

A Contemporary Learning Theory Perspective on the Etiology of Anxiety Disorders

It's Not What You Thought It Was

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Background on Anxiety Disorders

- 29% of the U.S. population is estimated to have or to have had one or more diagnosable anxiety disorders
- Anxiety disorders are the most common category of diagnoses in the DSM-IV-TR
- Not everyone undergoing traumas or stressful events will develop an anxiety disorder.

Learning Theory

- Dominant empirical perspective on anxiety disorders until the 1970s
- Couldn't explain why some people develop anxiety and some don't after experiencing a trauma or stressful event
- Recent resurgence : early learning histories can serve as a diathesis when paired with temperamental vulnerabilities
- Learning is better grounded in theories and methods of experimental psychology, providing a more comprehensive formulation of anxiety etiology and a more explicit analysis of factors promoting or inhibiting anxiety development

Specific Phobia

- Involves an intense and irrational fear of certain objects or situations that individuals will go to great lengths to avoid.
- Neutral stimulus is paired with a traumatic event
 - ex: Little Albert, Watson & Rayner, 1920
- Mineka & Ohman (2002a) confirmed that many people with phobias can identify a traumatic conditioning event when their phobia began
- Vulnerability vs. invulnerability

Sources of Individual Differences in Acquisition of Phobias

- **Genetics**
- **Personality variables**
- **Different life experiences**
 - May occur before, during, or after conditioning experience
 - *What kind of experiences do you think might influence vulnerability or invulnerability?*

The Impact of Prior Experiences

- **Latent inhibition:** Exposure to CS → CS & US paired ↓

Amount of subsequent conditioning to CS & US paired

-dentist example

- **History of control:** Having control over aspects of individual's environment is an important experiential variable which strongly affects reactions to frightening situations

-Mineka, Gunnar, & Champoux (1986): Infant monkeys

-Children reared with strong sense of mastery over their environments should be more invulnerable to developing phobias following traumatic experiences (Chorpita & Barlow, 1998)

Impact of Contextual Variables During Conditioning

- **Control:** Far less conditioning occurs when the event is escapable vs. inescapable

- **PTSD example from *Trauma & Recovery***

- Other contextual variables?

- Predictability

- Stranger vs. Acquaintance

Impact of Postevent Variables

- Exposure to a more intense traumatic experience not paired with a CS after conditioning of a mild fear is likely to show an increase in fear of the CS.
- **US Reevaluation:** Individual receives verbally or socially transmitted information about the US being more dangerous than when she or he originally experienced the CS paired with the US, leading to an inflated level of fear of the CS.
- Mental rehearsal of CS-US relationships may lead to enhanced strength of the conditioned fear response (Davey & Matchett, 1994)

Vicarious Conditioning

- Many with phobias don't appear to have had any sort of conditioning experience. How could this be?
- Simply observing others experiencing a trauma and reacting fearfully could be sufficient for some phobias to develop
 - Mineka & Cook's observational conditioning of snake fear on Rhesus monkeys



Specific Phobia & Vicarious Conditioning



- somatic symptoms
- use of safety signal
- exposure
- vicarious/social learning

Selective Associations in the Conditioning of Fears and Phobias

- Early conditioning models said that fears and phobias could occur to any group of objects associated with trauma.
- **Fear-relevant stimuli:** Snakes, heights, water
- **Fear-irrelevant stimuli:** Flowers, bikes, clowns
 - Ohman, Dimberg, & Ost, 1985: Humans and primates have evolutionary preparedness
- Not inborn but easily acquired and/or especially resistant to extinction
- Acquisition of phobias involves a primitive basic emotional level of learning (Ohman & Mineka, 2001)

Social Phobia

- Individuals with social phobia show excessive fears of situations in which they might be evaluated or judged by others, and they either avoid such situations or endure them with marked distress.
- Many believe social phobia may arise as a direct result of traumatic events.
 - McCabe et al. (2003): 92% of adult sample with social phobia reported history of severe teasing in childhood
 - 50% panic disorder; 35% OCD
 - 56% of those with *specific* social phobias recalled conditioning events

