concordancing tools. The second part of the analysis focuses on the language related to "the outsiders" and the same procedure of isolating expressions from the word list, and using concordance is repeated. The final part of the analysis resulted from a more open-ended question about the prevailing topics in the pro-eating-disorder discourse. For the purpose of identifying overall discourse topics I use the keyness technique and contrast the existing corpus with a reference blog corpus. The key words are semantically classified and the biggest semantic groups are qualitatively analysed.

5.2. Demedicalisation in pro-eating-disorder blogs

In the first part of the analysis, the focus is put on specifying the strategies which the pro-eating disordered use in constructing their ideology of anorexia as a life-style. The expressions used for eating disorders are isolated from the corpus wordlist.

Eight different expressions for eating disorders appear on the wordlist, in order of frequency per token, *ana* (442), *eating disorder* (56), *anorexia* (52), *mia* (45), *anorexic* (33), *ED* (26), *bulimic* (9), and *bulimia* (6). From the number of tokens, it is obvious that the clippings *ana* and *mia* are significantly more frequently used than the proper nouns *anorexia* and *bulimia*. This pattern does not apply to *eating disorder* and *ED*; however, in this case, the result of the change is an initialism, and not a semantically layered clipping such as the female names *Ana* and *Mia*.

Due to the frequency of the word *ana* (it is two times more frequent than the total of all the other tokens), the second part of the analysis focuses on an in-depth grammatical and semantic categorisation of this clipping. The hypothesis was that, as a clipping of the word *anorexia*, *ana* would be the word used in referring to the medical condition. However, the concordancing results show that this is only one of the several uses of the word. In its nominal form, *ana* is used as a clipping for an anorexic. *Ana* is additionally used as an adjective, mostly as part of the word *pro-ana*, or as a single morpheme *ana*. In both of the examples, the adjective premodifies people, objects, songs, pictures, etc. meaning "supporting or exhibiting pro-anorexic attitudes". This categorisation is presented in Table 1, and each of the categories is illustrated with an example from the blog corpus.

Table 1. Grammatical categories of *ana*; corpus examples.

Ana - noun		Ana - adjective	
anorexia	anorexic	pro-ana	ana + noun
"I'm scared she's gonna catch on and discover ana , discover my blog"	"but i am an ana , not a pill-popper"	"I know this has worked for at least a few other pro ana girls out there"	"Being an ana guy is...odd"
"I'm (not really ashamed) but secretive of Ana "	"I'm ana because it's the slowest form of suicide"	"urban dictionary not only mocks, but criticizes anyone with Pro Ana ideas "	"I thought I'd post a copy of my ana playlist for you"

The grammatical categorisation of *ana* is supplemented by a semantic one. Each result of the concordance for the word *ana* is subsequently analysed in its context by accessing the source texts. In recent literature, researchers have suggested alternatives to the "manual" semantic classification, namely semantic taggers (Prentice 2010), which should serve as another tool for reducing researcher bias in corpus-based CDA. Due to the manageable size of the corpus and the expected number of mistakes resulting from semantic tagging, the cate-

gories in this research are created by the author herself upon performing qualitative analysis of each occurrence. The results of the semantic categorisation are shown in Figure 1.

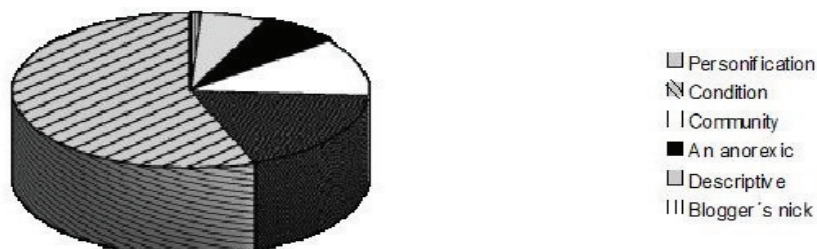


Figure 1. Semantic categories of *ana*.

Six different semantic categories are found for the use of the word *ana*: ‘personification’ (56%), ‘condition’ (18%), ‘pro-ana community’ (12%), ‘a person suffering from anorexia’ (7%), ‘descriptor used for objects, songs, attitudes, web sites, etc. promoting anorexia’ (6%), and ‘part of the blogger's nickname’ (1%). The semantic categorisation proves that the act of introducing a clipping instead of the full name for the condition goes beyond time-saving strategies common in computer-mediated communication. Instead of using *ana* merely as the short form of *anorexia*, when talking about *ana*, the bloggers engage in a completely new type of reference, transforming the condition into a persona: a woman named Ana. This use is illustrated in the following examples:

- (1) *I'm sticking to **Ana** from now on. **Ana** understands. **Ana** cares. **Ana** helps.*
- (2) *All things in moderation - and with **Ana** on your side, that should be easy to accomplish!*
- (3) *Yeah, me and **Ana** are going to be inseparable from now on – Mia can find someone else to bother.*
- (4) *Forgive me forgive me **ana** for i have eaten way too much of late. Its hard to fast and restrict with a roommate who knows my past.*
- (5) *We may not go to a church every sunday, but don't we sure as hell pray sometimes, “**ana**, give me strength...”? i know i have.*

