

Psychology 371: Personality Research Anxiety, Negative Affect and Avoidance Motivation

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Outline

What is it?

Clinical Symptoms

A dimension of normal personality

Traditional Theories

Hull/Spence

Distraction: Inappropriate response

Modern Theory

ABCDs of Anxiety

Affect, Behavior, Cognition and Desire

Anxiety, Negative Affect and Avoidance Motivation

1. Anxiety
2. Negative Affect
3. Avoidance Motivation
4. A single trait, but a multitude of theories
5. Useful for integrating personality theory with clinical psychology

What is anxiety?

1. Normal trait with variation in the experience of the unpleasant emotional state associated with subjective feelings of tension, apprehension, and worry as well as activation or arousal of the autonomic nervous system
2. Traditional assumption in personality is that the psychiatric “disorder” is merely the end point of a normal trait.
3. By studying the trait, we learn about the disorder, and by studying the disorder, we learn about the trait.

Anxiety Symptoms

1. Anxiety Symptoms Excessive physiologic arousal

- muscle tension
- Irritability
- Fatigue
- Restlessness
- insomnia

2. Distorted cognitive processes

- poor concentration!
- unrealistic assessment of problems
- worries

3. Poor coping strategies

- avoidance-procrastination
- poor problem-solving skills

Source: <http://www.sh.lsuhsu.edu/fammed/OutpatientManual/Anxiety.htm> taken from Gliatto, Michael F. Generalized Anxiety Disorder. Am Fam Physician. 2000;62:1591-600, 1602.

Anxiety as “disorder”

1. Classification of anxiety disorders
2. Generalized Anxiety Disorder
3. Panic Disorder
4. Social Phobia
5. Separation Anxiety
6. Post Traumatic Stress

Generalized Anxiety Disorder

1. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
2. The person finds it difficult to control the worry.
3. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months). Note: Only one item is required in children.
 - restlessness or feeling keyed up or on edge
 - being easily fatigued
 - difficulty concentrating or mind going blank
 - Irritability
 - muscle tension
 - sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)

GAD: continued (from DSM)

1. The focus of the anxiety and worry is not confined to features of an Axis I disorder, e.g., the anxiety is not about having a Panic Attack (as in Panic Disorder), being embarrassed in public (as in Social Phobia), being contaminated (as in Obsessive-Compulsive Disorder), being away from home or close relatives (as in Separation Anxiety Disorder), gaining weight (as in Anorexia Nervosa), having multiple physical complaints (as in Somatization Disorder), or having a serious illness (as in Hypochondriasis), and the anxiety and worry do not occur exclusively during Posttraumatic Stress Disorder
2. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
3. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hyperthyroidism) and does not occur exclusively during a Mood Disorder, a Psychotic Disorder, or a Pervasive Developmental Disorder.

Social anxiety

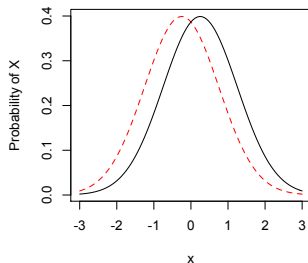
1. persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be embarrassing and humiliating.
2. Exposure to the feared situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally pre-disposed Panic Attack.
3. The person recognizes that this fear is unreasonable or excessive.
4. The feared situations are avoided or else are endured with intense anxiety and distress.
5. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.
6. In individuals under age 18 years, the duration is at least 6 months.
7. The fear or avoidance is not due to direct physiological effects of a substance (e.g., drugs, medications) or a general medical condition not better accounted for by another mental disorder...

Anxiety as a dimension of personality

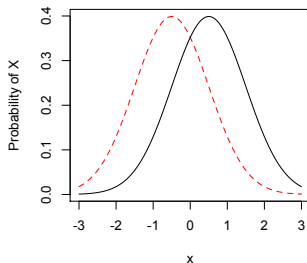
1. Anxiety, Negative Affectivity, Neuroticism and (lack of) Emotional Stability are all closely related trait terms that show normal variation in the population.
2. Extreme scores on these dimensions are associated with the diagnosis of a disorder.
3. Possible to understand the extremes by studying normal variation.
4. However, small differences in means can lead to large differences at tails of the distribution.

