



Less of me, less of I Self-representation and the non-standard 1sg

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Interdisciplinary
Perspectives on
Anorexia Nervosa



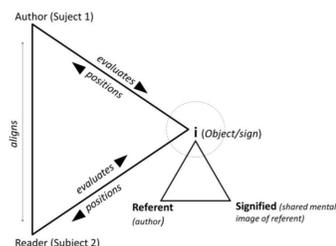
Introduction

“People see me and think I am vulnerable. When I get better, people will think I am strong, and they will attack me and put heavy demands on me.”

Patient text from Skårderud, 2007a

- ❖ This study proposes the NS1sg in English, < i > as a linguistic marker of AN, used in reference to oneself when both body and glyph are diminished (concrete metaphor).
- ❖ For sufferers, < i > embodies a more meaningful representation of the somatic self, also providing the same defense mechanism as bodily ‘reduction’ in that vulnerable looking = less prone to attack.
- ❖ This may aid in reducing the anxiety of participating in online discussion, which—according to Freud and Lacan—is related to whether objects can be thought of as having their own separate existence once they are put into a discursive environment or representation system.
- ❖ There is also the possibility that the notion of purity which is sought after, is recognised in the < i > since it is a more simplistic form.

When the author sees the NS1sg as Referent, this also affects the Signified. All three points become diminished. I posit that this is the semiotic facet of impaired Reflexive Function. Once the RF is impaired, it causes the collapse of both the Stance Triangle (duBois, 2007) and the reference triangle that contains the Sign (object) itself.



The contingent < i > (S.Burnett, 2023) adapted from du Bois' (2007) Stance Triangle, and Ogen-Richards triangle.



Methodology & hypotheses

The subReddit r/AnorexiaNervosa corpus was created from 27K units, and analysed with TXM for general statistical analyses, concordances, cooccurrences and collocations. r/Makeup was used as a control corpus for hypothesis I. Both corpora were completely anonymised following The British Sociological Association guidelines for working with public digital data.

Cooccurrent	Frequency	Mean distance	Cooccurrent	Frequency	Mean distance
sorry	3	0.3	so	230	2.6
doing	22	0.4	just	223	3.4
scared	22	0.4	in	217	4.5
struggling	12	0.7	this	179	4.4
wondering	6	0.8	with	167	4.8
content	4	1	not	156	2.6
tired	21	1	am	97	7.2
happy	14	1.4	still	56	3.7
failing	5	1.5	recovery	46	2.3
recovery	46	2.3	always	37	4.8
not	156	2.6	relapse	26	4
thinks	6	3.2	scared	22	0.4
just	223	3.4	doing	22	0.4
ready	5	3.5	tired	21	1
done	10	3.7	meals	18	4.2
still	56	3.7	man	16	6
relapse	26	4	happy	14	1.4
meals	18	4.2	struggling	12	0.7
always	37	4.8	done	10	3.7

As we can see in this example, the salient forms on the left, filtered for mean distance, are majoratively negative, with sorry, scared, struggling, tired, failing, all in the 10 first lines. It is useful then to filter by frequency to see that sorry has slipped out of the saliences, but that the negation “not”, and the adverbs “still” and “always” feature in the main.

The transformative quality of these two words obliged an in-depth qualitative appreciation of the corpus, following particular cooccurrences—to define the quality of the saliences on the left in context in order to verify, for example, the important distinctions between *not scared* vs. *still scared*, or *not struggling* vs. *always struggling*.

Hypotheses

- I. The NS1sg is more prevalent in discourse published by persons suffering from Anorexia Nervosa.
- II. The 1sg (I) is used in collocation with the present tense (am/'m), by those perceiving themselves as being recovered or at least not underweight.
- III. The NS1sg (i) is used in higher collocation with the present tense (am/'m) by self-expressed current anorexics.
- IV. There exists a form of temporal polysemic anaphora; NS1sg and 1sg are used to refer to a different version of oneself in the past.
E.g: **i** was heavy; **I** was scared/thin.

Results

All the hypotheses were confirmed with significant results. For hypothesis IV, the qualitative results are compelling.



Hyp. I: The NS1sg (i) is significantly ($p < 0.001$) more prevalent in discourse published by persons suffering from Anorexia Nervosa.



Hyp.II: The 1sg (I) is used in collocation with the present tense (am/'m), by those perceiving themselves as recovered or at least not underweight. At significance level 0.05, the result is $p < 0.001$

Corpus line 59 (below) is exemplary as NS1sg, allowing the user to graphically embody the polysemy of the pronoun—repeated self-reference (7 times in this sentence) without the unwanted sensation of “taking up too much space”: Note also the effect is compounded by the reduced salience in eye-tracking:

i've had ana for over a year now and i am severely underweight and i can't eat anything but i have been avoiding the doctors so they don't force me into the hospital so i can go in my own time if i need to but i really think it's time could someone please tell me what the requirements are to be admitted for an eating disorder?

Corpus line 55 (below) exemplary temporal anaphora : Author first uses the present perfect twice with the 1sg, the effect lends a passive effect to the voice. Then they use the NS1sg for *when* + simple present which implies habit or routine. The version of themselves who refuses to eat (anorexia) is lower-case. The other ailments stated are caused by the version of the person who refuses to eat.

I have been severely depressed as well off and on and **I have been** having a lot of fatigue and nausea **when i** refuse to eat and feeling like **i** never slept for months (...)

Conclusion

In conclusion the NS1sg shows significance herein as a marker for Anorexia Nervosa. This work is important for understanding the psychopathology, because concretism is often a barrier to recovery. The NS1sg as a marker requires more statistical research but based already on these findings, I would strongly consider its integration into NLP for the cross-identification of psychopathological markers of the disorder, with the proviso of a qualitative verification sample.

Discussion & further research

The polysemic character of embodiment is confronted to the split polysemy of the I/i, creating complex contingency. More work can be done on these multiple layers; the corpus shows evidence of pro ANA, bulimic/purge cycles, and depression. Since intense fear and anxiety is at the core of this psychopathology, if prolonged as a functioning state, combined with social aversion and low self esteem, it may well lead to depression. Further statistical work needs to be done, in particular replication. I also intend to compare against handwritten texts from clinical trials. If you have such texts please do contact me for collaboration: Sophia.Burnett@cyu.fr

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CONCEPTUAL METAPHORS FOR EATING DISORDERS ON INSTAGRAM



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OVERVIEW

Analysis of the language used to talk about food, bodies, eating disorders (EDs), and ED recovery can provide meaningful insight into the experience of having and recovering from an ED.

