Eating disorders and behavioral addiction

Andreas Birgegård
Associate professor
Resource Center for Eating Disorders

A speculative overview
Is behavioral addiction (BA) a useful concept for ED?

Short answer: Yes
Long answer: No
What is a diagnosis?

The ability to create an imagined reality out of words enabled large numbers of strangers to cooperate effectively

Yuval Noah Harari, Sapiens

Realism - constructivism

Needs to be useful; inform about cause, prognosis and/or treatment
# Eating disorders in the DSM system

<table>
<thead>
<tr>
<th>DSM Version</th>
<th>Year</th>
<th>Anorexia nervosa</th>
<th>Bulimia nervosa</th>
<th>Atypical ED</th>
<th>EDNOS</th>
<th>BED</th>
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<tbody>
<tr>
<td>DSM-I</td>
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<td>BED</td>
<td>3 subtypes</td>
<td>OSFED</td>
<td>UFED</td>
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</table>
The prevailing doctrine?
Problems with the DSM?

Comorbidity is the rule
Does not carve nature at its joints

Regarding ED:
• No definition of "eating disorder"
• Too many atypical patients
• Dx are not informative, stable, or distinct

DSM-5 didn’t solve these problems. New perspectives are needed
An increasing problem?
Diagnostic distribution in Sweden (DSM-IV)
Baseline self-rated symptoms in Riksät/Stepwise over the years

<table>
<thead>
<tr>
<th>Year</th>
<th>Cognitive symptoms</th>
<th>Binge eating</th>
<th>Vomiting</th>
<th>Exercise</th>
</tr>
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<td>2005</td>
<td>57%</td>
<td>48%</td>
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<td>33%</td>
</tr>
<tr>
<td>2018</td>
<td>57%</td>
<td>48%</td>
<td>39%</td>
<td>33%</td>
</tr>
</tbody>
</table>
New directions for ED?

Mechanism focus:
- Cognitive/learning styles
- Impulsivity
- Compulsivity
- Emotion regulation

Addiction?
Behaviors that are repeated and become fixed, without conscious effort, triggered by a variety of stimuli. Useful, but inflexible

What is habit?

- Action-outcome learning (model-based)
  - Positive reinforcement?
    - NO
      - Stimulus-response learning (model-free)
    - YES
      - Negative reinforcement
Habits as the basis for compulsivity

Deficit in goal-directed, model-based control leads to over-reliance on automatic, model-free, habits

Obsessions (in OCD) as byproducts

Compulsivity may be a transdiagnostic psychiatric trait, present in OCD, addictions, ED

What is addiction?

Drug addiction: chronically relapsing disorder characterized by
(1) compulsion to seek and take the drug,
(2) loss of control in limiting drug intake, and
(3) withdrawal syndrome (dysphoria, anxiety and irritability)
Aims to change emotional state (escape negative affect)
DSM-5: “Substance-Related and Addictive Disorders”
What is addiction?

(II)

Starts **impulsively** (positive reinforcement), continues **compulsively** (negative reinforcement) triggered by environmental stimuli.

Brain habituates to the drug (reward systems get exhausted/numb), needing more and more.

Increased salience of drug cues and reduced salience of others ("hijacking the reward system")

- Dopamine receptors & their function decrease, making other/natural rewards less rewarding.
- The drug becomes a powerful (only?) source of negative reinforcement: dealing with distress.
- Over time, it serves also to avoid anticipated distress.
- Urge becomes automatic: the urge is experienced, rather than the negative affect that triggers it.
Why BA?
And what is it?

“Impulse control disorders”, “process addictions”, “impulsive-compulsive behaviors”

A way to study addiction without the interference of the substance

Similar appearance

• Behavior that becomes habit, via positive-to-negative reinforcement course, and finally compulsive

• Associated with similar comorbidities & emotion dysregulation as SUDs

• Similar brain changes, may generate tolerance and withdrawal

• Behaviours become insensitive to reward/reinforcement: the behaviour becomes an end in itself

Phenomenologically, you turn to what works and comforts you, and lose interest in doing, or forget how to do, anything else
Problematic pattern... clinically significant impairment or distress - 2 or more:

1. More than intended
2. Wants to stop but can’t
3. Takes lots of time
4. Urge/craving
5. Work/school/home obligations suffer
6. Relationships break
7. Stops other activities
8. Physical danger
9. Continues despite knowledge of problem
10. Tolerance
11. Withdrawal
New treatment approaches

BAs sometimes respond to therapies and pills used for SUDs
Repatterning habitual behaviors, training model-based learning
Exposure response therapy, graded exposure to BA-related cues
Repetitive Transcranial Magnetic Stimulation
Deep Brain Stimulation
Kinds of BA

Cleptomania, sex addiction, workaholism, trichotillomania, excoriation (skin picking), internet use, gaming disorder (candidate in DSM-5 & ICD-11)

Gambling now official in DSM-5
(Not going into food addiction)

Binge eating? Purging? Exercise? Fasting?
Binge eating & purging as BA

(BA researchers group BED (or ED as a whole) naturally with BA!)

