

Saavedra and Silverman (button phobia)

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Saavedra, L. M., & Silverman, W. K. (2002). Case study: Disgust and a specific phobia of buttons. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(11), 1376-1379.

Psychology Being Investigated

Disgust

Disgust has been largely neglected in the study of phobias, with most research and treatment focusing on fear.

The presence of both fear and disgust can make a phobia more complex and harder to treat than one driven by fear alone.

Disgust may play a significant role in the development and maintenance of phobias, particularly in cases where the phobic stimulus is perceived as contaminated or repulsive.

Disgust can interact with fear, amplifying avoidance behaviors.

Expectancy Learning vs. Evaluative Learning

The study distinguished between two types of classical conditioning: expectancy learning and evaluative learning:

Expectancy Learning: In expectancy learning, a neutral stimulus becomes associated with a threatening outcome. As a result, the individual develops a fear response to the stimulus because they anticipate a negative experience. For instance, if someone is bitten by a dog, they may develop a fear of dogs because they expect to be bitten again.

Evaluative Learning: In evaluative learning, a neutral stimulus becomes negatively evaluated, leading to disgust rather than fear. This negative evaluation occurs without the individual consciously expecting a harmful outcome. The individual simply finds the stimulus repulsive or offensive. For example, someone might develop a disgust response to buttons after a negative experience, even if they don't consciously expect buttons to cause them harm.

Exposure-Based Cognitive-Behavioral Therapy

This treatment approach uses a combination of behavioral exposures (gradually exposing the patient to buttons) and imagery exposures (having the patient imagine scenarios involving buttons) along with cognitive restructuring techniques (helping the patient change negative thought patterns about buttons).

This approach is designed to address both fear and disgust associated with phobia and aims to reduce avoidance behavior and negative evaluations.

Background

Traditional classical conditioning paradigms, like the Little Albert experiment, provided a basis for understanding how phobias could be learned through association.

However, the focus on fear conditioning in these studies did not fully explain the boy's disgust-based reaction to buttons.

Studies on blood-injury and spider phobias provided evidence that targeting disgust could be beneficial for reducing phobia symptoms, further influencing Saavedra and Silverman's approach.

Therefore, Saavedra and Silverman explored alternative mechanisms like evaluative learning to understand the origins and maintenance of his phobia.

They also drew upon the understanding of systematic desensitization from behavioral therapies, which involved gradual exposure to feared stimuli, to develop the exposure component of their treatment.

Aims

- To examine the role of disgust and evaluative learning in the development and maintenance of button phobia (koumpounophobia).

- To demonstrate the importance of addressing disgust in phobia treatment, especially when traditional fear-focused approaches prove ineffective.

Method

Design & Variables

The study employed a case study design, focusing on a single participant to gather in-depth qualitative and quantitative data.

Sample

The participant was a 9-year-old Hispanic-American boy, presented by his mum to a Child Anxiety and Phobic Program.

The child and parent were interviewed about the phobia. The psychologist consulted the DSM to see if the boy met the criteria for a specific phobia of buttons.

The boy's presentation of symptoms did not meet the criteria for OCD

Sampled through the opportunity sampling technique.

He had been experiencing symptoms for four years, beginning at the age of five when he knocked over a bowl of buttons in his classroom.

This incident was identified as the likely origin of his phobia.

- There was an art project using buttons (in kindergarten),
- He had run out of buttons (for his project),
- He was asked to go to the front of the class to get more (buttons),
- All of the buttons fell down on him,
- They were in a large bowl (on the teacher's desk),
- His hand slipped as he reached for the bowl.

Procedure

Several data collection methods were used:

Interviews:

Semi-structured interviews were conducted with both the boy and his mother to gather information about the onset, development, and impact of the phobia on his daily life.

The Anxiety Disorders Interview Schedule (ADIS-C/P) is a semistructured interview for assessing DSM-IV psychiatric disorders in children.

This interview provided rich qualitative data about the boy's experiences and helped researchers understand the context of his phobia.

Feelings Thermometer:

The hierarchy of fear, referred to as the Feelings Thermometer, measures button-related fears on a scale from 0 (minimal distress) to 8 (maximum distress).

The boy created a hierarchy of 11 button-related stimuli, ranging from least to most distressing. Large denim buttons were the least distressing, while small, clear plastic buttons evoked the highest distress.

