Interoceptive Awareness and Emotional Eating: The Role of Appetite and Emotional Awareness

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Emotional Eating

• Eating in response to an emotion rather than a physiological need (Moon & Berenbaum, 2009)
  • Results in an increase in unnecessary food intake (Macht, 2008)

• More common in women (Rommel et al., 2012)

• Can lead to an unhealthy weight, lower self-esteem, and depression (Brown et al., 2010)
  • Can contribute to development of eating disorders (Ouwens et al., 2009)
Interoceptive Awareness

- Sensitivity to stimuli originating from within the body
  - Ability to perceive and identify internal signals (Brown et al., 2010; Herbert & Pollatos, 2012)

- Difficulty perceiving internal bodily signals is a risk factor for the development of eating disorders (Fassino et al., 2004)
Interoceptive Awareness: Appetite Awareness and Emotional Awareness

(Brown et al., 2010; Hill et al., 2011)
Appetite Awareness

- Appetite Awareness Training (AAT; Craighead & Allen, 1995)
  - Purpose is to improve ability to respond to internal cues for eating and therefore reduce overeating
  - Effectively reduces overeating and binge eating (Hill et al., 2011)
  - Deficits in appetite awareness are associated with binge eating
Emotional Awareness

- Difficulty identifying feelings
- Misinterpretation of emotions as hunger
- Eat in response to the presence of emotions

Pattern of Emotional Eating

(Hill et al., 2011)
Appetite and Emotional Awareness

- Separate constructs that have unique effects on disordered eating
  - Research on interventions for BED and BN specifically target appetite and emotional awareness, which results in symptom reduction (Brown et al., 2010; Hill et al., 2011)

- Each construct may serve different roles and have different implications for treatment

- Important to better understand these constructs in relation to emotional eating
Study Purpose: Aims 1 & 2

- **Aim 1**: To replicate the relationship between interoceptive awareness and emotional eating (e.g., Ouwens et al., 2009)

- **Aim 2a**: To examine the relationship between appetite awareness and emotional eating

- **Aim 2b**: To replicate the relationship between emotional awareness and emotional eating (e.g., Moon & Berenbaum, 2009)
Study Purpose: Aim 3

• **Aim 3**: To explore whether appetite or emotional awareness is a stronger predictor of emotional eating by examining these as concomitant predictors.
Procedure

- Participants recruited from undergraduate classes
  - Eligible for extra credit
- Measures completed online through PsychData
# Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interoceptive Awareness Questionnaire-Expanded (IAQ-E) (Trenary et al., 2005)</strong></td>
<td>Interoceptive Awareness</td>
</tr>
<tr>
<td>• Total Score</td>
<td></td>
</tr>
<tr>
<td><strong>Interoceptive Awareness Questionnaire-Expanded (IAQ-E)</strong></td>
<td>Appetite Awareness</td>
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<tr>
<td>• Appetite Awareness Subscale</td>
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<tr>
<td><strong>Toronto Alexithymia Scale-20 (TAS-20) (Bagby et al., 1994)</strong></td>
<td>Emotional Awareness</td>
</tr>
<tr>
<td>• Difficulty Identifying Feelings Subscale</td>
<td></td>
</tr>
<tr>
<td><strong>Emotional Eating Scale (EES) (Arnow et al., 1995)</strong></td>
<td>Emotional Eating</td>
</tr>
<tr>
<td>• Total Score</td>
<td></td>
</tr>
</tbody>
</table>
Participants

- N = 147 female undergraduate students
- Age = 19.74 years
- BMI = 25.38 kg/m²
Results: Aims 1 & 2

Summary of Separate Simple Regression Analyses with Interoceptive, Appetite, and Emotional Awareness Predicting Emotional Eating (N=147)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression 1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Interoceptive Awareness</td>
<td>1.01</td>
<td>0.13</td>
<td>.54**</td>
<td>59.90**</td>
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<tr>
<td>Regression 2</td>
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<td></td>
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<tr>
<td>Appetite Awareness</td>
<td>1.74</td>
<td>0.23</td>
<td>.53**</td>
<td>55.72**</td>
<td>.000</td>
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<tr>
<td>Regression 3</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Awareness</td>
<td>1.44</td>
<td>0.28</td>
<td>.39**</td>
<td>25.95**</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .29$ for Regression 1; $R^2 = .28$ for Regression 2; $R^2 = .15$ for Regression 3.*
Results: Aim 3

Simultaneous Multiple Regression Analysis with Appetite and Emotional Awareness Predicting Emotional Eating (N=147)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
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</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Constant</td>
<td>-7.34</td>
<td>4.94</td>
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<td>Appetite Awareness</td>
<td>1.45</td>
<td>0.26</td>
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<td>Emotional Awareness</td>
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<td>0.29</td>
<td>.19</td>
<td>2.46</td>
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</table>

*Note. $R^2 = .31; F = 31.84.$*
Discussion

- Women with lower levels of interoceptive awareness report higher levels of emotional eating.
- Decreased awareness of hunger and satiety cues, as well as emotions, may play an important role in emotional eating (Craighead & Allen, 1995; Moon & Berenbaum, 2009).
Discussion

• While appetite awareness and emotional awareness were unique predictors of emotional eating, the effect of appetite awareness was stronger.

• Inability to identify emotions may have less of an impact than deficits in recognizing the most basic internal physiological sensations that direct eating.

• Treatments such as AAT (Craighead & Allen, 1995) warrant further exploration with emotional eating.
Limitations and Future Directions

• Limitations
  • Cross-sectional design
  • Female college students

• Future Directions
  • Potential bi-directional associations
  • Explore optimal combination of appetite and emotional awareness in treating emotional eating
  • Clinical samples and men
  • Interoceptive exposure (Boswell et al., 2015)
Conclusion

• Expanded understanding of relationship between interoceptive awareness and emotional eating

• Appetite and emotional awareness are each separate, important aspects of interoceptive awareness in relation to emotional eating

• Target the improvement of both appetite and emotional awareness, with particular emphasis on appetite awareness, in treating emotional eating
Acknowledgments

- Edie Goldbacher, PhD
- Kelly McClure, PhD
- Cori E. McMahon, PsyD
- Eleanor Benner, MA
Thank You!