

2015 NAMA International Conference, Chicago, IL

3/12/2015

10:00 – 10:50am

# Irritability: Construct Clarification and Differentiation

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# Topics of the Hour:

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- The Role of Irritability
- Scholarly Definition
- Scholarly Measurement
- Recommendations and Future Directions
- Treatment Implications



# The Role of Irritability



<https://www.etsy.com/listing/179681007/hangry-tea-towel-or-dish-towel-screen?ref=market>

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# The Role of Irritability

## ▶ Wide public use:

- ▶ I am irritable
- ▶ I am irritated
- ▶ He is irritating me
- ▶ He is an irritation

Versus

- I am angry
- I am angry
- He is angering me
- He is an anger trigger

# The Role of Irritability

## Wide DSM-5 Use:

Bipolar Disorder I and II: “**irritable mood**”  
(p. 124-125; p. 132-133)

Cyclothymic Disorder: “**irritable mood**” (p. 139)

Major Depressive Disorder: “**irritable mood**”  
(p. 160)

Disruptive Mood Dysregulation Disorder:  
“**persistently irritable**” (p. 156)

Persistent Depressive Disorder: “**mood can be irritable**” (p. 168)

Premenstrual Dysphoric Disorder: “**marked irritability**” (p. 172)

Generalized Anxiety Disorder: “**irritability**”  
(p. 122)

Reactive Attachment Disorder: “**unexplained irritability**” (p. 265)

Posttraumatic Stress Disorder: “**irritable behavior**” (p. 273)

Acute Stress Disorder: “**irritable behavior**” (p. 281)

Oppositional Defiant Disorder: “**irritable mood**” (p. 461)

Cannabis Withdrawal: “**irritability**” (p. 506)

Tobacco Withdrawal: “**irritability**” (p. 518)

Antisocial Personality Disorder: “**irritability**”  
(p. 659)

Borderline Personality Disorder: “**irritability**”  
(p. 663)

(American Psychiatric Association, 2013)

# The Role of Irritability

## Aggression

### Disruptive Mood Dysregulation Disorder:

**“physical aggression”** (p. 156)

Posttraumatic Stress Dx: **“verbal or physical aggression”** (p. 272)

Acute Stress Dx: **“verbal or physical aggression”** (p. 281)

Intermittent Explosive Dx: **“verbal or physical aggression”** (p. 466)

Conduct Dx: **“aggression”** (p. 469)

Alcohol Intoxication: **“aggressive behavior”**  
(p. 497)

Cannabis Withdrawal: **“aggression”** (p. 518)

Inhalant Intoxication: **“assaultiveness”** (p. 538)

Sedative, Hypnotic, or Anxiolytic Intoxication:  
**“aggressive behavior”** (p. 550)

Antisocial Personality Dx: **“aggressiveness”**  
(p. 659)

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## Anger

### Disruptive Mood Dysregulation Disorder:

**“persistently...angry”** (p. 156)

Premenstrual Dysphoric Dx: **“anger”** (p. 177)

Posttraumatic Stress Dx: **“angry outbursts  
(with little or no provocation)”** (p. 272)

Acute Stress Dx: **“angry outbursts (with little  
or no provocation)”** (p. 281)

Oppositional Defiant Dx: **“angry mood”** (p. 462)

Cannabis Withdrawal: **“anger”** (p. 518)

Stimulant Intoxication: **“anger”** (p. 567)

Tobacco Withdrawal: **“frustration or anger”**  
(p. 575)

Paranoid Personality Dx: **“react angrily”** (p. 649)

Borderline Personality Dx: **“anger”** (p. 663)  
(American Psychiatric Association, 2013)



# Pop Quiz! (Not really)

- What construct is each of the following measuring?
  1. Does he/she get into arguments?
  2. Sometimes I shout, hit and kick and let off steam.
  3. I've been feeling like a bomb, ready to explode.
  4. The thought of hurting myself occurs to me
  5. I do not like to make practical jokes.