This hierarchy served as a baseline quantitative measure of the boy's distress levels before treatment, allowing for comparison and assessment of progress throughout the therapy.

By comparing his ratings before, during, and after therapy, the researchers could evaluate the effectiveness of both the behavioral and imagery exposures.

Stimuli	Distress Rating (0-8)
Large denim jean buttons	2
Small denim jean buttons	3
Clip-on denim jean buttons	3
Large plastic buttons (colored)	4
Large plastic buttons (clear)	4
Hugging Mom when she wears large plastic buttons	5
Medium plastic buttons (colored)	5
Medium plastic buttons (clear)	6
Hugging Mom when she wears regular medium plastic buttons	7
Small plastic buttons (colored)	8
Small plastic buttons (clear)	8

Treatment Procedures

1. Behavioral Exposure (4 sessions): This intervention, grounded in expectancy learning and systematic desensitization, aimed to gradually reduce avoidance behavior by exposing the boy to increasingly distressing button-related stimuli.

- **Gradual Exposure:** The exposure tasks were based on the boy's individualized hierarchy of distress, starting with large denim buttons (rated 2) and progressing to smaller, clear plastic buttons (rated 8). This gradual progression allowed him to confront his phobia at a manageable pace.
- **Contingency Management/Positive Reinforcement:** As the boy completed each exposure task, his mother provided positive reinforcement. The intention was to associate positive experiences with the previously distressing stimuli, thus promoting a positive emotional response.
- **Session Duration and Structure:** Sessions lasted 30 minutes with the boy alone, followed by 20 minutes with both the boy and his mother. The presence of his mother during the second part of the session facilitated the contingency management component, as she directly reinforced his progress. Four sessions of behavioral exposure were conducted

2. Imagery Exposure (7 sessions): This involved having the boy imagine various scenarios involving buttons, including those he rated as highly distressing. He was prompted to describe what he saw, felt, and smelled, and cognitive restructuring techniques were used to challenge and change his negative evaluations of buttons.

- **Cognitive Restructuring:** The researchers incorporated cognitive restructuring techniques to help the boy challenge his negative thoughts and evaluations about buttons. This process involved exploring the reasons why he found buttons disgusting and assisting him in reframing those negative cognitions.
- **Session Duration and Structure:** Seven sessions were planned for this intervention, with an emphasis on disgust-related imagery and cognitive techniques. The sessions were structured to guide the boy through increasingly challenging imaginal exposures while providing support and cognitive restructuring.

Follow-up Assessments: The boy was assessed at 6 and 12 months after treatment to evaluate the long-term effectiveness of the interventions. During these follow-ups, his distress levels and ability to interact with buttons were assessed using the Feelings Thermometer and interviews.

Results

Behavioral Exposure

Although the boy completed all the exposure tasks and could handle larger numbers of buttons by session, his subjective distress ratings unexpectedly increased between sessions 2 and 4.

This paradoxical finding suggests that while behavioral exposure addressed avoidance behavior, it failed to alleviate the underlying disgust.

It has been speculated that the positive reinforcement inadvertently strengthened his fear and anxiety.

Imagery Exposure

In contrast to the behavioral exposure, imagery exposure combined with cognitive restructuring showed positive outcomes in reducing the boy's distress.

- The distress ratings dropped between session 1 and 2.
- They dropped again between session 2 and 3.
- As the sessions advanced there was a lower level of disgust.
- It dropped from 8 to 5 midway through the imagery exposure/session 1 to 2.
- Then dropped from 5 to 3 after the imagery exposure/session 2 to 3.

Decreased Distress Ratings:

The imagery exposures, where the boy had to imagine various button-related scenarios, led to a significant decrease in his subjective distress scores.

For instance, when imagining hundreds of buttons falling on him, his distress rating decreased from 8 to 3 over the course of a session.

Similarly, his distress related to imagining hugging his mother while she was wearing buttons decreased from.

Qualitative Data on Disgust:

During these sessions, the boy revealed his disgust response by describing buttons as “disgusting” and “gross” and reporting that they had an unpleasant odor, even though buttons don't usually have a noticeable smell.

This emphasized the role of disgust, rather than fear of a tangible threat, in the maintenance of his phobia.

Follow-Up Assessment (6 and 12 months after treatment)

- **Sustained Improvement:** He reported minimal distress about buttons.
- **Remission of Phobia:** At both follow-up assessments, the boy no longer met the DSM-IV criteria for a specific phobia of buttons.
- **Improved Functioning (qualitative data):** The boy's improved functioning was evident in his ability to wear clothes with buttons, including his school uniform, without significant distress.