Odds of differences vary by extremity of response

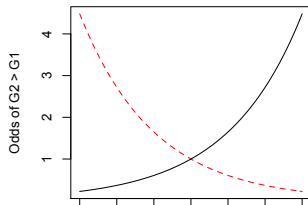
Normal Density for two groups



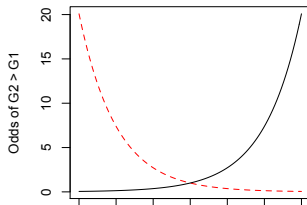
Normal Density for two groups



odds ratio of G1 vs G2



odds ratio of G1 vs G2



Typical measures

1. Manifest Anxiety scale (Janet Taylor Spence) ([Taylor, 1956](#))
2. Worry/Oversensitivity
3. Social Concerns/Stress
4. Physiological Anxiety
5. Fear of Aging (for elderly)
6. Test Anxiety (for students)
7. State-Trait scales ([Spielberger, Sydeman, Owen & Marsh, 1999](#); [Spielberger, Gorsuch & Lushene, 1970](#))
8. Situational Anxiety Scales

State Trait Anxiety Measures

Current (State) or Typical (Trait) feelings of

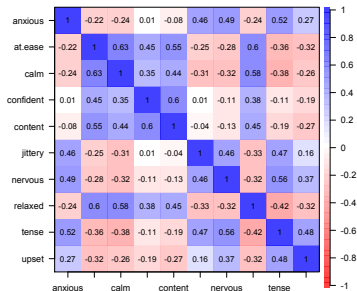
1. Nervous and restless
2. Failure
3. Inadequate
4. Disturbing thoughts
5. Pleasant (reversed)
6. Satisfied with self (reversed)
7. Rested (reversed)
8. Happy (reversed)

The structure of 10 anxiety items from the MSQ

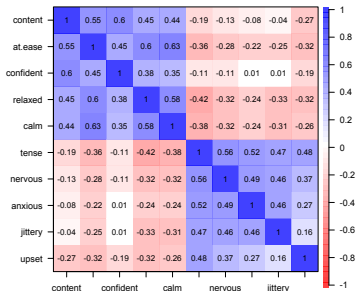
Alphabetical ordering of 10 MSQ anxiety items. Hard to see structure.

“Alabama need not come first”.
Sort by something meaningful.

Correlations of MSQ anxiety items (alphabetical)



Correlations of MSQ anxiety items (fa ordered)



R code

```
R <- lowerCor(msql[msqitems])
corPlot(R,numbers = TRUE)
```

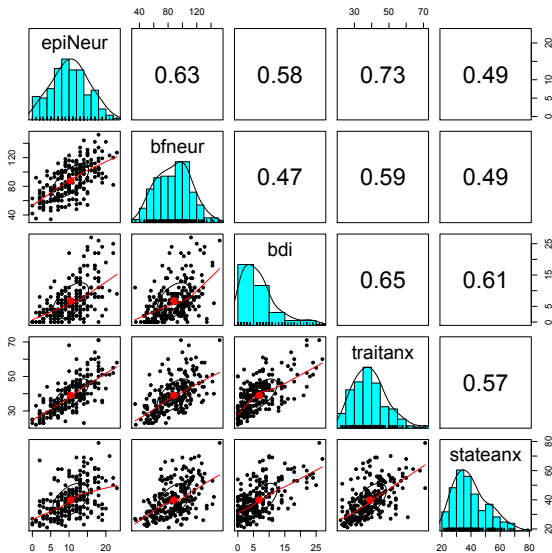
R code

```
f2 <- fa(R,2) #extract 2 factors
sorted <- mat.sort(R,f2)
corPlot(sorted,numbers=TRUE)
```

Anxiety Trait vs. Anxiety State

1. Ray Cattell & Charles Spielberger Anxiety trait as a susceptibility to the state
 - But not necessarily frequency of state
 - (anxiety trait can lead to avoidance of situations that lead to the state)
2. Components of State anxiety ([Liebert & Morris, 1967](#))
 - Autonomic arousal/somatic tension
 - Worry and attentional deficits
 - But are these two factors, or merely extremity of trait?