# Scholarly Definitions

- **Toohey, M.J. & DiGiuseppe (submitted for publication). Defining and Measuring Irritability: Construct Clarification and Differentiation**
- Definitions and Measurements were categorized into 3 components:
  - a) Causes of irritability
  - b) Experience of irritability
  - c) Consequences of irritability
- Citations excluded for visual clarity





# Irritability: Definitions (20)

Benazzi et al. (2004, p. 85)

Buss and Durkee (1957, p. 343)

Caprara et al. (1986, p. 84)

Caprara et al. (1983, p. 346)

Craig et al. (2008, p. 368)

Deckersbach et al. (2004, p. 228)

Dickstein et al. (2008, p. 31)

DiGiuseppe and Tafrate (2007, p. 31):

## Definition

DiGiuseppe and Tafrate (2007, p. 29):

## Working definition

Evans, Heriot, and Friedman (2002,  
p. 214)

Holtzman, O'Connor, Barata, & Stewart,  
(2014)

Leibenluft (2011, p. 131)

Leibenluft, Blair, et al. (2003, p. 206)

Leibenluft, Charney, and Pine (2003, p. 1011)

Rich and Leibenluft (2006, p. 206)

Snaith and Taylor (1985, p. 128)

Snaith et al. (1978, p. 164)

Stringaris (2011, p. 61)

Stringaris and Goodman (2009, p. 405)

Tarter, Blackson, Brigham, Moss, and  
Caprara (1995, p. 253)



# Irritability: Measurement (9)

Born et al. (2008) – Born Steiner Irritability Scale (pp. 348-349)

Burns et al. (1990) – Irritability Scale (p. 25)

Buss and Durkee (1957) – Hostility-Guilt Inventory (p. 346)

Caprara et al. (1985) – Irritability Scale (p. 673)

Originally in Caprara et al. (1983, pp. 122-123)

Craig et al. (2008) – The Irritability Questionnaire (pp. 372-374)

Holtzman, O'Connor, Barata, & Stewart, (2014)

Kazdin et al. (1987) – Children's Hostility Inventory (p. 323)

Snaith et al. (1978) – A Clinical Scale for the Self-Assessment of Irritability (pp. 170-171)

Stringaris et al. (2009) – Parent-rated and Child-rated irritability measures (pp. 1049-1050)

# Irritability: Definitions



- c) Consequences of irritability
  - Most commonly included component
    - Described as a catalyst: Readiness, tendency, lowered threshold
    - Leads to: Anger, Aggression, Impatience, Offensive Attitude, Negative Affect
- Focus on irritability as:
  - A) Increasing likelihood for anger or aggression w/ minimal provocation (n=11)
  - B) Increasing frequency of anger or aggression (n=5)
  - C) Including the presence of anger or aggression (n=3)

# Irritability: Measurement



- c) Consequences of irritability
  - Included in all measures
  - Measured in two ways:
    - 1) Presence of Consequence
      - “I have been feeling mad” or “I have yelled at others”
      - At risk for measuring anger or anger expression
    - 2) Increased likelihood for consequence
      - “It took very little for things to bother me”
      - “I become impatient easily when I feel under pressure”
  - Occasional conditional items
    - “It makes my blood boil to have somebody make fun of me”
      - Measures triggers

# Irritability: Definitions



- b) Experience of irritability
  - Rarely included
  - When included, only “a mood” or “an emotion”
    - ...that leads to anger/aggression
  - Sometimes a behavior (e.g., “temper outbursts”)
    - Mostly in children’s literature: PBD, RAD, ODD, DMDD
      - (less expression, more manifestation)
      - Interestingly, in DSM-5, DMDD, PBD, and ODD is a mood and not a behavior