My research looks at English online discourse for EDs, using data collected from public Instagram posts to identify conceptual metaphors for food, body, EDs, and ED recovery. Research and analysis of this data is still ongoing and serves as the basis for a thesis project for an M.A in Applied Linguistics at the University of Saskatchewan.

WHY LOOK AT METAPHOR?

- We use conceptual metaphor to make abstract, complicated concepts (target domain) more accessible by understanding them in terms of a more familiar concept (source domain) (Gibbs, 2017, p. 4; Kövecses, 2002).
- Metaphor is not merely a rhetorical device, it provides a framework for “how we perceive, how we think, and what we do” (Lakoff & Johnson, 1980, p. 4).
- It is “nearly impossible” for people to discuss and describe health without using metaphor, therefore the analysis of these metaphors can provide insight into individuals’ unique experiences of illness and healing (Gibbs, 2020, pp. 2-3).
- Some metaphors (such as RECOVERY AS A FIGHT) place responsibility and blame on the individual, rather than on the illness that is truly at fault (Gibbs, 2017; Sontag, 1978). Other metaphors (such as FOOD AS MORALITY) contribute to a cultural acceptance and even expectation of disordered eating behaviors.

PRACTICAL APPLICATIONS

CLINICAL

- Knowledge of the metaphors used by those with EDs can help treatment teams “understand where patients are coming from” and, by extension, how best to help to them (Gibbs, 2020, p. 9).
- Different metaphors may be useful in identifying what stage someone is at in their individual ED recovery journey (Goren-Watts, 2011, p. 152).

CULTURAL

- Identifying harmful metaphors that place blame on the individual, perpetuate stereotypes, and reinforce unhealthy weight/body ideals allows us to instead use helpful metaphors that uplift and respect individuals, support ED recovery, and encourage healthy food and body relationships.

SOME PRELIMINARY EXAMPLES

All examples taken from captions and images on public instagram accounts

FOOD AS MORALITY

- “**Sinful. Bad. Naughty. Cheat. Guilt.** Let’s stop talking about food like it’s a **crime**. It’s cake. Not **murder**.”
- “Every single thing you eat is **100% guilt-free!** Because **guilt** is not an ingredient.”

BODY AS AN ENEMY

- “After years of dieting and **being at war with our bodies** [...]“

ED AS A PERSON/ED AS HAVING AGENCY

- “Your **ED never wanted** you skinny, **it wanted** you dead.”
- “You cannot live a full, meaningful life with your **eating disorder at the steering wheel**.”

ED AS AN INNER VOICE

- “Thinking about **my ED voice** conjures up the image of **an angel and devil sitting on my shoulders**, and in the early days of my recovery I could never seem to figure out **which one the ED voice was**.”

RECOVERY AS A JOURNEY/DESTINATION

- “There isn’t **A road to recovery**, there’s only **YOUR road to recovery**. Everyone’s **eating disorder recovery GPS** is different.”

RECOVERY AS A FIGHT

- “When recovery feels like **an uphill battle**, it can feel like it might not be worth it.”

HUNGER AS AN ENEMY

- “I was determined to not give into **the “enemy” ... hunger**.”

RELAPSE AS A RABBIT HOLE

- “A relapse is that initial **stumble** abruptly evolving into **a fall straight back down the rabbit hole, tumbling head over heels** until you hit the ground, immediately **gulping down the contents of the glass bottle labelled “drink me”** and **losing yourself completely** in your determination to shrink yourself.“

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Noncolloquial Arabic Negation Strategies in Muṭallaṭ Arabic Speakers with Anorexia Nervosa

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1 OUTLINE I analyzed noncolloquial Standard Arabic (SA) nominal and verbal negation strategies in 8 (7 women/1 man) Muṭallaṭ Arabic (MA) speakers aged 21–25 with anorexia nervosa (ANMA).

2 BACKGROUND Recently, clinical linguistics has become an early detection and patient support tool for several clinical conditions. Many investigations have been conducted on the 'linguistic profile' of various clinical populations, but relatively little attention has been paid to linguistic changes in patients with anorexia nervosa. This is particularly true for Arabic-speaking countries, where anorexia is still considered a 'cultural disease' characteristic of 'Western' countries that stems from an exaggerated pursuit of thinness (Mussap 2009). Since the esthetic canons of female beauty seem different in Arab countries, anorexia is not perceived as an epidemic social problem that deserves particular attention (Latzner et al. 2007a; 2014). Yet, unfortunately, this view is outdated and current data reveal an increase in the condition, as is the case of the Arab population in Israel (CBS Israel 2019/70; Elran-Barak et al. 2020; ICDC 2015–2016; Latzner et al. 2007b). A study of the linguistic features that characterize anorexic subjects is therefore also crucial for the early detection and prevention of the disease among Arabic-speaking populations.

4 SCOPE OF THE PRESENT STUDY: NEGATION IN ANOREXIA

Anorexic subjects describe their experience as characterized by intrusive negative thoughts in the form of worry and rumination (Palmieri et al. 2021). Worry is a chain of thoughts/images laden with negative effects and an attempt to engage in mental problem-solving on an issue whose outcome contains the possibility of being negative. Rumination is defined as thoughts that repetitively focus on negative emotions and symptoms, their causes, meanings, and consequences. Rumination can take verbal and imaginary forms (Borkovec et al. 1983; Papageorgiou 2006; Watkins 2008). These phenomena derive from libidinal refusal mechanisms in which food refusal embodies the refusal of the threatening, invasive, and persecutory Other (Cosenza 2008). Therefore, I focused my attention on the linguistic expression of refusal/rejection through negation.

5 RESEARCH QUESTION I analyzed the use of markers of nominal and verbal denial in terms of frequency and type in anorexic subjects compared to the control group. In particular, based on preliminary observations, I investigated the emergence of control and depersonalization mechanisms in the use of negation (elevation of style, use of non-dialectal varieties).

