

PATIENT CHARACTERISTICS

- 17-year-old Caucasian male
- **Medical Diagnoses:** Food allergies to peanut, tree nuts, sesame, direct milk, lentils and salmon, Eosinophilic Esophagitis
- **Mental Health Diagnoses:** F41.9 Anxiety Disorder, Unspecified, F54 Psychological Factors Affecting A Medical Condition.
- **Presenting Problems:**
 - **1.5 years ago:** Allergic reaction to sesame requiring epinephrine administration and transportation to the ED.
 - Experienced initial escalation in anxiety after this experience including hypervigilance of allergen presence and potential allergic reaction symptoms.
 - **9 months ago:** Allergic reaction to sesame requiring epinephrine administration and transportation to the ED.
 - Escalation in anxiety led patient to report symptoms of an allergic reaction (e.g., throat tightness, itching, stomach discomfort) a least once/week
 - Subjective symptoms of allergic reactions after eating non-allergens (e.g., potatoes, raspberries, chicken) led to significant restriction in diet
 - Avoidance of social situations in which allergens are present and significant fear of skin contact with allergens.
 - Significant fear of touching a food that may be an allergen (e.g., crumbs on the table) which led to compulsive cleaning behaviors (e.g., wiping down table and hand washing)

TREATMENT PLANNING

- **Exposure-Based Cognitive Behavioral Therapy (CBT)** is an evidence-based treatment for adolescents with anxiety disorders and phobia (Silverman, Pina, and Viswesvaran, 2008) including medical phobias such as needle phobia (e.g., McMurtry et al., 2015)

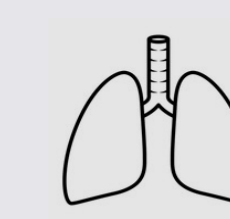
- Preliminary evidence suggests that casual exposure and education are equal at reducing fear of peanut contact (Weinberger, et al., 2019); however, this intervention did not include CBT or graduated exposure

Cognitive Behavioral Therapy

- Identify **Automatic Thoughts** Related to Allergen Exposure
 “If I touch that food I might die”
 “This tightness in my throat must be because of an allergic reaction”
 “Every food I eat could cause an allergic reaction”
- Identify which thoughts are **Cognitive Distortions**
- **Challenge** these distortions by asking: What evidence do I have for and against these thoughts?
- Recognize **physiological symptoms** of anxiety. Many of these symptoms may overlap with an allergic reaction.