Anxiety, Neuroticism and Depression



Multiple theories of anxiety effects on performance

1. Hull-Spence Drive Theory (and task difficulty)
2. Anxiety and the inverted U
3. Anxiety as an inappropriate response
4. Anxiety and Negaction - Dynamics of Action
5. Anxiety as cognitive load
6. Anxiety and performance avoidance (Fear of Failure)

Hull, Spence & Spence Drive Theory

Hull-Spence theory of learning and performance

1. Reaction potential = Habit x (Drive + Incentive)
 - $sEr = sHr (D + K)$
2. Habit strength reflects previous experience
3. Drive = Σ (non specific effects)
 - hunger, thirst, sex
 - anxiety
4. Dominant Learning theory of 1940-1950s. [Hull \(1943, 1952\)](#)
Replaced by more cognitive theories.
5. Main competitor was Tolman (e.g., [Tolman & Honzik \(1930\)](#))

Drive Theory applied to human anxiety

Anxiety and learning

1. eyeblink conditioning
2. verbal learning of easy and hard lists ([Spence, Farber & McFann, 1956](#); [Spence, 1964](#))
3. task difficulty interacts with lists difficulty in verbal learning

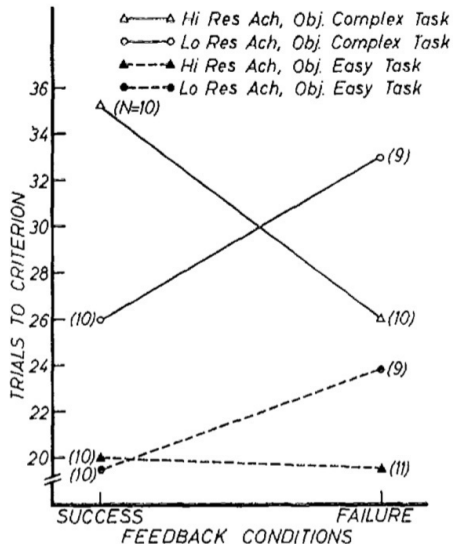
Weiner & Schneider (1971) showed this might be an artifact of design

1. Task: Learn 13 CVC trigrams
2. Easy List: high between item differentiation e.g. PAK, BIM, MOT
3. Difficult list: low between item differentiation e.g. HOV, VOV, RIV, MIV
4. Lists presented as serial anticipation (implicit feedback?)
5. Subjects were high and low resultant Achievement Motivation (Nach - Naf)
6. Feedback - list is (easy/hard) you are doing better/worse than othes

Anxiety and Task Difficulty

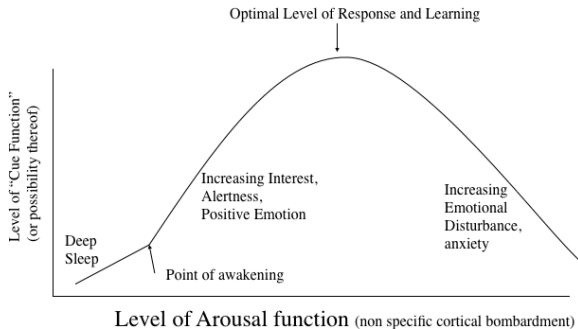
1. Many studies have replicated the original Spence, Farber and McFann study
2. However, all of these have used a serial anticipation technique that confounds task difficulty with implicit feedback to the subject.
3. Is it feedback or task difficulty that is most important?
4. Nice example of how one good study (with a replication) can replace many studies if they all have the same flaw.

Weiner & Schneider (1971)



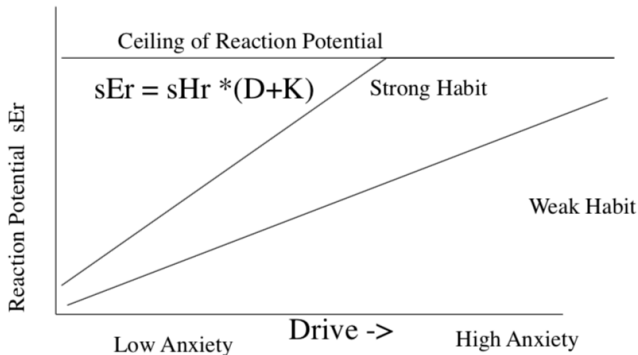
Anxiety, Drive and the Inverted U (Hebb, 1955)

Hebb Curve (1955)