5.1 ARABIC DIGLOSSIA Elevation of style and linguistic shift are possible because, like Arabic worldwide, MA speakers use diglossia (Ferguson 1959;

3 ANOREXIA IN LANGUAGE

3.1 FROM CONTENT TO FEATURES Natural language processing tools are fundamental to the study of the detectable linguistic features that characterize anorexic subjects and to the prevention and early diagnosis of the condition. Therefore, shifting our attention from linguistic content to formal aspects of written and oral linguistic production is necessary.

3.2 BETWEEN UNIVERSAL AND LANGUAGE-SPECIFIC FEATURES Anorexics display distinctive linguistic behaviors across different Western countries and languages (Cuteri et al. 2022; Lyons et al. 2006; Skårderud 2007). Nonetheless, studies on language and anorexia nervosa are so preliminary that it is unclear whether the linguistic features of anorexia detected so far are also found in non-European languages or are culture- and language-specific. The study of Arabic-speaking anorexic communities adds fundamental data to a much-needed worldwide survey. It has been noted that the anorexic populations investigated so far exhibit similar psychological characteristics such as perceived body image disturbances, inflexible and obsessive thinking, perfectionism, and anxious or depressive traits. I hypothesize that these characteristics may result in altered language patterns and be detected using natural language processing tools, following Cuteri et al. (2022).

Khamis-Dakwar et al. 2012), i.e., they shift between MA and SA features in speech according to several co-occurring factors (style, topic, audience, and so on). SA use increases with proficiency and education level. Diglossic phenomena can also involve negation markers. Indeed, MA and SA have markedly different negation strategies (Versteegh et al. 2006).

5.2 STANDARD ARABIC NEGATION STRATEGIES

Present Tense 'I do not know' *lā ʔaʔrifu* (*lā* + present indicative)

Perfect Tense 'I did not know' *lam ʔaʔrif* (*lam* + jussive)

Future Tense 'I will not know' *lan ʔaʔrifā* (*lan* + subjunctive)

Nominal 'He is not a teacher/good' *huwwa laiya muʔalliman/ṭayyiban* (*laysa* + acc.)

Existential 'There is no place' *lā makān* (*lā*)

5.3 MUṬALLAṬ ARABIC NEGATION STRATEGIES

Present Tense 'I do not know' *ma baʔrif / badriy* (*ma* + present indicative)

Perfect Tense 'I did not know' *ma ʔrif-š/ darēt-š* (*ma* + past + -š)

Future Tense 'I will not know' *miš rāḥ ʔarif/ adriy* (*miš* + future tense)

Nominal 'He is not a teacher/good' *hū miš mudarris/kwayyis* (*miš*)

Existential 'There is no place' *fiš makān* (*fiš*)

Compared to SA, MA has no case ending or mood ending systems. Lexicon also varies to a large extent between both varieties.

6 METHODOLOGY I analyzed noncolloquial SA nominal and verbal negation strategies in 8 (7 women/1 man) MA speakers aged 21–25 with anorexia nervosa (ANMA). The data used here stem from spontaneous MA conversations between informants and me in their hometowns (Umm al-Faḥm, Baḳa al-Ġarbiya, Ṭaybe, Kfar Qāsim) between 2015 and 2022 in the framework of a larger MA documentation project. MA is a rural Palestinian Arabic variety spoken in the Muṭallaṭ (Jastrow 2004), the easternmost area of central Israel, bordering the Palestinian Authority. At the time, ANMA informants had attended/were attending college/university. They had been diagnosed with anorexia nervosa and had begun treatment less than three months previously. They displayed distorted self-perception/self-evaluation, manifested in perfectionistic obsessions, rigid thinking and habits, and hypersensitivity to praise/reproach. Our conversations were not related to their condition or aimed at testing its linguistic peculiarities. The control group consisted of 8 non-anorexic subjects, matched by gender, age, and education with the group of informants.

7 RESULTS ANMA speech production showed interesting traits, including a striking frequency of negative expressions ('not good' for 'bad') and negation forms compared to the data yielded from the control group. Negative expressions are preferred over positive ones to such an extent as to often produce constructions unnatural for MA and requiring the use of SA lexicon/syntax (e.g., 'not exactly' for 'approximately,' 'not correct' for 'wrong,' 'without any doubt' for 'certainly'). Among ANMA, verbal, nominal, and existential negations are frequently (65% of occurrences) expressed in SA. The highest rate of SA negation patterns is found in the ANMA corpus in existential (68%), nominal (61%), and future tense (54%) expressions. In comparison, 38% and 43% of SA strategies use present and past tense, respectively. SA strategies are triggered particularly when the negated lexical items are identical in SA and MA (e.g., *makān* 'place'). The exactness of the application of the SA case and mood ending systems varies according to the competence of each subject.

8 CONCLUSIONS The frequency of negative expressions can correlate with food refusal and the rejection of maternal figures and the outside world (or rage against them) (Lacan 1974). The use of SA negations instead of the MA 'mother tongue' may represent distancing from the mother figure and the rejection of familiar rules/patterns. Furthermore, preference for SA expresses pedantry and focus on formal aspects of speech rather than content, as detected in autism (Kissine et al. 2018).

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Symptom-Related Information Affects Cognitive Flexibility in Patients with Anorexia Nervosa

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Introduction

Eating Disorders (EDs) are debilitating psychiatric conditions that pose significant challenges for effective treatment (to date, success rate is up to 50%). As such, a more comprehensive understanding of the underlying mechanisms driving EDs is urgently needed. Emerging research has suggested that impaired cognitive flexibility (e.g., the ability to adjust behavior and thinking patterns in response to changing environmental demands), may contribute to the difficulties in treating EDs. However, findings on this topic remain unclear (Darcy et al., 2012; Wu et al., 2014). Prior investigations have predominantly focused on a general impairment in cognitive flexibility in EDs. However, Haynos et al. (2022) have proposed that cognitive deficits in EDs may be specific to particular domains, dependent on the type of information that patients with EDs are required to process.

Main Objective

The purpose of the study is to test the assumption on which cognitive flexibility deficits in EDs are domain-specific.

