

# Studying eating disorders in the social web

## A network analysis approach

Paola Tubaro

The Business School, University of Greenwich, London

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# The “pro-ana” and “pro-mia” Internet movement

- A controversial subculture: advocacy for anorexia and bulimia nervosa on the web.
- Challenges medical and psychological wisdom: anorexia as a lifestyle, a choice.
- But also, mutual support and advice to fellow sufferers: potential appeal.

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**Woman** *edited by Sally Brook*

## I set up a 'pro-ana' site and dropped to 6st. Now I know this destroys lives

By MIKI WATKINS  
Published: 23 Mar 2010

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EMACIATED, shaking and on the brink of collapse, 20-year-old Stephanie Moore struggled to her computer to email for help.

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**BBC NEWS** **LIVE** BBC NEWS CHANNEL

Last Updated: Wednesday, 8 August 2007, 11:10 GMT 12:10 UK  
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**Seeking 'thinspiration'**

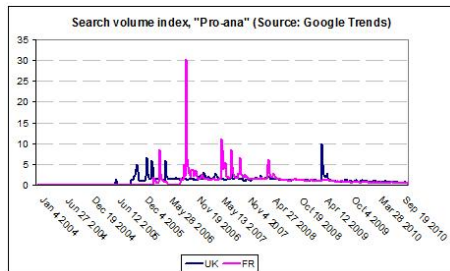
By Jacqueline Head  
 BBC News

**Pro-anorexia websites offering tips on extreme dieting are nothing new, but their growth on social networking sites is a disturbing new twist and brings them within reach of a wider audience.**

Navigation: News Front Page, World, UK, England, Northern Ireland, Scotland, Wales, Business, Politics, Health, Education, Science & Environment, Technology, Entertainment, Also in the news, Video and Audio, Have Your Say, Magazine, In Pictures, Country Profiles, Special Reports.

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# A challenge for researchers

- How to study this social phenomenon?
- How to devise suitable public health tools and communication policies?

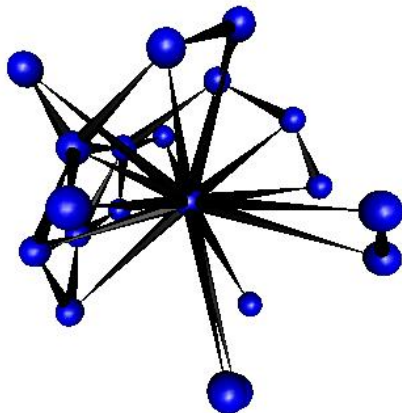


**THIN AMOR UNIVERSITY**  
for the thin and the restless



# A social networks approach

- Ongoing project ANAMIA: a social networks approach to “ana-mia” sociability.
- Focus is on online vs. offline personal networks and their influence on health and eating behaviours.
- Comparative study of ana-mia subjects in UK and France.



# ANAMIA in practice



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- PI: C. Fishler, CNRS Paris;
- With A. Casilli (project coordinator), L. Mounier (co-investigator), both here today, and others;
- Funded by the French Agency of National Research (ANR).
- Multi-disciplinary team (from computer science to law, economics, sociology and philosophy).
- This presentation is part of the project.

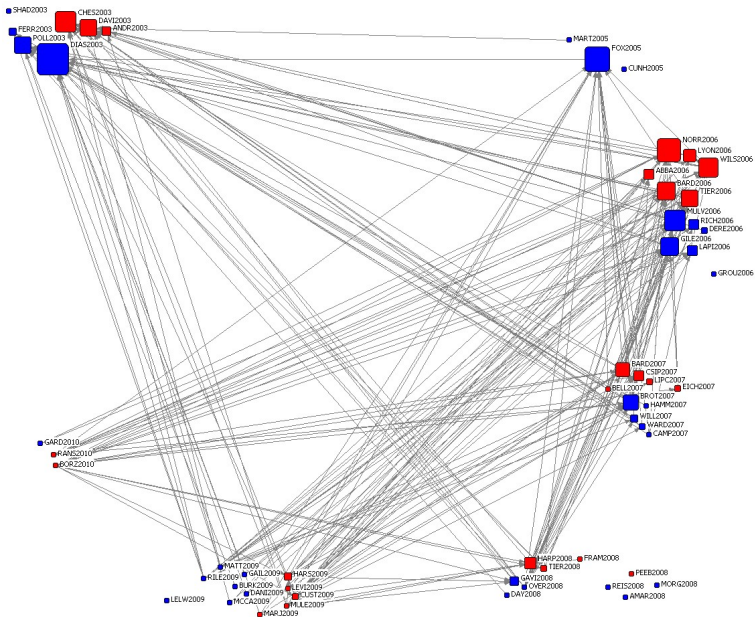
# Outline

- 1 Introduction
- 2 Literature on the pro ana/mia web
- 3 Theories on networks and eating behaviours
- 4 Empirical study
- 5 Conclusions



## An interdisciplinary body of research

- 60 articles in 2003-2010 on the ana/mia web phenomenon;
- Mostly content analyses; rare active data collections (surveys, experiments);
- Several disciplines: from clinical/medical to SSH;
- Diverse perspectives: anorexia as a disorder or lifestyle, risk or opportunity;
- No conclusive evidence on the health impact of pro ana/mia websites;
- Online social networking remains to be addressed.



**Figure:** Network of citations highlighting the development of the body of literature over a decade. Red = clinical, blue = socio-cultural approaches. Node size is proportional to number of citations.