The first three corpus examples demonstrate the common reference to *ana* as a human being. In all of them *ana* is associated with verbs and predications usu-

ally ascribed to people, such as: *understand, care, help, be on one's side, be inseparable*. For the purpose of intensifying the effect of personification, the word *ana* is almost conventionally capitalized. In these sentences *ana* is idealised as a person who provides for those engaging in the pro-eating-disorder life-style: by obeying *ana*, goals can be accomplished. Compared to the other types of eating disorders, *ana* is healthier and more desirable than bulimia, the symptoms of which appear when one loses control. In the sentences (4) and (5), instead of relating *ana* to the conceptual field of human beings, *ana* is referred to as a divine being, a goddess. The use of this conceptual metaphor (ANOREXIA IS RELIGION, ANOREXIA IS A GODDESS) on pro-eating-disorder websites has been researched in a study by Patricia Maloney (2008), leading to the conclusion that the occurrences in the corpus used for this particular study are not isolated examples.

In the analysis of the word *mia*, patterns similar to the use of the word *ana* have been noted. *Mia* belongs to two grammatical categories (noun and adjective), and four semantic categories are identified for the uses of the word, 'personification' (71%), 'condition' (18%), 'descriptor used for objects, songs, attitudes, web sites, etc. promoting bulimia' (4%), 'a person suffering from bulimia' (3%). This word is significantly less frequent due to its negative connotations within the pro-eating-disorder community. Unlike *ana*, *mia* is an undesired "friend" (condition) for the eating disordered.

The final part of this analysis focuses on the use of other expressions for eating disorders: *eating disorder/ed, ED, anorexia, anorexic, bulimia* and *bulimic*. In this step I have applied semantic categorisation, leaving out the grammatical one, as the only word belonging to more than one word class is *ED* ("eating disorder/ed," "supporting or exhibiting eating disordered attitudes"). These expressions are grouped together after initially being separately classified by the author and after the results of the analysis showed similar trends in their use. Due to the smaller number of tokens, instead of presenting the results in exact percentages, I will state the approximate sizes of particular categories. The biggest semantic category is 'condition from a third-person perspective'; this means that the authors, when using the above-mentioned expressions, distance themselves from reporting their personal experiences. They are assuming an objective voice instead, describing the community and the condition in more general terms.

- (6) *Pro Ana is a movement of empowerment among females and males that have an **eating disorder** and do not want to recover. Yahoo and five or six other web site providers have banned Pro Ana sites because the providers have misunderstand what it is and what it is for.*

- (7) *One thing is certain, admitting to an **eating disorder** is not a good way to jump start a modeling career, which her friends say is the motivation behind her shrinking frame. Even though most agents and designers would be chomping at the bit to get a 5'11 girl who weighs just 105 pounds, I doubt anyone is willing to touch her now that she's publicly admitted she's an **anorexic**.*
- (8) *OK, a recovered **anorexic** girl just came back to school in the past week. This is the same girl I mentioned in passing a few posts ago.*

Excerpts (6-8) demonstrate the semantic context of the uses of the words *eating disorder* and *anorexic*. Instead of the style of a personal narrative in (1-5), in the latter three examples the authors are using different discursive strategies. Rather than giving a first-person account, the author is providing a definition in (6), reporting on media coverage in (7), and retelling a story about a third person from their surroundings in (8). Definitions and objectifying language occur significantly more often with these expressions than with the initially analysed clippings. The expressions *ED*, *eating disorder**, *bulimi**, and *anorexi** occur often in the context of third person reports.

- (9) *The Minnesota Starvation Experiment can best be summed up as controlled **bulimia** and **anorexia**. A group of men were offered the option to participate in a psychological experiment as an alternative to military service.*
- (10) *Some may say I have **bulimic** tendencies but I can go a week or two without throwing up my insides..*
- (11) *Anonymous writes about helping to rescue her sister from **anorexia**, and recognizing her symptoms in the things we (myself and the commenters) have written here.*

In examples (9-11) the authors are using the words *anorexia* and *bulimia/bulimic* in contexts which have been categorised as third-person reports. The bloggers choose these medicalised expressions when they are reporting media sources (9-10), or reporting the, usually critical, opinions of “the outsiders” (11). This objectifying and distancing attitude is best represented in the final sets of example sentences.

- (12) *I have been **eating disordered** since I was 14. First an over eater, then bulimic, then anorexic.*

- (13) *My **eating disorder** started when I was 13, my mum found out when I was 17.*

In the (rare) occasions when the bloggers decide to objectively describe their anamnesis, they reach out for the medical terms. In such texts, the bloggers are usually critical and aware of the problematic health-threatening condition.