# Irritability: Definitions (cont.)

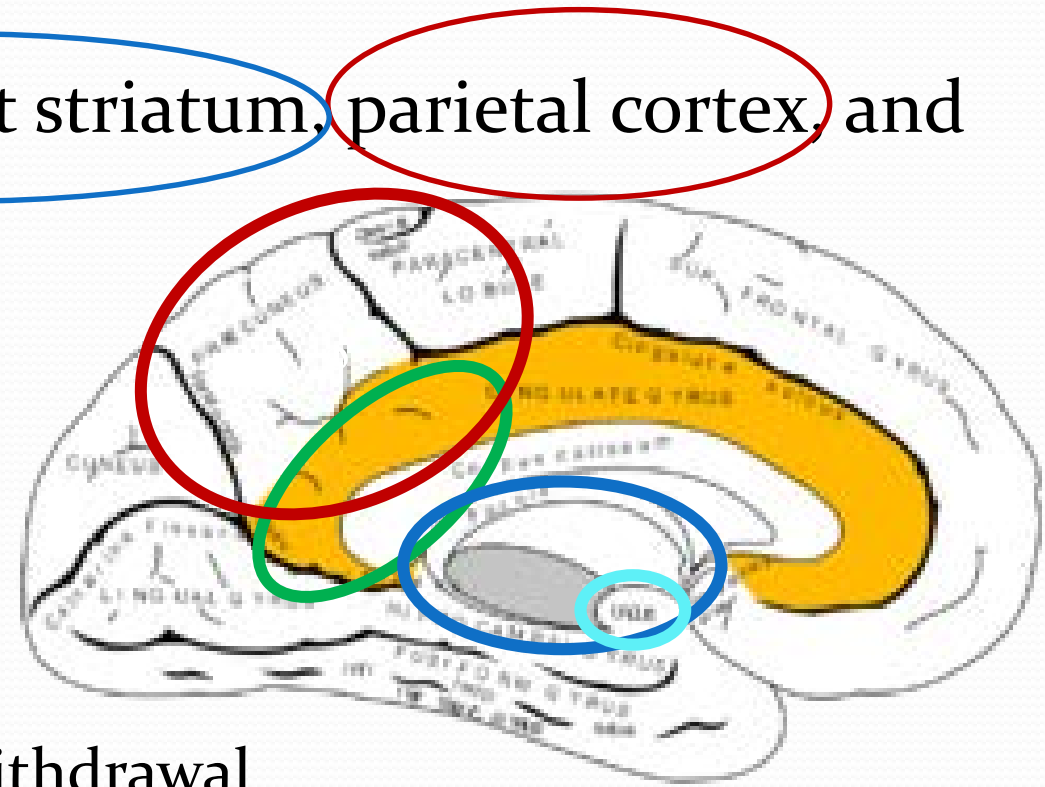


- b) Experience of irritability
  - Four theoretical distinctions from anger:
    - *Snaitth and Taylor (1985)*: irritability “lacks the cathartic effect of justified outbursts of anger” (p. 128)
      - (i.e., expressing it won’t relieve it; no immediate or identified trigger)
    - *Craig et al. (2008)*: irritability is a mood due to its duration
      - (anger should be considered an emotion)
    - *DiGiuseppe and Tafrate (2007)*: irritability is “a partially aroused physiological state ...” (p. 31)
    - *DiGiuseppe and Tafrate (2007) propose*: increased sensitivity to environmental stimulation
      - As a cause or experience?

# Irritability: Definitions (cont.)



- b) Experience of irritability
- Potential Biological Markers:
  - deactivation of amygdala, left and right striatum, parietal cortex, and posterior cingulate cortex
  - increased norepinephrine and cortisol
  - increased testosterone
  - *decreased* testosterone
  - reduced serotonergic activity
  - Decreases in glucose
    - Glucose tablets were given to smokers in withdrawal
- But which construct?