Factors that may lead to social phobia

- Social learning
- Preparedness
- BIS / temperament
- Lack of control over environment

Social Learning and Social Phobia

- **Vicarious conditioning** is a potent form of social learning
 - Ost & Hughdahl (1981): 13% of individuals with social phobia recall vicarious learning events that played a role
- **Modeling** of social anxiety in families
- Direct social reinforcement and verbal instruction play a role
- Culturally transmitted display rules and norms also influence
 - ***Taijin kyofusho***: Japanese disorder in which the individual fears they will do something to embarrass or offend others
 - collectivistic mindset

Preparedness and Social Phobia

- Ohman et al. proposed that social anxiety is a by-product of dominance hierarchies
- Thus social stimuli signaling dominance and intraspecific threat should be fear-relevant or prepared CSs for social anxiety
 - Slides of angry faces vs. happy or neutral
- Fear CRS can be conditioned to subliminal presentations of angry faces (Esteves et al. 1994)

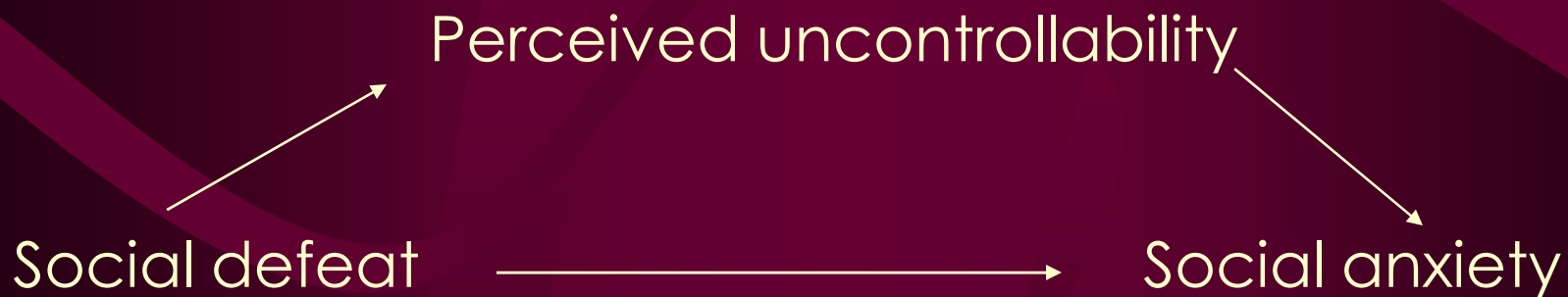


Behavioral Inhibition as Temperamental Diathesis for Social Phobia

- Not everyone who experiences a socially traumatic event will develop social phobia, so how do we determine who is vulnerable?
- Behavioral Inhibition may be a temperamental diathesis
 - BIS = withdrawn, avoidant, hyperarousal; high neuroticism, low openness to experience
- Behavioral inhibition not only predicts the onset of multiple specific phobias in childhood, but also social phobias in adolescence (when they are most likely to develop)

Uncontrollability and Social Phobia

- Animal studies have shown that uncontrollable shock and repeated social defeat lead to increased submissiveness (William & Lierle, 1986; Urich, 1938)
- Repeated social defeat also leads to increases in learned helplessness effects such as **escape deficits** and **exaggerated fear CRs**.
- Mineka and Zinbarg believe that effects of social defeat are probably mediated by perceptions of uncontrollability and are likely to play a role in the origins of social anxiety



Panic Disorder With and Without Agoraphobia

- Individuals with Panic Disorder experience recurrent unexpected panic attacks that occur without known cues or triggers; they also experience worry, anxiety, or other behavioral changes related to having panic attacks
- **Agoraphobia** occurs when individuals fear having a panic attack in a place that they perceive may be difficult or embarrassing to escape



Anxiety and Panic

- Bouton et al.'s contemporary learning theory perspective states that anxiety and panic are at least partially unique emotional experiences. Neurobiological research supports this distinction (Fanselow, 1994).
- Anxiety is accompanied by apprehension, worry, and tension
- Panic is accompanied by strong autonomic arousal, extreme fear, and fight-or flight action tendencies.
- Brain areas involved:
 - **Anxiety**: amygdala, hippocampus (forebrain structures)
 - **Panic**: midbrain, superior colliculus

Exteroceptive and Interoceptive Conditioning in Panic Disorder

- Exteroceptive conditioning: CSs impinge on sensory receptors
- Interoceptive conditioning: CSs are body's own internal sensations
 - fear of fear
- Goldstein and Chambless (1978) stated that exteroceptive conditioning is central to the development of agoraphobia.