- (14) *Please do not think that you can attempt to be **anorexic**. **Eating disorders** are no joke – they are a disease. This is not a diet – it is a NIGHTMARE.*

In example (14), the author is giving a politically correct statement; she is warning the readers of the blog's triggering content and distancing herself by acknowledging the negative health effects of anorexia.

By combining the quantitative approach with semantic categorisation of each of the expressions used to describe eating disorders, I have come to the conclusion that different word forms are used in different semantic contexts. The clippings *ana* and *mia* are used in bloggers' personal narratives and descriptions of their daily experiences, plans and emotional processes. *Ana* and *mia* are multi-functional words belonging to multiple word classes. Due to this fact, the use of medicalised terms for the illnesses or people suffering from them (anorexia, anorexic, bulimia, bulimic) can be easily avoided. *Ana* is a desirable physical and mental state, a person, or even a deity, motivating and encouraging "the pro-anas" to continue their path to beauty and perfection. There is another type of discourse about eating disorders the bloggers engage in, however, as the frequency of use demonstrates, to a much lesser extent. When using the standard medical terms for the conditions, the authors are objectifying, reporting opinions of "the outsiders" and stories covered in the media or (questionably) warning the followers. Based on this quantitative and qualitative analysis I argue that the members of the pro-eating-disorder community construct the ideology of anorexia as a life-style through personification, demedicalised expressions and the emphasis on the goals achieved "with *Ana's* help."

5.3. Description of outsiders in pro-eating-disorder blogs

The objective of the second part of the analysis is identifying the attitudes of the pro-eating disordered towards "the outsiders" to the community. The most frequently mentioned people who do not belong to the pro-eating-disorder community are the ones from the bloggers' nearest social surroundings and the ones with whom they have the most contact: their parents, friends, partners, and occa-

sionally co-workers. Table 2 shows the frequency of the nouns referring to this group of “outsiders” among the first 700 lexical lemmas of the corpus. The forms of the same lexeme are not always the only words categorised together, but occasionally words are added to the categories manually, such as in the category *mom*, which includes the less frequent variants *mum* and *mother*, and *dad*, including the tokens of the word *father*. Though the words are used in different contexts, they are placed within the same category, as the reference to the same person is of prime relevance.

Table 2. The most frequent words referring to “outsiders.”

Order of frequency of the word in the corpus	Word	Number of tokens
39	<i>friend</i>	313
73	<i>mom (mum, mother)</i>	188
236	<i>parent</i>	73
247	<i>boyfriend</i>	69
255	<i>dad (father)</i>	67
563	<i>partner</i>	29
587	<i>husband</i>	27
597	<i>brother</i>	27
651	<i>roommate</i>	25

In order to understand the attitude of the eating disordered towards “the outsiders,” the study focuses on the portrayal of attitudes of “the outsiders” towards the condition and eating habits of the members of the pro-eating-disorder community. One of the tools for testing this in the corpus is using the concordance by searching for the first person pronoun in the object position (*me*) in combination with the bare infinitive form *eat*, in the expected range of 3 positions to the left or right. The results of the concordance show different levels of persuasion “the outsiders” use in order to get the bloggers to eat. The verbs can be schematically scaled from the least assertive (*want, expect, ask*), more assertive (*require, convince, get*), to the most assertive (*make, pressure, coerce, force*).

Table 3 demonstrates different acts of persuasion by “the outsiders” in expressions where *me* is a direct object, and *eat* the required action:

Table 3. Concordance of **me to eat*.²

1	n a special diet that required me to eat only 'this many' ca
2	cerned, he just tries to force me to eat here and there. it
3	ch food I know you dont expect me to eat this all" fuck her.
4	k continued to try to convince me to eat . shelby and jay r
5	surprisingly, she didn't force me to eat the whole trip. i g
6	read rumors about me [] force me to eat [x] say I eat too m
7	nd knowing them they will want me to eat lunch so I'll just
8	with food, so noone pressures me to eat . Today is going pre

The second step in the analysis focuses on “the outsiders” themselves. “The outsiders” who are mentioned most often in relation to the acts of persuasion and eating in general are by far most commonly parents. Upon a closer semantic analysis of the words referring to parents, the following results were found: the most frequent words for referring to the mother were *mum*, *mom* and *mother*; these three words amount to 166 tokens. In 103 instances the mentioning of the mother is related to food and eating. The mother is either (a) preparing food for the family, shopping for food, or taking the family out to eat, (b) insisting on (the blogger) eating, (c) a threat for continuing the reduced state of eating, or (d) the mother is dieting herself in four blogs, and often asking for dieting advice from the blogger.

Table 4 illustrates the context of uses of the word *mum* in the corpus:

Table 4. Concordance of *mum*.