# Irritability: Measurement



- b) Experience of irritability
  - Although rare in definitions, included in all measures (synonyms)
    - “mad,” “frustrated,” “bothered,” and “hot-headed”
  - Some potentially more specific to irritability:
    - “sensitive,” “grouchy,” “jumpy,” and “touchy”
  - Some addressed physiological aspect (e.g., tension):
    - “There has been a flood of tension through my body”



# Irritability: Definitions



- a) Causes of irritability
  - Not included by most definitions
  - Snaith and Taylor (1985) and Craig et al. (2008): *Anger* is “justified” (p. 128) with “recognizable antecedents” (p. 368).
    - Thus, irritability is not triggered by specific events?
  - DiGiuseppe and Tafrate (2007): irritability “involves increased sensitivity to environmental stimulation that causes physiological arousal and tension, without cognitive mediation...” (p. 29).
  - Thus, irritability not unjustified, but:
    - A) triggered by sensory input, and/or
    - B) due to (less immediate) physiological/biological changes.
      - Slater and Roth (1969): irritability is caused by fatigue and sleepiness.
      - Versus Anger: Situationally and cognitively based

# Irritability: Definitions (cont.)



- a) Causes of irritability
- More potential causes of irritability
  - Lack of sleep
  - Fatigue
  - Caffeine
  - Dieting
  - Traumatic brain injury
  - Being told that one's blood pressure is elevated
  - Twin studies have also shown irritability to be partially genetic
  - Irritability triggers more internally-based, anger triggers more externally-based?
- More research needed

# Irritability: Measurement

- a) Causes of irritability
  - Included in a number of measures:
    - when teased or mocked
    - other people in general
    - Oneself (Born et al., 2008: inward irritability)
    - past insults or injuries
    - being under pressure
  - Some sensory:
    - “Noises have seemed louder”
    - “I have been irritable when someone touched me”
    - “At times I find everyday noises irksome”
    - Cause or experience?



# Definition and Measurement: Review

- Consequences: Most definitions (and all measures) focused on irritability as a catalyst for anger and aggression
- Experience: Seems to reflect a mood (partial arousal, more chronic) rather than an emotion
  - Mostly measured in terms of synonyms
- Causes: Rarely included in definitions or measures; mostly interchangeable with anger
- The degree of item overlap between irritability measures and anger and aggression measures is highly inflated