Materials and Methods

Participants. A total of 37 patients diagnosed with Anorexia Nervosa (AN) ($M_{age} = 21.18$, $SD = 2.41$) and 12 patients with Bulimia Nervosa (BN) ($M_{age} = 20.39$, $SD = 1.88$), were recruited from the Specchidacqua Institute in Montecatini (Pisa), along with 198 Healthy Controls (HCs) ($M_{age} = 19.77$, $SD = 1.06$) and 31 healthy individuals at risk of developing EDs ($M_{age} = 20.36$, $SD = 1.44$), recruited from the community sample. All groups completed a Probabilistic Reversal Learning (PRL) task. **The task.** The PRL task is a cognitive task that assesses individuals' ability to adapt their behavior based on changing reward contingencies. The task typically involves presenting participants with stimuli that are associated with positive or negative outcomes. The feedback provided to participants is probabilistic, meaning that the correct response is rewarded in a certain percentage of trials (70%), while incorrect responses are punished in the remaining trials (30%). Crucially, at some point during the task, the stimulus-reward associations are reversed, requiring participants to adjust their responses and learn the new associations (Caudek et al., 2021). **Procedure.** Participants underwent the administration of two block of the PRL task. The first block aimed to test the domain-specificity hypothesis by pairing food-related images (e.g., a piece of cake) with food-unrelated images (e.g., a lamp). In contrast, the second block served as a control task and exclusively used food-unrelated images.

Data Analysis

In our study, we employed the Reinforcement Learning Drift Diffusion Model (RLDDM; adapted by Pedersen & Frank, 2020) to estimate five parameters (a , t , v , α^+ , α^-) related to participants' learning processes. Specifically, the learning rate parameter, α , played a crucial role in providing insight into the updating mechanism of value expectations for the stimuli presented in each trial. In our analysis, we estimated α differently for reward (α^+) and punishment (α^-). Additionally, the remaining parameters (a , t , v) provided valuable information regarding the speed of information processing involved in making choices between the two stimuli.

Results

Results indicate that individuals with AN exhibit lower learning rates for both positive (α^+) and negative (α^-) feedback than HCs, but only when exposed to food-related information, as illustrated in Figure 1 and Figure 2. On the other hand, individuals with BN and those at-risk of developing an EDs demonstrated no credible differences in learning rate compared to HCs.

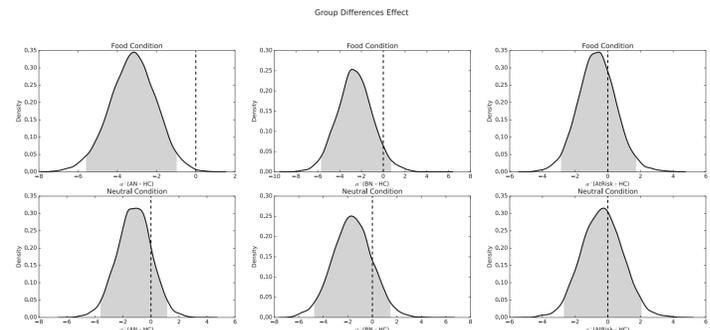


Figure 1: Plots of the posterior distribution of the group effect for parameter $\alpha^- (\alpha_{group}^- - \alpha_{HC}^-)$ of the DDMRL, for food-related (top row) and food-unrelated (bottom row) information.

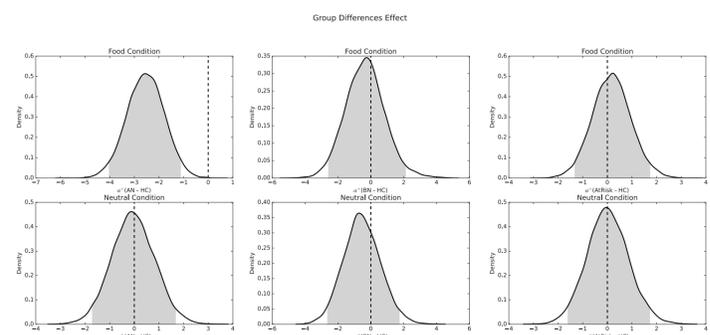


Figure 2: Plots of the posterior distribution of the group effect for parameter $\alpha^+ (\alpha_{group}^+ - \alpha_{HC}^+)$ of the DDMRL, for food-related (top row) and food-unrelated (bottom row) information.

Moreover, we observed a difference in the learning rate for rewards (α^+) between food-related information and food-unrelated information in individuals with AN (Figure 3). However, we did not find any credible differences in the learning rates for punishments (α^-) between the two types of information.

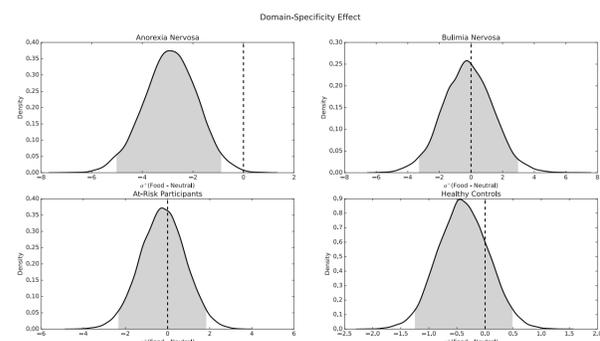


Figure 3: Plots of the posterior distribution of the domain-specificity effect for parameter $\alpha^+ (\alpha_{food-related}^+ - \alpha_{food-unrelated}^+)$ of the DDMRL across the four participants' groups.

Conclusions

Our findings suggest that:

- Cognitive flexibility deficits are particularly prominent in individuals with AN. Conversely, individuals diagnosed with BN and those identified as being at-risk for developing eating disorders exhibited preserved cognitive flexibility in the context of this particular experimental manipulation.
- Cognitive flexibility deficits in individuals with AN are domain-specific.

According to our results, we speculated that treatment strategies aimed at improving cognitive flexibility in AN, such as Cognitive Remediation Therapy, should incorporate the use of stimulating information related to symptoms in their training sessions.

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INVESTIGATING THE IATROGENIC EFFECTS OF TREATMENTS FOR ANOREXIA NERVOSA: A CRITICAL REVIEW OF THE LITERATURE.