1	s back to water. For dinner my mum made slimming world burger
2	ie (I am quite lucky to have a mum who adores the slimming world
3	ng all day but I am getting my mum to make me slimming world chips
4	n you afterwards for a drink?' Mum - 'We are going to order pizza
5	gs are the most hardest to do? Mum - 'Can I get you something
6	are you eating properly? Me - why? Mum - don't answer a question

The words *dad* and *father* also appear quite often in the context related to eating, however, to a much lesser extent than the word *mum*. In 26/66 occurrences, *dad* or *father* is related to preparing and ordering food, insisting on eating and to dieting in two blogs. *Parent/s* appear in the context of eating in 40% of the total occurrences.

The three-way relationship which is established in the discourse between the bloggers, “the outsiders” and their condition shows certain recurring patterns.

² In this and other tables showing concordancing results, random examples are listed as they appear in Wordsmith. The purpose is to show the existence of patterns in use of the analysed words even when particular sentences are not preselected by the researcher.

Most of the pro-eating-disorder bloggers are young people in their teenage and adolescent years, who are still mostly living with their parents. The parents are thus the ones who are doing most of the monitoring and insisting when it comes to eating. The frequency of the close connection between the words *mum*, *mom* and *mother* and eating confirms the traditional domestic role of the mother as the cook and the food provider. There is a somewhat lower, albeit significant correlation, between the words *dad*, *parents* and eating practices. The members of the pro-eating-disorder community feel observed by their environment, and they try to hide their reduced food intake in different ways. These practices take place because “the outsiders” do not understand nor relate to the system of beliefs and values of the pro-eating-disorder community.

5.4. Key semantic groups

One of the attempts of this research was to identify the underlying concepts of the pro-eating-disorder discourse. For detecting relevant topics in this discourse, the corpus linguistic technique of keyness was used (Baker 2006a: 121–153, Scott & Tribble: 55–88). “Keyness is a quality words may have in a given text or set of texts, suggesting that they are important, they reflect what the text is really about, avoiding insignificant detail” (Scott & Tribble 2006: 56). Keyness of a particular word is proven when its frequency is unusually high (or low) when compared with a certain norm (Scott 2008).

Following Baker’s idea (2006a: 139) that a smaller corpus of similar texts can provide useful information when contrasted with a reference corpus, I have compared the corpus of this research with a 140-million-word reference corpus of texts belonging to the genre of web logs (Schler et al. 2006). The goal of comparing texts belonging to the same genre is to eliminate the jargon typically present in respective types of text and to focus on the lexical items which reveal the relevant topics specific for a particular corpus. However useful wordlists may be, in the end they are only indicators of frequency, whereas keyword lists tell us something about saliency and give more information on words which should be further examined (Baker 2006b: 2).

Table 5 shows twenty-five top key words (KWs) in the pro-eating-disorder blogs when compared with a reference blog corpus (Schler et al. 2006). Considering the relatively great number of words in the pro-eating-disorder blog corpus, the threshold for the p-value is set on 0.000001; this value indicates that the danger for claiming a wrong relationship is equal to or less than one in a million. The minimum frequency of the calculated KW is three, as recommended for larger corpora (Scott: 2008).

Table 5. Key words of pro-eating disorder blogs vs. blog corpus (Schler et al. 2006).

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P
1	#	69842	24,25	3287301	2,33	215115,39	0
2	CALORIE	1063	0,37	392		11483,39	0
3	CALORIES	929	0,32	1961		7894,19	0
4	EAT	1330	0,46	35773	0,03	5168,08	0
5	ANA	391	0,14	562		3558,08	0
6	WEIGHT	650	0,23	12282		2952,31	0
7	FAST	682	0,24	19269	0,01	2586,56	0
8	EATING	475	0,16	18277	0,01	1531,92	0
9	FASTING	172	0,06	330		1487,66	0
10	CAL	209	0,07	1018		1474,33	0
11	LOSE	426	0,15	15595	0,01	1412,47	0
12	LB	178	0,06	655		1344,36	0
13	CALS	124	0,04	56		1313,78	0
14	THERE'S	94	0,03	0		1164,95	0
15	FOOD	546	0,19	39405	0,03	1155,63	0
16	BMI	118	0,04	119		1134,33	0
17	THIN	237	0,08	4333		1090,77	0
18	THINSPO	84	0,03	0		1041,01	0
19	BITE	221	0,08	4088		1012,28	0
20	DAY	1348	0,47	242497	0,17	994,67	0
21	SKINNY	188	0,07	2686		952,12	0
22	DIET	236	0,08	6132		931,38	0
23	GO	1537	0,53	311302	0,22	912,49	0
24	FAT	311	0,11	14769	0,01	884,91	0
25	POUND	168	0,06	2368		855,08	0
26	STAY	428	0,15	33989	0,02	837,05	0

The top KWs are mostly nouns and verbs relating to nutrition (*calorie, calories, eat, weight*) and the pro-eating disorder jargon (*ana, BMI, thinspo*). The list unsurprisingly reflects the main topics one would expect in the pro-eating-disorder community. However, for a more detailed analysis of the KW list and for the purpose of identifying major topics, I have created semantic groups of the top four hundred KWs. The semantic categorisation of the keywords list has resulted in 26 different subcategories, the biggest of which are listed in Table 6.