Drive Theory and the inverted U

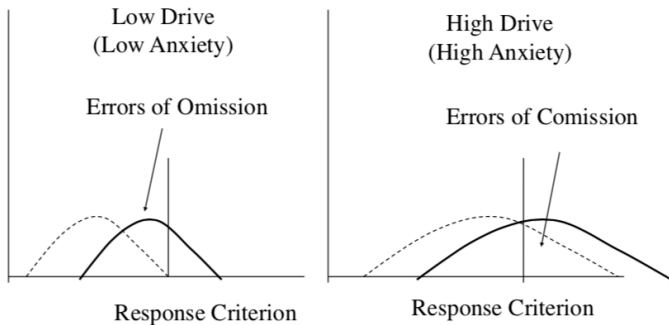
Broen and Storms Drive Theory and Inverted U



(Broen Jr & Storms, 1961)

Broadbent: Drive and error types

Drive spreads response strength and changes error type



Anxiety as an inappropriate response

1. Mandler-Sarason-Wine
2. Sarason and Test Anxiety ([Mandler & Sarason, 1952](#))
3. Attention is diverted to off task thoughts
4. Should be able to redirect attention
5. Jeri Wine: Anxiety and attentional deficits ([Wine, 1971](#))
6. A simple model that has much support

Anxiety and working memory

1. Anxiety leads to a working memory deficit [Eysenck, Lister & Weingartner \(1991\)](#); [Eysenck \(2000\)](#); [Eysenck, Derakshan, Santos & Calvo \(2007\)](#)
2. Fewer resources to bring to task
3. Implies interaction of memory load with anxiety
4. But memory load is frequently confounded with task difficulty and implicit feedback (see Weiner and Schneider)

Easterbrook's theory of cue utilization

1. Arousal/Anxiety thought to change the range of cue utilization
2. Tasks differ in the breadth of cues required
3. Arousal/anxiety narrows the focus of attention

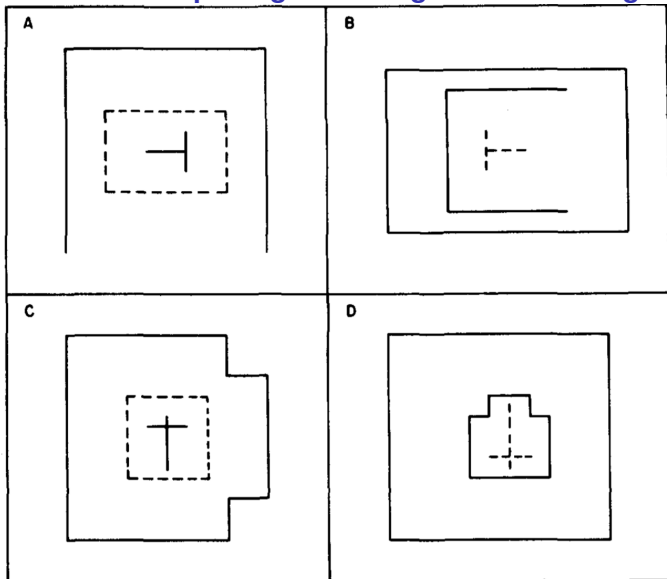
Positive negative affect and cue utilization: Forests vs. trees

1. Gasper & Clore (2002) Affect and broad vs. narrow focus
2. Yovel, Revelle & Mineka (2005) Obsessiveness and broad vs. narrow processing

Leon (1984) showed that anxiety is probably diversion of attention

1. A test of three theoretical models ([Leon & Revelle, 1985](#))
2. Geometric analogies differed in complexity and memory load
3. Transformation increased memory load
4. Number of elements took more time to process
5. Ideas taken from [Mulholland, Pellegrino & Glaser \(1980\)](#)