Habituation, decreased dopamine function, observed in binge eating

Continue despite bad consequences

Primarily to escape negative affect

Starts impulsively, continues compulsively

Patients with BN plan episodes, the urge replaces distress

Anxiolytic (negative reinforcement), and starvation can give "high" (positive reinforcement)

Weight loss positive reinforcer

Dieting usually triggered by stress: things learned under stress become habits

Weight loss leads to compulsivity

Eventually habitual/compulsive and insensitive to outcome

Continued despite risk or adverse consequences

Patients say compulsivity is central, control is hijacked by the AN "demon"


Qualitative study of compulsivity in AN

Recent “proof of concept” RCT

Pilot of Regulating Emotions and Changing Habits (REaCH) for AN, vs Supportive Psychotherapy, combined with inpatient treatment

N=22, better outcome for REaCH (large effects)

Anorexia athletica, sports anorexia. Orthorexia? (no)

Suggested definition includes tolerance, withdrawal, can’t stop, more than intended, time spent, ”hijacking”, cont’d despite problems

Population prevalence of exercise addiction ≈3%

ED among exercise addicted: 39-48%

Compulsive exercise reported by 44-80 % AN, 21-39 % BN, 21-32 % EDNOS; 44-53% adolescents with ED
Two studies on exercise as symptom

Data from Stepwise
Adolescents 13-15 yrs $N=3116$
Adults $N=9074$
Compulsive exercise from EDEQ: Yes/No
Test of effects on various scales and measures
Results: no very exciting effects of baseline exercise
What about change during treatment?

Monell, Levallius, Forsén Mantilla & Birgegård (2018). J Eat Disord, 6(1), 1-10
Remission related to change in exercise during treatment

<table>
<thead>
<tr>
<th></th>
<th>Remission at 12 months</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Children/adolescents</td>
</tr>
<tr>
<td>Never exercise (≈45%)</td>
<td>56 %</td>
</tr>
<tr>
<td>Stops (≈30%)</td>
<td>59 %</td>
</tr>
<tr>
<td>Starts (≈15%)</td>
<td>39 %</td>
</tr>
<tr>
<td>Continues (≈10%)</td>
<td>29 %</td>
</tr>
</tbody>
</table>
Compulsivity vs. impulsivity: not really opposites

--

“Actions which are poorly conceived, prematurely expressed, unduly risky or inappropriate to the situation and that often result in undesirable consequences” [8]

“Actions which persist inappropriate to the situation, have no obvious relationship to the overall goal and which often result in undesirable consequences” [10]

Does it take two to tango?

Students ($N=497$, 74% women)

[removed unpublished results]
Some have higher risk

Co-occurrence among any 2 of 11 addictive behaviours estimated at ≈23% *

Do some people get addicted to everything?

How to study whether some have this risk factor more than others?

Remember this?

A possible suggestion: "symptom shifting"

[removed unpublished results]
Results

[removed unpublished results]
Another track: attachment

Patients describe ED as personified “other”: protector, demon, judge, tyrant

Attachment: Fuelled by emotion regulation, involves forming strong relationships & seeking proximity for comfort, anxiety when separated

Results: ≈30% of patients may “attach” to their EDs

Forsén Mantilla, Clinton & Birgegård (2018). Psychol Psychother: Theory, Research and Practice, 21 May 2018
Maybe these are the same people?

"Addicted", "attached", "shifters", etc. - different perspectives?

- Emotion regulation difficulties
- Cognitive tendency to form habits
- Some impulsivity, more compulsivity

→ keep symptoms, or shift to others, attach to ED, and stay ill

[Attachment variables relate to behavioural addiction but not to SUD*]

Back to the question: For & against BA

**PRO**
- High recognition, more seek help?
- Less stigma, puts some responsibility with the food-/fitness-/dieting-/gaming industry
- May generate enthusiasm, commitment and cash
- Might generate treatments that work for some
- New research directions that could be promising

**CONTRA**
- We have no language for suffering besides "psychiatrish" (Svenaeus)
- Popular diagnoses that reduce stigma become "real" prematurely
- Risk of "epidemics", normal variation is medicalised, becomes an individual rather than a structural problem
- Simplistic model, surface descriptive like DSM?
- Underlying mechanisms, not regrouping, is a better focus
Verdict:
Is BA useful in ED?
Thanks