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BACKGROUND

Iatrogenesis can be defined as “the unintentional causation of accidental harmful effects (e.g. disease, injury, infection, or adverse drug reaction) when providing medical care” (WHO, 1972). Despite the presence of iatrogenic effects being widely recognized in medical treatments (Illich, 1975), the possible iatrogenic effects of psychological treatments have not been systematically documented (Parry et al., 2016; Parson et al., 2019). Understanding the possible harmful effects of psychological treatments may improve both research and clinical practice for patients with a wide variety of psychiatric disorders, such as eating disorders.

AIM

The aim of this critical review was to investigate the potential negative effects that might arise as a consequence of widely recognized evidence-based treatments for anorexia nervosa (AN).

METHODS

Literature search for this critical review was conducted following PRISMA and PICOS criteria. The databases PubMed and PsycInfo were searched using keywords linked to iatrogenic effects of treatment, combined with keywords indicating the most common AN treatments and “anorexia nervosa” (see Figure 1). Peer-reviewed articles published in English up until February 2023 and reporting adverse effects of treatments were considered eligible.

Figure 1. PRISMA flowchart for the systematic review

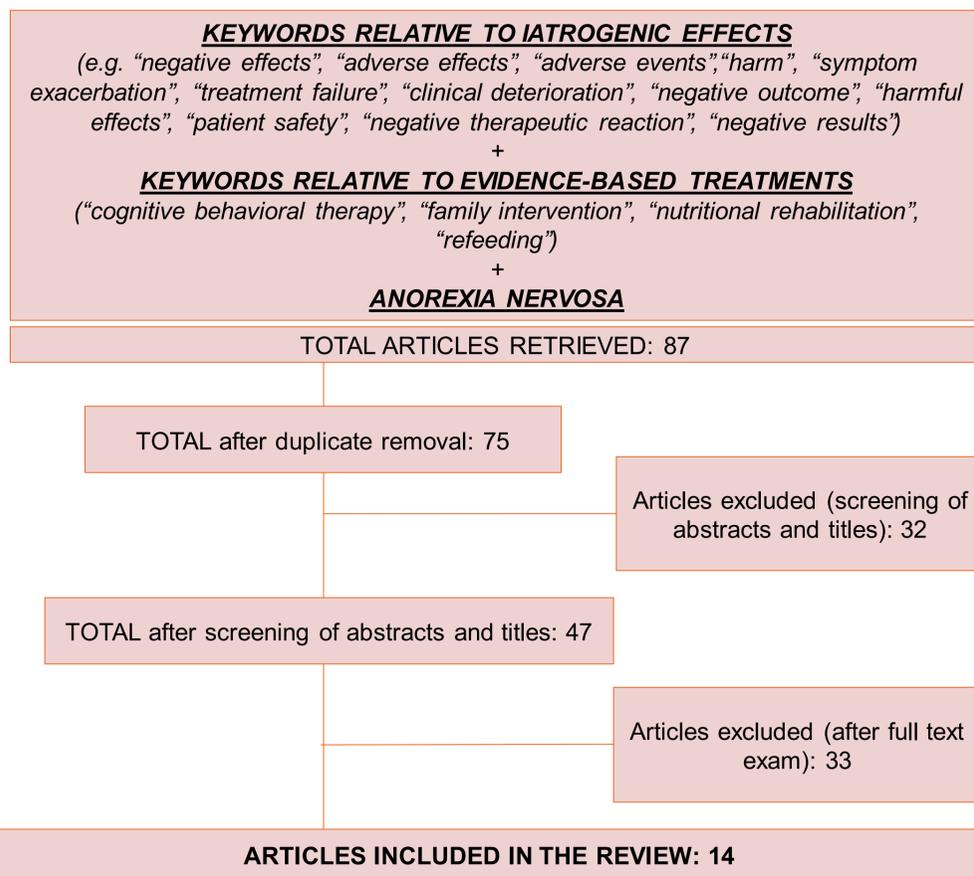


Table 1. Number of articles for each treatment

Treatment	Articles (n=14)
Refeeding and/or nutritional rehabilitation	10
CBT-E	1
Family treatment	1
Pharmacotherapy	1
Other (unspecified)	1

RESULTS

N=10 studies documented iatrogenic factors caused by nutritional rehabilitation and refeeding (such as physical symptoms connected to refeeding syndrome). Refeeding syndrome is the set of metabolic disturbances that occur in patients who resume feeding after a long period of malnutrition (e.g. see Table 2) and has high mortality rates (70%). (Birmingham et al., 1996; Stahl et al., 1998; Golden Meyer, 2004; Diamanti et al., 2008; Miller, 2008; Tresley et al., 2008; O'Connor et al., 2011; Araujo Castro et al., 2018; Bargiacchi et al., 2019; Skowrońska et al., 2019)

Refeeding syndrome appears to worsen in severely malnourished patients and this condition occurs more frequently following artificial nutrition treatments (n=3). In particular, parenteral nutrition (venous catheter or cannula) is more associated with this syndrome than enteral nutrition (e.g. nasogastric). (Diamanti et al., 2008; Araujo Castro et al., 2018; Bargiacchi et al., 2019)

Table 2. Most common symptoms of refeeding syndrome

Hypophosphatemia	Hypokalemia	Hypomagnesaemia	Hyponatremia
Hemolytic anemia	Muscle weakness	Cardiac arrhythmias	Convulsions
Heart failure	Areflexive paralysis	Weakness	Coma
Ventricular arrhythmia	Respiratory compromise	Tremors	Death
Rhabdomyolysis	compromission	Tetany	
Paresthesia	Rhabdomyolysis	Nausea	
Paralysis	Muscle necrosis	Vomit	
Acute delirium	Myocardial contraction changes	Diarrhea	
Convulsions	changes	Convulsions	
Coma	Increased risk of arrhythmia	Coma	
Death		Death	

The one study about pharmacotherapy (N=1) proposed integration between use of drugs, nutritional rehabilitation and psychotherapy. Adverse effects were absent in 70.3% of cases, but numerous were reported, both physical and psychological (see Table 3) (Rossi et al., 2007).