The missing fifth biggest category 'personal names' is eliminated from the analysis due to the content irrelevance for establishing the key topics in the discourse. Unsurprisingly, the biggest semantic category in the list of key words is 'food.' One of the major topics of discussion in the corpus is nutrition and, therefore, naming types of food which one should avoid or which are acceptable, meaning low-fat, leads to the high relevance of this semantic category.

Table 6. Six biggest semantic categories in the KW list.

Category	Types
Food and beverages	<i>food, water, soup, liquid, yoghurt, saltwater, tea, foods, chips, salad, juice, coffee, dinner, cereal, meal, lunch, cheetos, celery, fruit, cheese, soda, sandwich, pizza, sugar, apple</i>
Measuring Units	<ul style="list-style-type: none"> • Intake <ul style="list-style-type: none"> • <i>calories, cals, calorie, cal, bite, slices, serving, tablespoons, cups, litres, portion</i> • Weight <ul style="list-style-type: none"> • <i>lbs, pounds, BMI¹, kg, lb, pound, ounce, highest [weight], lowest [weight]</i> • General <ul style="list-style-type: none"> • <i>intake, size, mile, inch, cm, measurements</i> • Time <ul style="list-style-type: none"> • <i>day, week, hour, month, minute</i>
Communication	<i>tell, thank, say, lie, excuse, comment</i>
Decision making	<i>plan, keep, starting, try, start, stop, goal, decide, control, avoid, manage, allow</i>
Restriction	<i>fast, fasting, restricting, lose, diet, restrict, starve, restriction, dieting, ABC²</i>
Emotions	<i>feel, worry, disgust, annoy, frustrate, depressed, feels</i>
¹ BMI = Body Mass Index, an indicator of body fat calculated from a person's height and weight ² ABC = Ana Boot Camp, 50-day anorexia fasting diet	

The significance of the categories of ‘communication,’ ‘restriction’ and ‘emotions’ I argue can be explained by the particular type of blogs. The words in the category ‘restriction’ most closely and obviously relate to dieting jargon. The relevance of the categories ‘emotions’ and ‘communication’ I would expect to find in any blog discourse, however, the somewhat more frequent use of the words belonging to this category might be ascribed to the topic and the type of exchange in the blogs. The reports on the dieting process of the bloggers are followed by the communication of emotional support, encouragement and consolation from the commentators and, finally, the reception of the communication of such support by the bloggers. More detailed analysis is devoted to the semantic fields ‘measuring units’ and ‘decision making.’

5.4.1. *Measuring units*

The keyness of the semantic field ‘measuring units’ corresponds to the results of the frequency from the lemmatised wordlist, the word *day* being the second most frequent, and the word *calorie* the fourth most frequent lexical word. This semantic category has been divided in four subcategories, ‘food intake,’

‘weight,’ ‘general,’ and ‘time.’ The words *highest* and *lowest* are categorised among measuring units since in 90% of the cases these words are collocations of *weight*. The bloggers use *highest/lowest/goal weight* in their profiles as a basic method of self-presentation in the pro-eating-disorder community and for exposing how far they have come in approaching their ultimate goal weight.

In my final point of analysis, I look into the context analysis of the two words with the most tokens within this category: *day*, and *calorie (cal)*. The singular form of the word *day* is mentioned 991 times in the corpus, and in 125 cases it is followed by a number: *day 1*, *day 5*, etc. The numbers signal the number of days the author has been dieting or fasting. In 28 cases, the word *day* is preceded by *per*, as part of the phrase *calories per day*. The indefinite article *a day* usually functions as a synonym of *per day*, expressing ratios.

Table 7. Concordance of *day*.

1	ay safe. Day 3 down - 37 to go Day 3 is another success Well
2	tracks a lot) XOXOXOXOXOXOXOXOX Day 2 - 38 to go 2 days down!
3	y sexy, stay skinny, stay safe Day 9 Down, 31 Remaining Stil
4	o get out of it. Three meals a day ..every day for 14 days. E
5	m during our lunch break every day . I'm excited to get that
6	y Skinny Stay Sexy Stay Strong Day 2 - 38 hours So far so go
7	bacon and egg. So, I ended the day crappy, but didn't do too
8	n. I am back on my 200 cal per day plan though. And my worko
9	ove fasting. Good times I'm on day 4. Down 3 lbs, but 2 were
10	e to be a model now, and every day I get catcalls from guys.