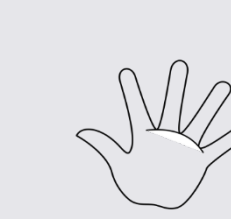
Heart Racing



Shortness of Breathe



Stomach Pain

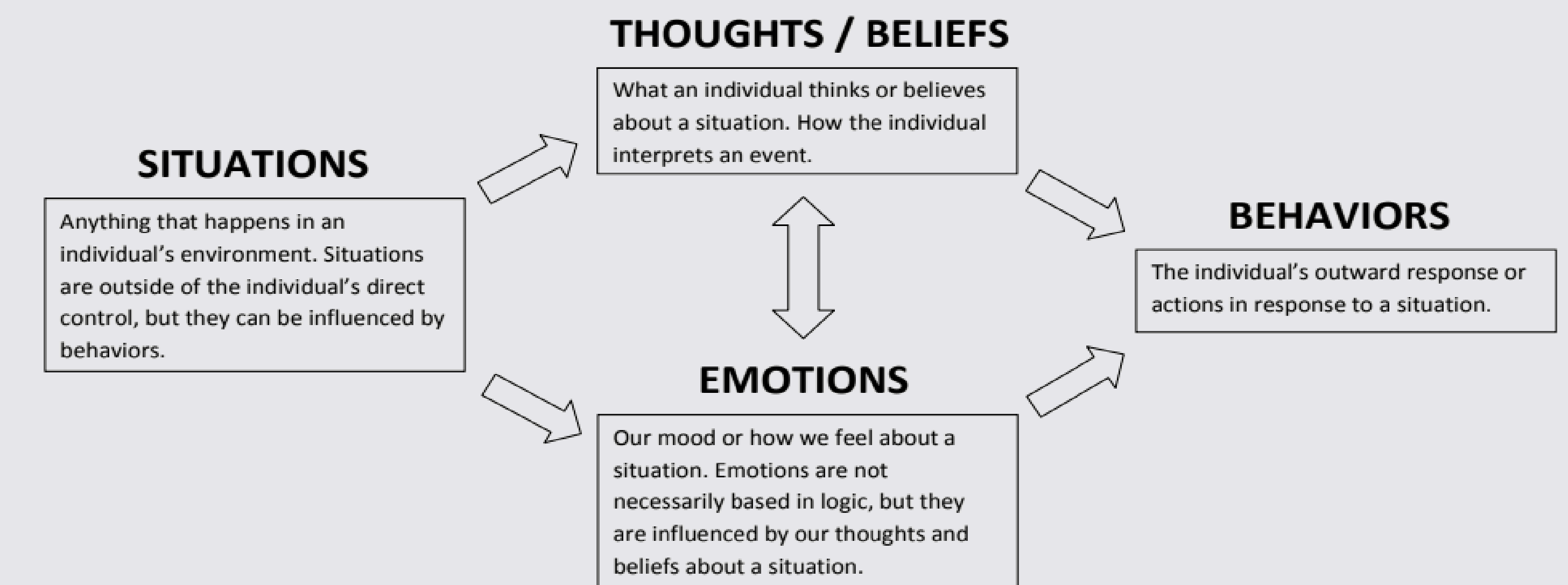


Sweaty Palms

- Learn **Relaxation Strategies** to decrease physiological symptoms such as Deep Breathing or Guided Imagery

Exposure Therapy

- **Subjective Units of Distress (SUDS)** rating scale, use to rate fear associate with an exposure task. Range is 0-10, with 10 indicating greatest anxiety
- **Fear Hierarchy:** Collaborate with patient to create a list of activities related to the fear that are organized from least stressful to most stressful
- Gradually progress through hierarchy, monitoring anxiety using the SUDS scale and using CBT strategies to decrease distress



INTERVENTION STEPS



EXPOSURE HIERARCHY	Initial SUDS Rating
1. Touch sealed, unopen package of peanut butter (PB)	2
2. Someone else open lid of PB container half of the way, across the table	3.5
3. Move half opened container of PB directly in front of patient	3.5
4. Someone else open PB completely and set in front of patient	3
5. Patient moves gradually closer to smelling the PB	4
6. Someone else touches PB directly, washes hands/dries with paper towel, patient touches the paper towel	4.5
7. Someone else touches PB directly, wipes with paper towel, touches patient directly	4.5
8. Some else touched PB directly, touches pencil, hands patient an object	5.5
9. Patient touches PB with glove, takes it off and washes hands	6
10. Patient touches PB directly, washes thoroughly after 10 seconds	8
11. Patient touches PB and delays washing for 30 seconds	8

REFERENCES

- Silverman, W. K., Pina, A. A., & Viswesvaran, C. (2008). Evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents. *Journal of Clinical Child & Adolescent Psychology*, 37(1), 105-130.
- McMurtry, C. M., Taddio, A., Noel, M., Antony, M. M., Chambers, C. T., Asmundson, G. J., ... & Bucci, L. M. (2016). Exposure-based Interventions for the management of individuals with high levels of needle fear across the lifespan: a clinical practice guideline and call for further research. *Cognitive behaviour therapy*, 45(3), 217-235.
- Weinberger, T., Annunziato, R., Riklin, E., Shemesh, E., & Sicherer, S. H. (2019). A randomized controlled trial to reduce food allergy anxiety about casual exposure by holding the allergen: TOUCH study. *The Journal of Allergy and Clinical Immunology: In Practice*, 7(6), 2039-2042.

TREATMENT OUTCOMES

- Over the course of 8 outpatient therapy appointments over 2 months, the patient's anxiety decreased substantially.
- Patient resumed eating non-allergens that he restricted out of fear, regularly attended social activities related to food, ate in social situations where safe food was available, and permitted family members to eat allergens in the home. Patient no longer experienced subjective episodes of allergic reaction symptoms.
- Exposure based CBT may be a useful intervention for treating food allergy-related anxiety. Additional systematic research is needed to explore the generalizability and effectiveness of this intervention.