Table 3. Adverse effects of psychotropic drugs

Drug	Adverse effects
Haloperidol	Worsening of restrictive behaviors
Olanzapine	Drowsiness
Amitriptyline	Drowsiness, maniacal symptoms
Fluoxetine	Maniacal symptoms
Paroxetine	Increased transaminases, tachycardia, anxiety
Sertraline	Gastrointestinal symptoms, increased transaminases
Mirtazapine	Increased transaminases

Studies did not report specific negative effects for CBT-E (n=1) (Zeeck et al., 2016) or family treatments (n=1) (Goddard et al., 2011). N=1 study (Treasure et al., 2011) reported how clinicians or services can perpetuate eating disorders (e.g. using a coercive attitude, high expressed emotions, accommodating to the eating disorder, or providing an overly protective environment).

DISCUSSION AND CONCLUSIONS

While several studies were found regarding iatrogenic effects of refeeding and nutritional rehabilitation, only few studies reported negative effects of psychological treatments. The obtained results further highlight the disproportion between the literature about iatrogenic effects in medical treatments compared to that reporting such effects in psychotherapeutic treatments. The lack of shared criteria to identify iatrogenic effects of psychological treatments may partially explain why authors often fail to report their presence. Future research should, therefore, focus on developing shared guidelines to identify and classify iatrogenic factors in psychotherapeutic treatments for AN and other eating disorders.

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Social influences on and identity construction of members of the Korean pro-ana virtual communities

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01 INTRODUCTION

- The presence of **online pro-anorexia** (i.e., "pro-ana") communities has become a matter of concern globally.
- There has been little research focusing on the practices of **pro-ana communities located in other (non-anglophone) linguistic & cultural contexts.**
- Research questions:
 - **What are the unique discursive/behavioral characteristics of pro-ana members in Korean virtual communities?**
 - **What dominant factors influenced making Korean pro-ana members different from pro-ana members in anglophone contexts?**

02 REVIEW OF LITERATURE

- Pro-ana communities in Anglophone contexts
 - **Group identity** (Brotzky & Giles, 2007; Lai et al., 2021): social & emotional support
 - **Defensive identity** (Boero & Pascoe, 2012; Giles, 2006): the use of aggression toward outsiders (haters, wannarexic, newbies)
 - **Refusal** (Lai et al., 2021): refusal of admitting that anorexia is a disorder
 - **Thinspiration** (Bert et al., 2016; Branley & Covey, 2017; Ging & Garvey, 2018; Sheppard & Ricciardelli, 2023): photos & quotes that inspire thinness
 - **Body talk & tips** (Bert et al., 2016; Riley et al., 2009): Doing something with body, bodily experiences, description of the body
 - **Depression** (Ging & Garvey, 2018): Least common, 'railing against society,' which is highly demanding for girls to be thin
- **Socio-cultural pressure toward women's body in Korea** (Choi, 2019; Shin et al., 2017)
 - (Mass) media & parental pressure
 - 'Saving face' in Eastern Asian culture
 - Collectivism makes people conform to the norm of the society.

03 RESEARCH METHODS

- Data collection
 - With the use of hashtag **#프로아나** [pro-ana], **3 accounts** with highly retweeted posts were collected from Twitter.
 - **314 pro-ana related posts** were selected.
- Analytic framework
 - **Content analysis** (Krippendorff, 1989)
 - **16 codes** were identified, including codes non-existent from existing scholarship
 - Inter-rater reliability (Cohen's Kappa: 0.825)

04 FINDINGS & DISCUSSION

Social influences

Aggressive expressions (self-aggression, aggression toward family, aggression toward outsiders, and aggression toward men) can be explained through **the higher standard and pressure toward slenderness/ thinness of women in Korea.** For example, Korean media's extensive focus on the slender female body negatively impacts on pro-ana members and might contribute to the self-aggression behaviors. (Choi, 2019; Shin et al., 2017). Also, dissatisfaction with Korean society was directly revealed through the use of **criticism** (criticizing pro-ana/ society).

Overall, Korean pro-ana members explicitly and implicitly expressed criticism toward Korean society.

Identity construction

AKorean pro-ana members showed a **strong sense of belonging**, and this tendency goes along with Giles's (2006) claim that pro-ana members construct group identity because the virtual community allows "socially isolated or stigmatized individuals to share experiences in relative anonymity, in an apparent safe haven."

Codes from existing scholarship	Frequency	New codes	Frequency
Doing something with body	87	Sense of belonging	52
Tips & tricks & information	79	Depression	44
Depression	44	Self-aggression	15
Thinspiration	38	Criticizing pro-ana/ society	13
Describing the body	18	Hatred towards obesity/ food	12
Aggression toward outsiders	15	Aggression toward men	11
Description of bodily experiences	13	Explicit identification as a pro-ana	9
Supporting behavior	11	Aggression towards family	3

Aggression

- I want to hit my fucking face [**Self-aggression**]
- Twitter trend now ugly men? I just dislike men [**Aggression towards men**]
- My mom gaslights me a lot. But she doesn't know if it is a gaslight [**Aggression towards family**]

Criticism

But seeing that a 10-year old is doing pro-ana. I think we need to fix this rotten world of lookism. How can a 12-year old does pro-ana, what the fuck

06 CONCLUSION

Aggressive expressions and criticism toward pro-ana behaviors and society are represented as Korean pro-ana members' unique characteristics. **Korea's strict beauty standard and following pressure toward women** (Choi, 2019; Shin et al., 2017) explains Korean pro-ana members' use of aggression and criticism.

I also emphasize the importance of early diagnosis of anorexia and following medical and psychological treatment to pro-ana members. Education with the purpose of preventing anorexia should also not be overlooked given the fact that young female minors are heavily influenced by the pro-ana community.

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Malnourished Metaphors: Cognitive Linguistic Approaches to Anti-Anorexia Campaigns

Veronika Larsen



<https://www.glamour.com/story/sad-news-the-model-in-the-anti>

II. Importance: Language & Multimodal Campaigns

- The importance of these campaigns remains salient today, as modelling agencies and AN awareness organizations continue to address the worldwide “Scary-skinny Epidemic” (Halpin in *Glamour Magazine*).
- This poster offers an in-the-works cognitive linguistics approach to addresses the question of *how* these campaign images are formulated in order to express meaning by providing a case study analysis of two anti-anorexia and thinness campaigns, published since Caro’s image took media platforms in storm. In the campaigns examined, visual elements no longer contain identifying images of a real person (like Caro), but rather use metaphorical configurations (Forceville [e.g., 1996, 2009, 2016]) and metonymic devices alongside language text to establish and create meaning.
- Recent decades of research on metaphor and metonymy have ultimately proved that these phenomena are pervasive in human cognition, and thus become inherent in language-oriented structures, such as communication, and non-linguistic artifacts such as visual components (Sweetser 2017).
- Outcomes of this study encourage the increasing importance of publicised campaigns over time and space, as we continue to pursue coherent understandings of how meaning emerges and disseminates in the realm of AN health studies reaching into the future.