Day is more than a time unit in the pro-eating-disorder discourse; it is the x-axis of the dieting coordinate system. The other time units are also related to dieting, however, none of them correlates with dieting as strongly and significantly as *day*. The longer the time units, the weaker their connection to dieting. This implies that the dieting goals and dieting success of the pro-eating-disorder community members are observed and measured mostly short-term. They measure their success on a daily basis. The weight units represent the y-axis of the coordinate system. The most important measuring units are calorie and weight. As the very high frequency of the words *day* and *calorie* implies and the semantic analysis of the corpus confirms, the basic measuring unit of dieting is *calories per day*, and the lower this relation is, the better and more successful are the dieting practices of the pro-eating-disorder community members. An additional emotional element is present in relation to this semantic category. Where success, achievement and happiness accompany the “good days” when fewer calories are consumed, disappointment, frustration and self-reproach are connected to the “bad days” of normal or overeating.

5.4.2. *Decision making*

The words belonging to the category ‘decision making’ are among the most frequent lexical lemmas of the pro-eating-disorder blog corpus. The semantic categorisation of the keyword list additionally confirms the relevance of this category. After using concordance for analysing the context of use of the words within this group, I have found patterns which imply a strong correlation of ‘decision making’ with ‘dieting practices.’

Table 8. Patterns of *goal* in the pro-eating-disorder blog corpus.

N	L5	L4	L3	L2	L1	Centre	R1	R2	R3	R4	R5
1	54	4	KG	LONG	TERM	<u>GOAL</u>	WEIGHT	0LBS	19	4	BMI
2	62	GOAL	WEIGHT	SHORT	MY		99	115	16	0	187
3	WEIGHT	CURRENT	I	115	ULTIMATE		120	105	HIGHEST	WEIGHT	WEIGHT
4		I	MY	WEIGHT	A		IS		ULTIMATE	GOAL	TO
5		0	TO	TO			AND		I	I	
6				MY			FOR		DAYS		
7				170							
8				REACH							

Table 8 shows the patterns of the most frequent words occupying the five positions to the left and to the right for the word *goal*. *Goal* is repeatedly premodified by: *long term*, *short term*, *my*, *ultimate*, and it premodifies the noun *weight* in 25 occurrences. *Goal weight* is one of the terms specific for the pro-eating-disorder vocabulary, meaning “the weight to be achieved in the end of the dieting process.” The goals are separated into smaller units (*goal weight 1*, *goal weight 2*, *short term goal weight*, etc.) and they are steps towards achieving the *ultimate goal weight* which is reached after a longer process of dieting or fasting.

The result of the concordance for the verbs in this category shows that the bloggers are *trying to* restrain themselves from eating, eat a certain low number of calories per day, continue fasting and exercise regularly. They are *keeping* their mind set on dieting. Dieting is something *planned*: the goals are set, and the plans are established about the exact number of calories that should be eaten daily in order to achieve the ultimate goal weight. The dieting process for the bloggers should be controlled through the use of will power. By *wanting*, *deciding*, *trying*, *planning* and *managing*, one can be successful in losing weight. Table 9 shows an excerpt from the concordance of *decided*.

Table 9. Concordance of *decided*.

1	in made me wanna scream!! So I decided fuck it I'm gonna fast
2	0 days ago, thus is over. So I decided fuck it, I'll do it a
3	othing (: **EDIT** : I guess I decided I was starting ABC to
4	signal to cease and desist. I decided I'll fast here and th
5	owever, while absurdly drunk I decided it would be a great i
6	even longer than normal...so I decided NO EATING OUT! Normal
7	st like yesterday was worse. I decided not to go to class fo
8	tempted into buying it. Well i decided some fat free milk wo
9	way, yesterday after posting I decided that fasting before

Weight loss is highly cognitive and by setting your mind to it, you can be successful. The members of the community support and keep reassuring each other that anything can be achieved if one is persistent and determined enough. For the pro-eating-disorder bloggers, the good users of strategies who are determined and thorough in carrying out the plan of reaching the goal weight will be satisfied with themselves, perfect and beautiful. The complete submission of the body to the will is the key element of the pro-eating-disorder discourse. Being extremely thin is not the only objective, but also the process of getting there, the process of manipulating one's biological needs. Complete control is success.

6. Conclusion

The members of the pro-eating-disorder community engage in two types of discourse when talking about their illness. When using medical terms, the pro-eating-disordered develop an objectifying detachment from their condition and usually report on "the outsiders'" views or take a third-person perspective. The second, more common type of discourse includes demedicalised expressions and personifications of the eating disorders where the medical implications of the illness are ignored. The members of the pro-eating-disorder community perceive the people from their closest surroundings, especially parents, as a threat and an obstacle preventing them from engaging in their "life-style of choice." There are two relevant semantic fields in the pro-eating-disorder discourse which stand out when compared to a reference blog corpus: measuring units and decision making. Though losing weight is a long-term goal, the success and failure of the pro-eating-disorder bloggers is viewed on a daily basis; the main focus of the community, dieting, is measured in calories per day. Together with the struggle for and idealization of thinness, the notions of control of mind over body are the most important underlying ideologies of the pro-eating-disorder discourse. Finally, the pro-eating disorder ideology is constructed and re-enacted in language *via* changing semantics leading to demedicalisation, constructing strong intra-

group identity and establishing relations towards the pre-established highly valued notions.