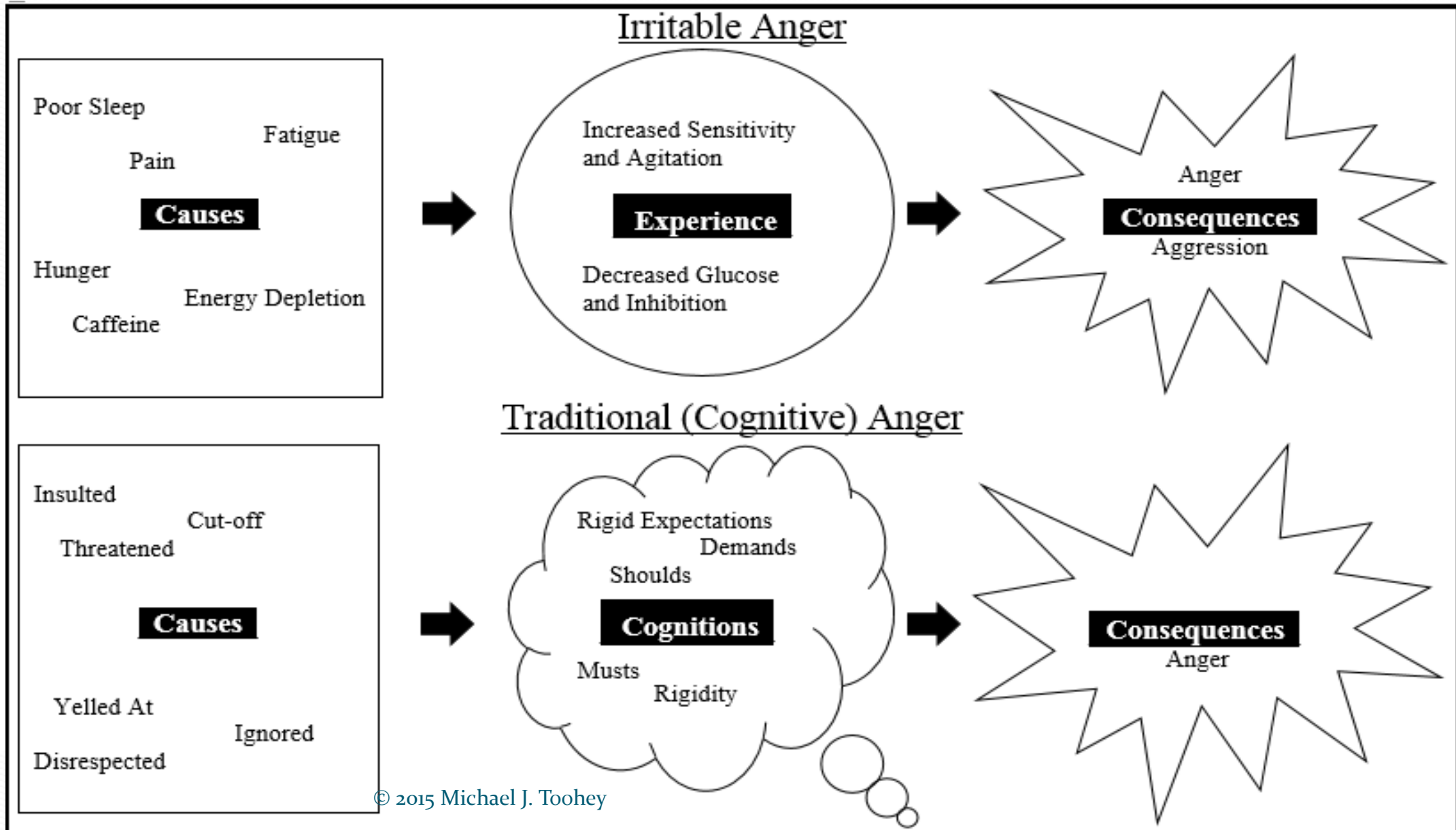
# Future Directions

- Current research on irritability may really be for anger and related constructs
- Once more precise measures exist, we can better understand the relationship between irritability and anger and aggression, as well as the role of irritability, anger, and aggression as symptoms of disorders
- Potential predictors for aggression:
  - 1. Irritability > aggression (without the full arousal of anger)
  - 2. Irritability > anger > aggression
  - 3. Anger > aggression
- We cannot make progress until we have a consensus on a precise conceptualization of irritability

# Future Directions (Proposal)

- Based upon previous definitions and measurements
- Incorporating all 3 components (causes, experience, consequences)
- *Irritability is a mood of partially increased physiological agitation and tension associated with an increase in physiological sensitivity to environmental and/or biological stimuli; it is characterized by a non-cognitively mediated lowered threshold for responding with anger and/or aggression to typically less vexing stimuli. Irritability can be brought on by physical conditions such as hunger, lack of sleep, pain, fatigue, energy depletion, caffeine or stimulants, or exhaustion.*

# Future Directions (Model)



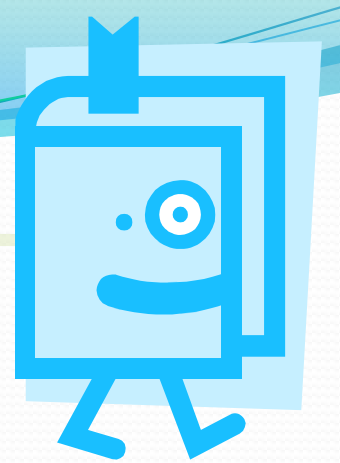
# Treatment Implications

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- So how might we treat irritability???
- Food
- Sleep
- Ice
- Relaxation
- Sensory minimization
- Mindfulness? (reducing energy spent on cognitive overload)



# Future Directions



- 1. Determine causes
- 2. Find biological correlates (driven by causes)
- 3. Describe association with increased sensory stimulation (sensory overload)
- 4. Study Interventions
- 5. Determine cultural differences in causes, experience, and consequences of irritability (gender, geographic location, ethnicity)

# Thank You!

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