III. Metaphor & Emergent Structures

- In understanding the metaphorical structures included in the proceeding images, I draw from terminology from conceptual integration theory. This theory includes two key terms, “target” and “source”, which can be used to identify one conceptual domain (source) that is being mapped onto another domain (target) to give it new meaning.
- The resulting meaning uses both inputs to become one emergent structure (Dancygier & Sweetser, 2014). Most often, such meanings rely on a set of embedded domains and frames that individuals possess knowledge about. Domains consist of comprehensive, overarching structures which shape both cognitive perception and linguistic meaning.
- Frames can refer to the world as the individual understands it and their own experiences in specific situations and can thus range in their degree of specificity. Significantly, metaphorical meaning can emerge through only one mode or medium, wherein both target and source share the same mode (monomodal metaphor) (Forceville, 2009). But, a combination of modes can express target and source through together (multimodal)
- Visual metaphors can occur when two separate entities are visually construed or effectively “fused” together to create a new meaning, and further intricacy only rises with the introduction of textual components within an already complex image (Carroll, 1996).

I. Setting the Stage

On Sept 24th, 2007, a shocking campaign image was launched featuring the naked body of a woman with the words strewn across the top of the image: “No. Anorxia. No-l-ite.” The picture taken was of 25-year-old French model Isabelle Caro, and the campaign was launched by the fashion brand Nolita to raise awareness for eating disorders (EDs). News outlets described Caro as “skeletal” and “emaciated” (Katz, 2010; AFP, 2007). Three years later, at 28, Isabelle Caro passed away. Following her death, New York ED specialist Marisa Shelly spoke on controversiality of the campaign, noting in an interview that “some [viewers] would say I want to recover so I don’t become that ... [and] some will say I wish I could look like that” (Shelly in Katz, 2010).

IV. Representations of Confinement: Anorexia is a Prison

The above campaign image is titled “Set them free,” and was published in Israel in 2010. The image was produced for the brand Beitech by the ad agency McCann – the image contains a set of hands holding utensils facing the audience. On its own,



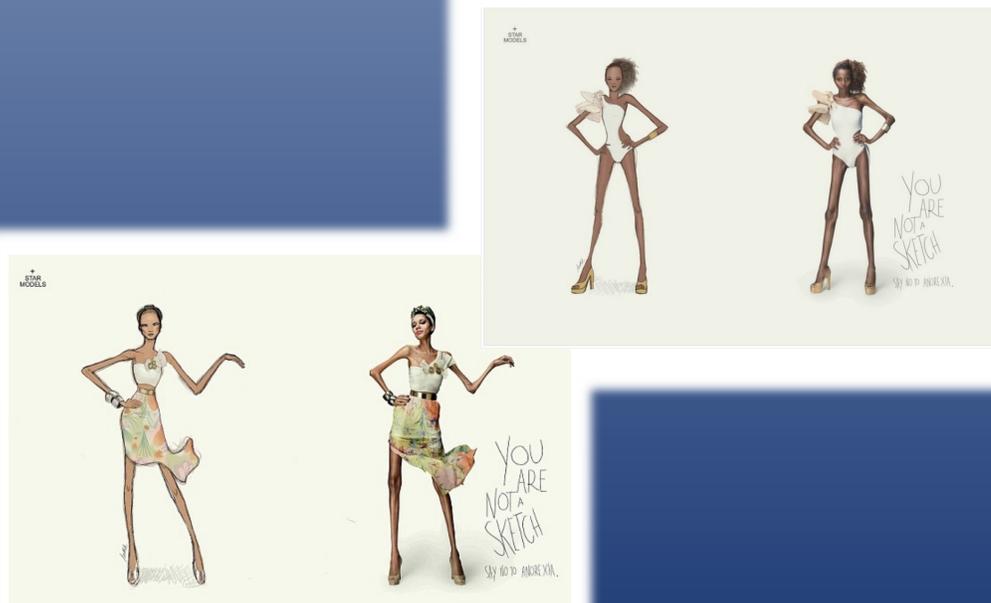
the images invokes common frames of eating, or perhaps waiting for a meal, but any singular understanding is relatively unclear; however, the included text along with the image, “set them free,” invites the audience to re-interpret, or form a new understanding of what the image is meant to convey.

Being “set free” alludes to frames of confinement, representations of perhaps a form of prison or contained space. The hands now grasp from inside, conceivably wanting to be let out: in other words, anorexia (target) is a prison (source).

The perspective, or point of view, expressed in this image is also an important factor. Rather than being the person behind the “prison bars,” the audience is invited to observe as an onlooker: someone already free, walking back the bars from the outside. The anchored text refers to “them” being set free, which also creates a sense of separation or conceptual distance between the person confined and the audience.

V. The Anorexic Body as a Sketch

The figures here come from Star Models, a modelling agency in Brazil that released their graphic campaign in 2013. The campaign released a series of similar images of different women with drawings of themselves rendered beside them. Alongside each image is the same slogan: “You are not a sketch. Say no to anorexia.” The viewer understands that this woman is meant to represent a real human (even though, complicatedly, we can tell it is a digital rendering). Both the sketch and “real” image of the women show visual thinness, with extremely long legs and arms that seem “barely there.” We can therefore view one input as sketching, and the word “sketch” itself is extremely important. Unlike “drawing,” which contains broader associations, the word “sketch” can entail a frame that includes fine, thin lines, and sharp, jagged edges. Merriam Webster’s definition of sketch includes “a quick, rough drawing”; Collins Dictionary defines it as a drawing done “quickly without a lot of details. Artists often use sketches as a preparation for a more detailed painting or drawing.” Importance can be placed on the roughness of as well as the unfinishedness of the drawing; it not intended to be realistic, and it is not a finished work. This description (or input) mapped onto a real person (target) translates into thin limbs, and sharp, pointed knees and elbows that signify prominent bones. The emergent meaning is quite profound if we also consider the incompleteness associated with sketches: as if anorexia reduces a person to a thin, unrealistic, unfinished shape. The rendering of the sketch as a real woman targets the detrimental impact looking like a sketch would have on a human body (an image that, as the campaign suggests by default, those who say “yes” to anorexia strive for). The language text on the side of the image, “Say no to anorexia,” acts as an anchor to guide both the viewer’s perception and interpretation of the graphic. “Say no to Anorexia” I tentatively add, may itself be controversial, because it reduces the health condition to a voluntary choice. Nonetheless, the campaign is effective in its visual extremeness without referring or showcasing real human bodies.