Computer generated geometric analogies



Leon and Revelle (1985): anxiety and cognitive processing

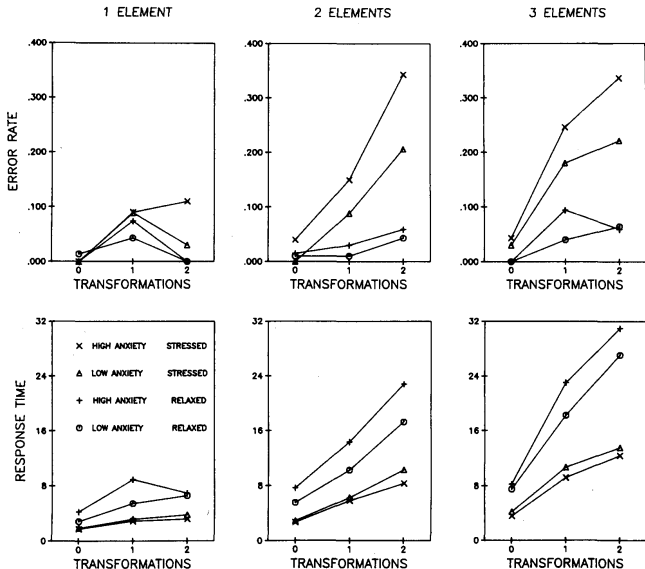


Figure 3. Error rates and response times for true analogies. (Error rates are calculated for all true analogies. Response times are calculated for true analogies that were solved correctly.)

Anxiety and attentional bias

1. The Stroop Task

Speeded naming of colors when conflicting with color names

This is a response interference effect

2. The Emotional “Stroop” Task

Anxiety impedes speed of color naming of threat words but this is an allocation of attention effect and is not really the same.

A Stroop Task

1. Name the color of the slide as quickly as possible
2. Ignore the word name

What is it?

○○○○○○○
○○○○○○○

Traditional Theories

○○○○○○○○○
○○○○○○○○○●○○○○○○○○○

Modern Theory

○○○○○

ABCDs of Anxiety

○○

References

What is it?

○○○○○○○
○○○○○○○

Traditional Theories

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Modern Theory

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ABCDs of Anxiety

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References

The Emotional “Stroop”

1. Anxiety related to impairment to color naming in the face of emotional cues
2. But is the effect due to a general inhibitory effect of negative emotion on performance
3. Decay of effect over time varies as function of anxiety
(Gilboa-Schechtman, Revelle & Gotlib, 2000)

Eva Gilboa and the time course of anxiety

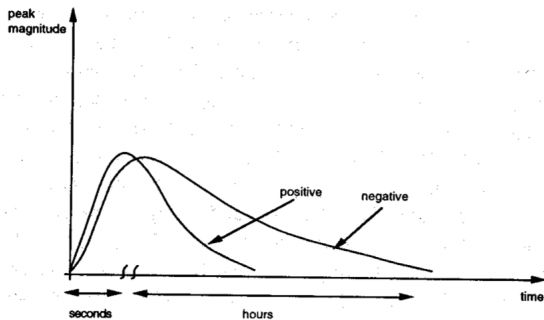
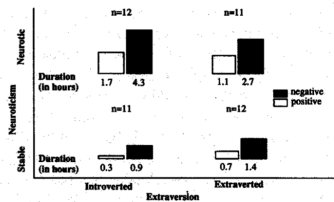
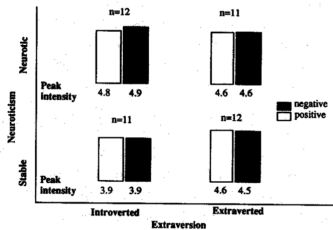


FIG. 5.1. Schematic representation of the duration of positive and negative emotions.

Eva Gilboa and the time course of anxiety



(Gilboa-Schechtman et al., 2000)

Attention Allocation

The dot probe task

Respond with right finger if dot is above the fixation point, with left finger if the dot is below the fixation point

.

X

.

X

Anxiety and memory biases

1. Selective interpretation of homophones (Butler and Mathews)
2. Pain /pane
3. Groan / Grown
4. Die /Dye
5. Consider the following sentence, does the next sentence follow from it?