Conclusion

The contrasting outcomes of the two treatments emphasize the importance of addressing disgust and evaluative learning in treating specific phobias.

While behavioral exposure might be effective in reducing avoidance behaviors, it doesn't necessarily address the underlying emotional responses, especially disgust.

The study highlights that imagery exposure, combined with cognitive restructuring, can be more effective in targeting and modifying these negative evaluations, leading to a sustained reduction in phobic symptoms.

The boy's continued remission and ability to wear buttons without distress during the follow-up period provide compelling evidence for the lasting impact of the intervention.

The follow-up data not only demonstrate the effectiveness of the intervention in the short term, but also its sustained impact on the boy's ability to manage his phobia in his daily life, which includes being able to wear his school uniform without experiencing significant distress.

Ethics

- **Informed Consent:** The study obtained informed consent from the boy's mother for his participation in both the assessment and intervention procedures, as well as for the publication of the case study. The boy himself also provided consent, implying his agreement to participate.
- **Confidentiality:** The study maintained the confidentiality and anonymity of the participant by not revealing his identity, school, or other personal information in the published report.

- **Protection from Harm:** They started the therapy with his least distressing scenario. The mother used positive reinforcement during the therapy so the boy would not get too distressed. Therefore, the boy was protected from any harm throughout the therapy.
The study could have easily caused psychological stress. The boy was having to confront his button phobia throughout the therapy. He also had to discuss potential causes/effects of the phobia (e.g. buttons falling on him in art class) which would be stressful.
- **Beneficence and the Therapeutic Context:** The study was conducted within a therapeutic context, aiming to treat the boy's phobia and improve his quality of life. This therapeutic aim aligns with the ethical principle of beneficence, where researchers strive to maximize benefits for the participant. The long-term positive outcomes of the treatment, including the remission of his phobia and improved daily functioning, support the beneficence of the study.
- **Debriefing and Follow-Up:** The thorough follow-up assessments conducted at 6 and 12 months indicate a commitment to monitoring the boy's well-being beyond the immediate treatment period.

Strengths

- **Detailed and In-Depth Exploration:** The researchers collected extensive qualitative data through interviews with both the boy and his mother, gaining insights into the phobia's onset, development, and his experiences with different types of buttons. The qualitative data collected was helpful in understanding the reasons underlying his phobia, offering valuable context for the quantitative findings.
When he was asked to get more buttons for his kindergarten art project from the large bowl on the teacher's desk, his hand slipped as he reached for it, causing all the buttons to fall down on him.
- **Focus on Disgust and Evaluative Learning:** The study's focus on disgust and evaluative learning in the development and treatment of phobias represents a significant contribution to the field, particularly within child psychiatry. This conceptualization offers new perspectives beyond traditional fear-focused models and underscores the need for treatments that target disgust.

- **Longitudinal Design and Follow-Up:** The longitudinal design with follow-up assessments at 6 and 12 months strengthens the study's findings by demonstrating the long-term effectiveness of the treatment. This longitudinal aspect of the study adds to its internal validity and demonstrates the potential for long-term improvement.
- **Ecological Validity:** As the study took place in a therapeutic setting where the boy was being treated for his phobia, it possesses ecological validity. This means that the findings are applicable to similar therapeutic contexts where children are treated for phobias. This ecological validity adds to the study's relevance for clinical practice.

Weaknesses

- **Limited Generalizability:** As a case study focusing on a single 9-year-old Hispanic American boy, the findings may not be generalizable to the wider population of children with phobias, other types of phobias, or individuals from different cultural backgrounds.
- **Lack of a Control Group:** The absence of a control group makes it difficult to definitively attribute the observed improvements to the treatment alone. Without a comparison group receiving a different treatment or no treatment, it's impossible to rule out the possibility that other factors, such as the passage of time, spontaneous remission, or the attention received during therapy, might have contributed to the boy's improvement.
- **Subjectivity of Measurements:** The study heavily relied on the boy's self-reported distress ratings using the Feelings Thermometer, a nine-point scale. While subjective measures offer valuable insights into the participant's experiences, they can be influenced by factors such as the boy's understanding of the scale, his willingness to report his feelings accurately, his desire to please the researchers, or his mood at the time of assessment.
- **Distress:** The study could have easily caused psychological stress. The boy was having to confront his button phobia throughout the therapy. He also had to discuss potential causes/effects of the phobia (e.g. buttons falling on him in art class) which would be stressful.