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METAPHORS AND ANOREXIA NERVOSA: A RESEARCH STUDY ON TIKTOK RECOVERY ACCOUNTS

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Background

Anorexia nervosa (AN) is a **psychopathological gendered disorder** characterized by an altered and **fluctuant bodily perception** which is usually reinforced by **dysfunctional routines**, such as deliberate food deprivation, manic weight control, and obsessive physical exercise.

From a psychological point of view, inflexible thinking is a core feature of the disorder, as well as rigid behavior, disconnection from the bodily experience, strong sensitivity to praise, anxiety, and perfectionism.

In the last decade only a **limited number of studies** were specifically devoted to the **analysis of linguistic productions** (i.e., oral and written texts) of subjects with Anorexia Nervosa (AN), and an even smaller number of works drew attention to **how anorectic individuals metaphorically frame their coexistence with this condition**.

This limitation had a significant impact both on the amount of available data and on the possibility to accurately define a linguistic profile of the pathology [Cuteri et al., 2022; Gagliardi, 2021].

Rationale of the study



The aim of this work is to **reconstruct the metaphorical imagery** through which anorectic individuals narrate how they **live with their Eating Disorder** and **deal with their body image**.

To identify the most frequent and pervasive metaphorical conceptualizations characterizing AN, we analyzed **TikTok recovery accounts**, i.e., adolescent and young adult users who are in the process of healing from AN.

We focused on the **phenomenon** represented by the so-called **concretized metaphors** [Skårderud, 2007], namely concretistic uses of words in which desymbolized bodily associations are “experienced as direct and bodily revelations of a concrete reality” [Enckell, 2002]. As a matter of fact, this class of metaphors is not innocuous but **seems to mirror a direct correlation between the concreteness of symptoms** (bodily and emotional experience are equivalent) associated with the clinical condition and the **reduced capacity of metaphorization**, hence of making mental representations, shown by the affected individuals [Bates, 2015].

Methodology

Corpus creation

We manually downloaded 1000 **TikTok videos** created by 27 **Italian recovery accounts** and organized the data in 4 categories to ease the process of transcription.

Speech-only videos automatic transcription	Playback videos automatic transcription and manual revision
Text-only videos manual transcription	Mixed (combinations of categories) manual transcription

Topic modeling

As preliminary analysis, we performed **Latent Semantic Analysis (LSA)** on three different versions of the *speech-only videos* subcorpus:

- ▶ the preprocessed data;
- ▶ the lemmatised data;
- ▶ a filtered version of the lemmatised data containing only nouns and adjectives.

Qualitative analysis of metaphors

Manual selection of metaphorical expressions from 27 texts (*speech-only videos* subcorpus)

Application of a simplified version (Coll-Florit and Climenti, 2019) of the **Metaphor Identification Procedure (MIP)**: Praggeljaz Group, 2007)

Clustering of similar metaphorical expressions

Identification of (or creation of new) **conceptual metaphors**

Preliminary Results

1. Topic modelling

The table below shows a selection of topics that emerged from the topic modelling analysis for the three different versions of the *speech-only* subcorpus. Together with each latent content we reported, as example, the words that rank highly along each component and that allowed us to identify the semantic extensions of the topics themselves.

	Preprocessed	Lemmatized	Lemmatized noun-adj
Topic 1	FOOD – EATING merenda, mangiare, cena, olio, yogurt, dolce	FOOD – EATING mangiare, buono, dolce, colazione, pizza, formaggio	FOOD – EATING buono, dolce, colazione, pranzo, formaggio, latte
Topic 2	BODY – MOVEMENT camminare, gambe, nascosto, corpo, colpa	SCHOOL – PERFECTIONISM scuola, riuscire, studiare, provare, fatica	BODY – DIETING peso, grasso, alimentazione, massa, ciclo, nutrizionista
Topic 3	RECOVERY mangiare, paura, peso, fame, ciclo, senso, olio	RECOVERY affrontare, paura, fatica, peso, biscotto, aumentare	RECOVERY percorso, piano, fatica, crisi paura, integratore, difficile
Topic 4	SOCIAL – EATING ciao, live, mangiare, riesco, piatto, commenti	SOCIAL – EATING ciao, commento, video, rispondere, live, parlare	SOCIAL – EATING commento, merenda, sondino, video, domanda

2. Qualitative annotation

At the end of the annotation process, 20 texts out of a total of 27 were metaphorically annotated: 7 texts were discarded as they did not contain thematically relevant metaphorical expressions. The main types of conceptual metaphors used by people who suffered or are recovering from anorexia nervosa are listed in the table below. While the first column contains the main target domains (e.g., AN) found in our pilot corpus, the second and third columns report respectively the general source domains (e.g., CONTAINER) and the specific domains (e.g., prison) used in the metaphorical transfer.

Target domain	General source domain	Specific source domain
AN	SPACE, CONTAINER, PROTECTION, GET LOST, MARKS ON THE BODY, LIVING BEING	Being in a comfortable place, bounded region, prison, vortex, person in our head, person living with us, authority, tyrant
HEALING/RECOVERY	JOURNEY, CONTAINER, PHYSICAL CONTACT	Path, moving forward along a path, learning to walk, shaking hand with yourself, shaking hand with life, hugging life
BODY	LIVING BEING, CONTAINER	Friend, pot
WEIGHT	SPACE, LIVING BEING	End of the path, path, tyrant
FOOD	LIVING BEING	Enemy, opponent (competition)
SELF	SPLIT, SPACE, DISORDER, BATTLEGROUND, OBJECT	Taking up space, being visible, breakable object, building, machine

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