## SSH in the study of pro ana/mia

- The SSH have played a major role in defining the field, the medical sciences have followed suit;
- This contrasts the traditional ancillary role of the SSH in the study of eating disorders;
- Rising role of SSH in understanding health at a time of widespread computer-mediated interactions;
- This tendency may reinforce itself as the “social web” is progressively taken into account.

Skip theories

## Social networks and weight

- Growing evidence that network position may affect weight (Christakis-Fowler 2007, and others);
- What matters may be relative status based on own and others' weight (Blanchflower et al. 2009);
- This may trigger imitative behaviour or evolution of social norms (Burke-Heiland 2007);
- So far, most applications concern obesity/overweight rather than anorexia/fluctuations.

# A cacophony of contrasting messages I

- Contradictory information from government campaigns, ads and the media (Fischler 1990);
- Health campaigns counterproductive if persons with anorexia more responsive than those with obesity (Mazzocchi et al. 2009).

## A cacophony of contrasting messages II

- Health claims on food add ambiguity (Adt-Fischler 2005);
- Interpretation may also vary in different cultural/institutional settings (Sanchez-Casilli 2008).

## A way forward

Ideas to explore:

- Relative status and network position affect how consumers interpret ambiguous information;
- Network positions are multiple (in particular online/offline) and may lead to inconsistencies in status;
- This may result in very diverse behaviours: from severely over- to severely underweight;
- How outcomes may diverge in different environments (UK vs. France).

## Exploratory study of contents and structure of links

- We started with an exploratory study of contents and structure of links of the pro ana-mia sphere in UK and France;
- Effort to identify essential similarities and differences;
- The French case had been little studied before.



UK

- Large component: personal pages, blogs of teenagers and young adults, strongly pro-ana;
- Smaller components: different age groups or views (anti-pro-ana).

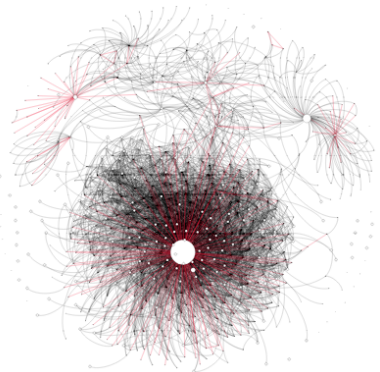


Figure: By M. Boutet.

# France

- Structure similar to UK, clearer national boundaries due to language;
- Overall younger participants (older persons join English-speaking community);
- Less written content, much imitation of English-speaking websites.

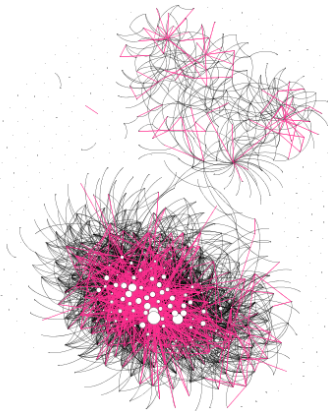


Figure: By M. Boutet.

## The challenge of interrogating ana-mia subjects

- Active data collections have rarely been attempted and may provide unique insight into the ana-mia phenomenon;
- However, the ana-mia population is difficult to reach due to:
  - Relatively small size;
  - Vulnerabilities (health risk; underage);
  - Frequent migrations.
- Therefore, large quantitative surveys or webcrawling are possible only to an extent;
- Need to rely on smaller-scale, purposive samples.

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## Our approach

- Design a web-based survey with participant-aided sociogram drawing tool;
- Invite current users of pro ana-mia websites, forums, blogs etc. to respond;
- Ask about their online and offline personal networks, together with their health-related advice network;
- Reward them with a downloadable optimised, 3d visualisation of their personal network at the end.

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## Progress so far and further steps

- The web survey is being tested these days;
- We expect it to go into the field shortly in France;
- The UK version will follow immediately afterwards;
- We will then invite a sub-sample of respondents for an in-depth interview via webcam.

## Questionnaire structure

Four “classical” questionnaire sections with questions on:

- Basic indicators;
- Socio-economic indicators;
- IT usage;
- Health, weight, and body image.

## Name generators with participant-aided sociograms

- Two name generators for personal ties (very general):
  - **Offline** ties (family, friends, schoolmates, colleagues, etc.);
  - **Online** ties (connections through email, MSN, social networking sites, forums etc.);
  - The two may overlap, in part or in full.
- An extension of the name-generator method with real-time visualization;
- Inspired by a previous work by Hogan et al. (2007), adapted for computer-based use.

## Name generator for health advice ties I

Finally, we ask respondents whom they would like to speak to in case of:

- For one (randomly selected) group of respondents: serious health condition (go to hospital immediately);
- For others: mundane issue (hair loss).
- They choose from among the list of contacts already mentioned, both offline and online, and may add new names;

## Name generator for health advice ties II

- Goal is to gain insight on *who* may affect their health and nutrition behaviours;
- Key issue is relative importance of online vs. offline ties.
- Effects of social web on health to be deduced on this basis.

## Conclusions

- We hope to gain insight into the motivations and behaviours of ana-mia subjects;
- Overall issue is how social interactions on the web affect health, and whether they differ from non-web interactions in this respect;
- Possible extensions to the understanding of the social dimensions of other health issues may be relevant;
- We aim to draw implications for public health policy campaigns and companies' "responsible" advertising.



Thank you!

Paola Tubaro, [p.tubaro@gre.ac.uk](mailto:p.tubaro@gre.ac.uk)

ANAMIA team, [coordination@anamia.fr](mailto:coordination@anamia.fr)

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