Ambiguous sentences

1. The doctor opened the chest:

Ambiguous sentences

1. The doctor opened the chest: and discovered the treasure.

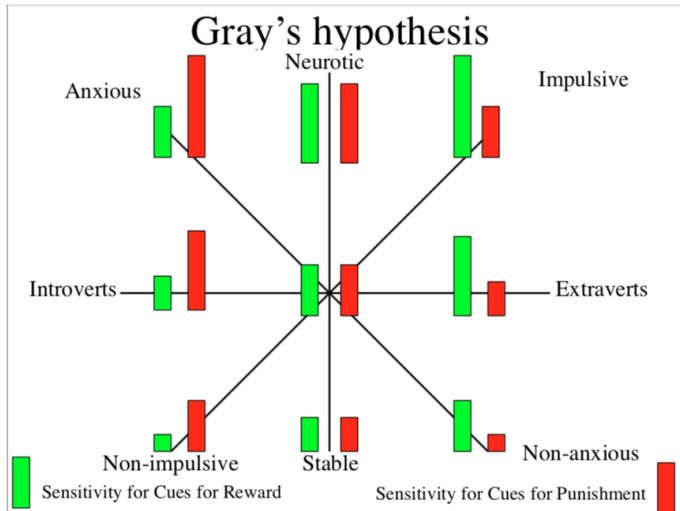
Ambiguous sentences

1. The doctor opened the chest: and removed the heart

State Trait Distinction revisited

1. Are traits predispositions to states
2. Sensitivity to cues
3. Frequency of achieving state
4. Are traits predictors or scars?
5. Currently depressed, never depressed, formerly depressed

The early Gray model



Gray: the BIS/BAS/FFFS model

1. Anxiety and the Behavioral Inhibition System ([Gray, 1981, 1991, 1987, 1991](#))
2. Impulsivity and the Behavioral Activation System
3. Aggression and the Fight/Flight/Freeze System
4. Is this a sensitivity to cues for punishment and rewards or a sensitivity to the actual strength of the rewards and punishments?
5. Revised model suggests Anxiety is more the FFFS system. ([Gray & McNaughton, 2000](#); [Corr, 2002, 2016](#))

Watson and Clark: Anxiety, depression and affect

1. Two dimensions of affect reactions
 - Positive Affect (happy, pleased)
 - Negative Affect (sad, depressed)
2. Anxiety as high NA + high tension
3. Depression as high NA and low PA

Anxiety and achievement

1. Anxiety and Achievement (Elliot, Sheldon & Church, 1997; Elliot & McGregor, 2001; Elliot & Thrash, 2002; Elliot & Church, 1997)
2. Performance approach goals
3. Performance Avoidance goals
4. Mastery goals
5. State Test Anxiety
6. Worry
7. Emotionality
8. Exam Performance

Computational Models of Anxiety

1. Prospect Theory (Kahneman & Tversky, 1979) applied to anxiety
2. Expected Utility of a gamble with outcomes p of gain and q of loss
 - $Utility = p * gain^r + q * \lambda(-loss)^r$
 - λ is relative weight of losses versus rewards
 - r is the index of risk aversion, $r < 1$ implies negative acceleration of utility function
3. Sharp & Eldar (2019) applies this to anxiety
 - Anxious subjects weight loss more than gains, high in loss avoidance
 - See Mkrtchian, Aylward, Dayan, Roiser & Robinson (2017) for a notion of mood as a measure of outcome inertia.

The ABCDs of personality

Affect : The emotional-affective reaction (feelings) induced by a situation

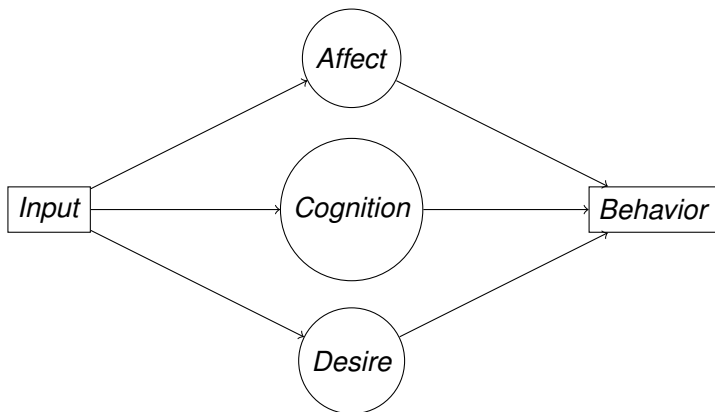
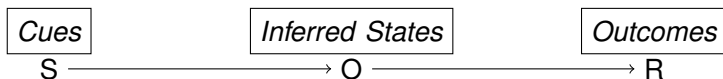
Behavior : The observed (and unobserved) behavioral reaction to a situation

Cognition : Thoughts, plans, beliefs, attributions of a situation

Desire : Goals, hopes, wants

People differ in their relative values of ABCD over time.

The ABCDs of personality



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