Issues and Debates

Application to everyday life: Recognizing Disgust as a Factor in Everyday Aversions

The study encourages us to recognize disgust as a potential factor in our everyday aversions or avoidances.

We often attribute these to fear, but sometimes, disgust plays a more significant role, particularly when the aversion does not involve a clear threat.

For example, someone might develop an aversion to a particular food after a single unpleasant experience, even if the food itself is harmless.

This aversion might be driven by the memory of the disgusting experience rather than the anticipation of future harm.

Application to everyday life: Recognizing Emotions in School

The boy's disgust/fear (for buttons) was found out using a Feelings Thermometer (rated on a scale of 0-8).

This might be useful for schools to use with students who show fear (or use it for anger) to help understand what is causing the fear (or anger) in a child at school.

Nature versus nurture

nurture

During an art class, the boy reached for a bowl of buttons, his hand slipped, and the bowl fell on him.

After that stressful experience, he developed a fear of buttons.

This supports the nurture side of the debate because the phobia developed due to a lived experience (classical conditioning).

nature

Individuals might have varying levels of susceptibility to developing phobias based on their temperament, personality traits, or genetic predispositions, factors that fall under the domain of nature.

Some individuals might be more prone to developing strong negative associations or experiencing heightened disgust responses.

Individual and situational explanations

individual differences

The boy's phobia is deeply rooted in his individual, subjective experience of the button-dropping incident at age five.

While objectively harmless, *he* perceived it as traumatic, leading to the development of the phobia.

His personal interpretation of the event, likely influenced by individual factors such as temperament and prior experiences, played a crucial role in shaping his emotional response.

situational explanations

The initiating event for the phobia, the button-dropping incident in kindergarten, is a clear situational factor.

This specific situation, occurring in front of his class and teacher, likely amplified the emotional impact, contributing to the development of a phobia.

The public nature of the incident and the potential for embarrassment likely exacerbated his distress, highlighting how specific situational contexts can shape the development of phobias.

Reductionism versus holism

Reductionist elements: The study emphasizes the specific role of disgust, a single emotion, as a key factor in the development and maintenance of the boy's button phobia.

This targeted focus on one specific emotional response exemplifies a reductionist approach. It isolates disgust from the broader spectrum of emotions and cognitive processes involved in phobias.

Holistic elements:

While focusing on disgust, the study also acknowledges the interplay between fear and disgust in contributing to the boy's phobia, suggesting that the interaction of these emotions has a more significant impact than either emotion alone.

This attention to the combined effect of multiple emotions provides a glimpse into a more holistic approach.

Keep Learning

To help reinforce your understanding and prepare for potential exam questions, here are some practice questions related to this study and the A-level psychology syllabus:

1. Evaluate the Saavedra and Silverman study (button phobia) in terms of two strengths and two weaknesses. At least one of your evaluation points must be about ethics. [10]
2. From the study by Saavedra and Silverman (button phobia) describe how the boy in the study was diagnosed with his phobia. [2]
3. Outline one piece of information from this study that supported the nurture side of the nature- nurture debate. [2]
4. Saavedra and Silverman studied a boy with a button phobia. Describe what happened during the behavioural exposures intervention phase of the therapy. [4]
5. Outline one assumption of the learning approach, including any example in your answer. [2]
6. Studies from the learning approach can help with real-world applications. Describe how the results of the study by Saavedra and Silverman (button phobia) can help with understanding and/or treating phobias. [4]
7. Outline one other real-world application based on the results or conclusions from the study by Saavedra and Silverman. [2]
8. Outline how the subjective rating of distress was measured in this study. [2]
9. Describe how the boy's distress rating changed over the first three sessions in response to imagining hundreds of buttons falling on his body. [2]
10. Describe the psychology that was being investigated in the Saavedra and Silverman study (button phobia). [4]
11. Describe the Disgust/Fear Hierarchy. [3]
12. Identify one weakness of the Disgust/Fear Hierarchy. [3]
13. Outline the results from the post-treatment assessment session. [3]
14. Explain one problem when using children in psychological research, using this study as an example. [2]
15. Describe the incident that the boy recalls that started his phobia of buttons. [3]