The results of this analysis imply the need for further research concerning the relationship between the language of demedicalisation and the changed perception of illnesses, the attitude of controversial, even underground communities towards the mainstream culture and “the outsiders”, and the relation between dieting (possibly also excessive exercising, healthy dieting, etc.) and the notion of control and managing—concepts which are deeply rooted in our culture.

References

- Baker, Paul (2006a). *Using Corpora in Discourse Analysis*. London: Continuum.
- Baker Paul (2006b). ‘The question is how cruel is it?’ Keywords, foxhunting and the House of Commons. AHRC ICT Methods Network Expert Seminar on Linguistics, 8 September 2006, Lancaster University, UK Available at: <http://weblog.leidenuniv.nl/media/blogs/76040/codifiers/archives/baker%5B1%5D.pdf>. Accessed on: 08.08. 2011.
- Baker, Paul, Kostas Gabrielatos, Majid KhosraviNik, Michal Krzyzanowski, Tony McEnery, Ruth Wodak (2008). A useful methodological synergy? Combining critical discourse analysis and corpus linguistics to examine discourses of refugees and asylum seekers in the UK press. *Discourse and Society* 19: 273–306.
- Bardone-Cone, Anna M., Kamila M. Cass (2007). What does viewing a pro-anorexia website do? An experimental examination of website exposure and moderating effects. *International Journal of Eating Disorders* 40.6: 537–548.
- Bordo, Susan (2008). Anorexia nervosa: psychopathology as the crystallization of culture. Carole, Counihan, Penny Van Esterik, eds. *Food and Culture: A Reader*. (2nd edn.). Oxford: Routledge, 162–186.
- Cohen, Sara B. (2006). Media exposure and the subsequent effects on body dissatisfaction, disordered eating, and drive for thinness: a review of current research. *Mind Matters: The Wesleyan Journal of Psychology* 1: 57–71.
- Custers, Kathleen, Jan Van den Bulck (2009). Viewership of pro-anorexia websites in seventh, ninth and eleventh graders. *European Eating Disorders Review* 17.3: 214–219.
- Day, Katy, Tammy Keys (2008). Starving in cyberspace: a discourse analysis of pro-eating-disorder websites. *Journal of Gender Studies* 17.1: 1–15.
- Dias, Karen (2003). The Ana sanctuary: women’s pro-anorexia narratives in cyberspace. Available at: <[http://www.iiav.nl/ezines/web/JournalofInternationalWomensStudies/Vol4\(2003\)Nr2\(April\)/bridgew/DiasFINAL.pdf](http://www.iiav.nl/ezines/web/JournalofInternationalWomensStudies/Vol4(2003)Nr2(April)/bridgew/DiasFINAL.pdf)>, accessed on: 25.03.2010.
- Fairclough, Norman (2001). *Language and Power*. (2nd edn.). London: Pearson Education.
- Fox, Nick, Katie Ward, Alan O’Rourke (2005). Pro-anorexia, weight-loss drugs and the internet: An Antirecovery model of anorexia. *Sociology of Health & Illness* 27: 944–971.
- Hardt-Mautner, Gerlinde (1995). Only connect: critical discourse analysis and corpus linguistics. *UCREL Technical Paper 6*. Lancaster: University of Lancaster. Available at: <http://ucrel.lancs.ac.uk/tech_papers.html>, accessed on: 15.06.2011.