Exteroceptive and Interoceptive Conditioning in Panic Disorder

- Conditioning that occurs during initial panic attacks sets the stage for development of PD and PDA.
- US: traumatic event
- UR: panic
- CS: internal and external cues (heart palpitations, dizziness, malls)
- CR: anxiety -> panic

The Development of Agoraphobia

- Exteroceptive conditioning
- Learned avoidance of these situations to minimize anxiety
- Often generalize to similar situations and eventually to everyday situations such as exercise, scary movies, and caffeine intake.
- Vulnerability:
 - gender
 - employment
 - unpredictability
 - baseline levels of anxiety

Vulnerability Factors for PD

- **Genetics**

- Temperament: Neuroticism and Trait Anxiety

- **Prior learning experiences**

- Uncontrollability
 - Death or divorce

- **Sick role behavior**

- Encouraged to engage early
 - Chronic illness in household

Posttraumatic Stress Disorder (PTSD)

- Symptoms include reexperiencing the trauma, passively avoiding reminders of the trauma, numbing of affect, and heightened general arousal.
- Uncontrollable and unpredictable stress
 - animals exposed to uncontrollable and unpredictable stress exhibit heightened arousal, passive avoidance behavior, and relative insensitivity to pain (similar to numbing)
 - Hasan and Ahmet example

Conditioning Phases of PTSD

- **Trauma phase:**

- Mental defeat and controllability

- **Pretrauma phase:** Prior uncontrollable stress sensitizes individual to harmful effects of subsequent trauma. Effects are stronger when they involve interpersonal violence.

- By contrast, a prior history of control immunizes against subsequent traumas (*psychological readiness*)

- **Posttrauma phase:** At least some effects are short-lived; severity of reexperiencing symptoms after a trauma should influence the course of symptoms of PTSD

- inflation

- US reevaluation

Generalized Anxiety Disorder

- GAD is primarily characterized by chronic excessive worry about a number of events or activities for at least 6 months and worry is difficult to control.
- Uncontrollable events; people with GAD have less tolerance for uncertainty
- Relative lack of safety signals (indicators telling them level of danger is low)
- Perceived benefits of worry: helps avoid catastrophe and avoidance of emotional topics (reinforcing)
- Attempting to control thoughts and worry may paradoxically lead to increased experience of intrusive thoughts and enhanced perception of being unable to control them.

Obsessive-Compulsive Disorder

- Involves unwanted and intrusive thoughts, impulses, or images that cause marked anxiety or distress; usually accompanied by compulsions or mental rituals performed to neutralize or prevent distressing thoughts or images.
- What makes these thoughts abnormal?
 - Greater distress
 - Frequency
 - Resistance



Factors Contributing to OCD

- Verbal transmission of dangerous thoughts
- Neutral idea paired with scary idea
- Responsibility and rigid rules may increase vulnerability
- Thought-action fusion
- Religion
 - Protestants
- Avoidance
 - Resistant to extinction
- Preparedness
 - Dirt, contamination, and danger