- Lyons, Elisabeth, J, Matthias R. Mehl, James W. Pennebaker (2006). Pro-anorexics and recovering anorexics differ in their linguistic Internet self-presentation. *Journal of Psychosomatic Research* 60: 253–56.
- Maloney, Patricia (2008). Quod me nutrit, me destruit: the pro-anorexia movement and religion. Available at: <http://www.allacademic.com/meta/p242403_index.html>, accessed on: 30.05.2011.
- Marko, Georg (2008). *Penetrating Language: A Critical Discourse Analysis of Pornography*. Tübingen: Gunter Narr.
- Mautner, Gerlinde (2009). Checks and balances: how corpus linguistics can contribute to CDA. Ruth Wodak, Michael Meyer, eds. *Methods of Critical Discourse Analysis*. London: Sage, 122–144.
- Overbeke, Grace (2008). Pro-anorexia websites: content, impact, and explanations of popularity. *Mind Matters: The Wesleyan Journal of Psychology* 3: 49–62.
- Prentice, Sheryl (2010). Using automated semantic tagging in Critical Discourse Analysis: A case study on Scottish independence from a Scottish nationalist perspective. *Discourse & Society* 21.4: 405–437.
- Proposition de loi adopté par l'assemblée nationale en première lecture (2008). Available at: <<http://www.assemblee-nationale.fr/13/ta/ta0132.asp> 10/06/2010.>, accessed on: 10.06.2010.
- Schler, Jonathan, Mosche Koppel, Shlomo Argamon, James Pennebaker (2006). Effects of age and gender on blogging. *Proceedings of 2006 AAAI Spring Symposium on Computational Approaches for Analyzing Weblogs*. Available at: <<http://u.cs.biu.ac.il/~koppel/BlogCorpus.htm>>, accessed on: 13.12.2010.
- Scott, Michael (2008). *Wordsmith Tools. Version 5*. Liverpool: Lexical Analysis Software.
- Scott, Mike, Christopher Tribble (2006). *Textual Patterns: Key Words and Corpus Analysis in Language Education*. Amsterdam – Philadelphia: John Benjamins.
- South Carolina Department of Mental Health (2010). *Eating Disorder Statistics*. Available at: <<http://www.state.sc.us/dmh/anorexia/statistics.htm> 15/06/2010.> accessed on: 15.06.2010.
- Steeves, Megan (2010). Are we all ugly ducklings when we look in the mirror?: Misunderstandings and new interpretations: a discursive analysis of the idealized body within pro-anorexia websites. Available at: <<http://library2.usask.ca/theses/submitted/etd-04072010-095239/unrestricted/MeganSteevesFullThesis.pdf>>, accessed on: 05.04.2010).
- Stommel, Wyke (2009). *Entering an Online Support Group on Eating Disorders: A Discourse Analysis*. Amsterdam: Rodopi.
- Van Dijk, Teun A. (2003). Critical Discourse Analysis. Deborah Schiffrin, Deborah Tannen, Heidi E. Hamilton, eds. *The Handbook of Discourse Analysis* (1st edn.). Oxford: Blackwell Publishing, 352–371.
- Widdowson, Henry (1995). Review of Fairclough, *Discourse and Social Change*. *Applied Linguistics* 16.4: 510–516.
- Wodak, Ruth (2002). Aspects of critical discourse analysis. *Zeitschrift für Angewandte Linguistik* 36: 5–31.
- Wodak, Ruth, Michael Meyer (2009). Critical discourse analysis: history, agenda, theory and methodology. Ruth Wodak, Michael Meyer, eds. *Methods of Critical Discourse Analysis*. London: Sage, 1–34.

Sources:

<http://acceptingana.blogspot.com>
<http://anaregzig.blogspot.com/>
<http://anasboi.blogspot.com>
<http://brokencrackedmirror.blogspot.com/>
<http://charismaticclaire.blogspot.com/>
<http://gauntvisage.blogspot.com/>
<http://gorgeousbones.webs.com/apps/blog/>
<http://katproanaquest.blogspot.com/>
<http://letters-from-ana.blogspot.com/search>
<http://lifeinapro-ana-nation.blogspot.com>
<http://linnxy.wordpress.com/category/pro-ana/>
<http://proana4.blogspot.com>
<http://starvetobeperfect.blogspot.com>
<http://www.thoughts.com/Depression3609/blog/>
<http://transparentbeauty.blogspot.com/>
<http://wearingthinana.blogspot.com/>
http://what_a_girl_eats.webs.com/apps/blog/
<http://woopsydaissy.livejournal.com/>
<http://xthinisbeautiful.blogspot.com>

Author's address:

Morana Lukač
University of Zadar
Linguistics department
Obala kralja Petra Krešimira IV. 2
23000 Zadar
mlukac@unizd.hr

KORPUSNO UTEMELJENA KRITIČKA ANALIZA DISKURSA PRO ANA BLOGOVA

Pro ana je zajednica koja gotovo isključivo postoji na internetskim stranicama te koja tvrdi da poremećaji prehrane nisu bolest, već životni stil. Ovo istraživanje pruža uvid u načine stvaranja *pro ana* ideologije na primjeru mikro i makro razine kritičke analize diskursa (CDA) 19 blogova čiji su autori samopozvani *proanoreksičari*. Lingvistička analiza *pro ana* blogova nedovoljno je zastupljena u dosadašnjim istraživanjima te je ovo istraživanje prvo u korištenju kritičke analize diskursa u analizi sadržaja internetskih *pro ana* stranica. Glavni zaključak rada jest da *proanoreksičari* stvaraju ideologiju svoje zajednice demedikaliziranim odnosom prema bolesti. Istraživanje također ukazuje na to da *proanoreksičari* imaju negativan stav prema autsajderima i mainstream kulturi koji pridonosi njihovom samoodređenju. Pronalas-

kom ključnih riječi u korpusu prepoznate su glavne teme unutar diskursa koje ukazuju na povezanost diskursa mjerenja, snage volje i ideologije *pro ana* zajednice.

Ključne riječi: blog; pro-ana zajednica; kritička analiza diskursa; demedikalizacija; korpusna lingvistika.