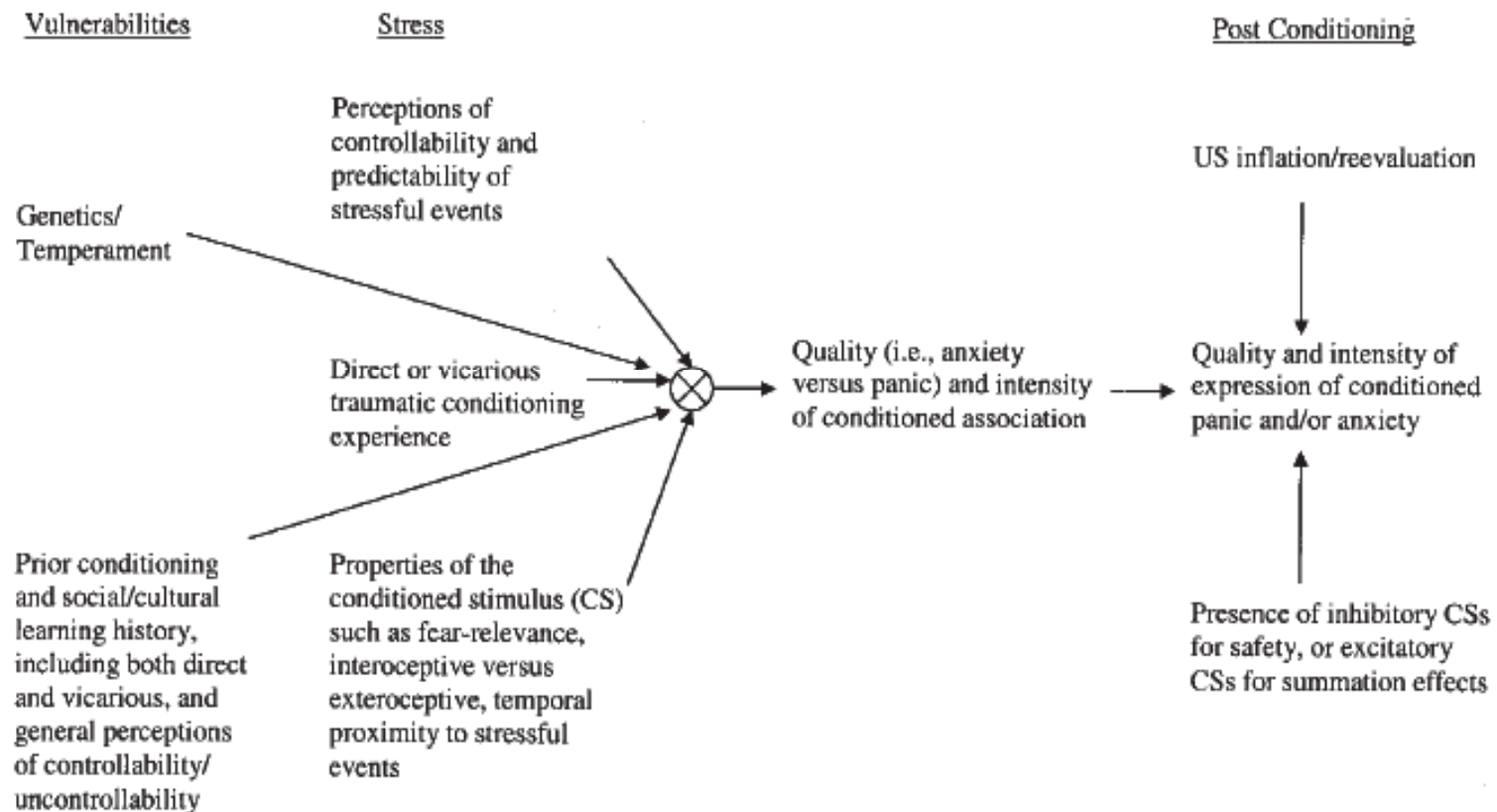
Conclusion

- Contemporary learning theory models are falsifiable, comprehensive predictors of the etiology of anxiety.
- Also have important implications for prevention and treatment.
- What can be learned can also be unlearned
- Exposure therapy
- Genetic & temperamental vulnerabilities - prevention



Figure 1

Overview of Major Elements Incorporated in Contemporary Learning Models of the Etiology of the Anxiety Disorders



Note. US = unconditioned stimulus.

What do you see as the common etiological factors among all of the anxiety disorders discussed today?

- Social learning
- Temperament
- Control

What sort of coping mechanism do you think individuals with anxiety disorders are most likely to engage in?

- Avoidant
- “Personality and Coping”: Disengagement coping involves avoidance and denial and is often emotion-focused (minimize distress). Generally ineffective at reducing stress over long-term
- “Neuroticism should lead to emotion-focused coping and disengagement from threat”