Emerging Affect Theories & Their Relevance for Psychotherapy

Eva Hudlicka, PhD, MSW, LICSW

therapy21st.net

April 4, 2014
NASW Symposium
Framingham, MA
Learning Objectives

• Knowledge of emotion theories & data from affective science

• Implications for practice

• Broader relevance - “take home” messages
Core “Take Home” Messages

• Emotions are complex – easy answers unlikely to be the final word

• Much skepticism is necessary – beware of popular theories (e.g., right brain vs. left brain)

• Trends:
  – Emotion & cognition interdependent
  – Emphasis on the underlying mechanisms
Outline

• Historical perspective
• Affective science research
• Implications for clinical practice
• Broader relevance – “take home” messages
• Conclusions
The Stormy History of Emotions

- Always a “hot” topic
  - Loved or hated
  - Denied (Stoics, behaviorists) …or glorified (Romanticism)
  - Pathological vs. adaptive
“Diseases of the Mind”

Immanuel Kant (1700’s)
“reason is, and ought only to be, the slave of the passions”

David Hume (1700’s)
Historical Views on Emotion: From the Liver to Neuromodulation

• From the ‘mortal soul’ (Plato) to the liver & heart (Galen)

• From dedicated components of the brain (limbic system, amygdala) to specific neural circuits to...

• Neuromodulation (Fellous, 2004): systemic, global effects across multiple brain structures...to

• ...???
Evolving Views on Emotions in Psychology Research

• Behaviorism
  – “Out of sight, out of mind”
  – Impossible to measure so irrelevant

• Cognitivism
  – Difficult to measure so ignore
  – Early computer metaphors couldn’t accommodate emotions
  – Emotions associated with dysregulation / pathology
  – Emotion viewed as resulting from cognitive processing

• Contemporary - affectivism?
  – Emphasis on adaptive functions of emotions
  – Multi-modal nature of emotions
  – Acknowledgment that we don’t yet understand
History of Emotions in Therapy (1)

• Psychoanalytic
  – Emotions associated w/ pathology
  – “Repressed / disavowed affect”
  – “drive related” “need to be discharged or tamed”
  – Associated with (unconscious) conflict

• Interpersonal
  – “socially adaptive orienting tendencies”
  – Mediating satisfaction of genuine needs

(Greenberg & Safran, ‘89)
History of Emotions in Therapy (12)

• Behaviorist
  – Learned, maladaptive responses
  – Modified through deconditioning & exposure

• Cognitive
  – Result of cognitive appraisals
  – Modified through re-appraisal – cognitive restructuring

• Experiential / humanistic
  – “Orienting system” “provides organism with adaptive information”

(Greenberg & Safran, ‘89)
Contemporary View: Psychology

• Emotions are fundamentally adaptive
  – Mediate information processing
  – Closely coupled w/ cognition – may not be separable
  – Motivate behavior necessary for survival
  – Facilitate social interaction, including attachment

BUT

• Emotions can become maladaptive
  – Affective ‘signal’ can become distorted
  – Emotions can become dysregulated
    (too much, too little, wrong ones)
Contemporary View: Neuroscience

• No single location, region or circuit dedicated to emotion generation
  – No “emotional homunculus” (Fellous, 2004)
  – ‘Older’ subcortical & ‘newer’ cortical structures involved

• Neuromodulatory effects play a key role in affective processing
  – Systemic effects across large population of neurons
  – Mediated by ‘free-floating’ neurotransmitters - not by specific synaptic connections
  – Modify manner in which neurons process information (speed, sensitivity)
  – Multiple time scales (msec, hours, days)
“Historically, theories of emotion have often been far more subtle and complex than the methods available to test them.”

(Ellsworth & Scherer, 2005)
Outline

• Historical perspective
• Affective science research
• Implications for clinical practice
• Broader relevance – “take home” messages
• Conclusions
Affective Science

http://www.mrc-cbu.cam.ac.uk/~andyc/neuropsychology.php
Topics

• Different types of ‘affective factors’
• Definition
• Multi-modal nature of emotions
• Multiple roles of emotions
• Core affective processes – generation & effects
  – Emotion generation (will focus on cognitive appraisal)
  – Emotion effects on cognition & behavior
A Taxonomy of Affective Factors

Affective Factors

Traits

“Big 5” “Giant 3” ...

States

Affective States

Emotions

Moods

Complex

Basic

Negative

Positive

Fear

Joy

Anger ...

Pride

Guilt

Shame ...

Attitudes, Preferences...
Transient States

- Affective States
  - Undifferentiated positive / negative assessments, dispositions & behavioral tendencies
    - Like → approach; Dislike → avoid

- Emotions (seconds – minutes)
  - “Basic emotions” (6-10 fundamental emotions)
    - Fear, anger, joy, sadness, disgust, surprise
  - Complex emotions (many cognitively-complex emotions)
    - Jealousy, pride, shame, guilt…

- Persistent mood states (hours – days – months)
  - Similar types as ‘basic’ & complex emotions (fearful, happy, sad, angry) Perceptually & behaviorally diffuse
Definition?

“there is little consensus about what emotion is, and how it differs from other aspects of mind and behavior”

(LeDoux, 2012)
So What ARE Emotions?

• Evaluative judgments of the:
  – World
  – Others
  – Self

  – … in light of our goals & beliefs
(hence large individual & cultural differences)

• …motivating & coordinating adaptive behavior
(hence associated with physiological changes & expression & specific action tendencies)
• “emotion is about motivation”
  – Positive & negative feelings, readiness or tendency to cope, cues for cognition & action

• “cognition is about knowledge”
  – Learning, memory, symbol manipulation, thinking & language“  

(Izard, 1993, p. 75)

• BUT
  • They are interdependent processes
    – May not be possible to decouple them
The Many Faces of Emotions

• Manifested across multiple, *interacting* modalities:
  – Somatic / Physiological (neuroendocrine - e.g., heart rate, GSR)
  – Cognitive / Interpretive (“Nothing is good or bad but thinking makes it so…”)
  – Behavioral / Motivational (action oriented, expressive, ‘visible’)
  – Experiential / Subjective (“that special feeling…”, consciousness)

• Much terminological confusion can be attributed to a lack of consideration of these multiple modalities of emotions
  – e.g., Is emotion a feeling or a thought? - It’s both
Simple Fear “Signature”: Large, Approaching Object

Increased heart-rate;
Attacked? Crushed?
Flee? Freeze?
Feeling of fear

Physio  Cognitive  Behavior  Subjective
Feedback & Interactions Among Modalities

Eva Hudlicka - NASW Symposium 2014
Do Different Emotions Have Unique Signatures Across these Modalities?

• Cognitive
  – Positive emotions: positive view of self, world, other
  – Negative emotions: negative view of self, world, others
  – Fear / anxiety: threat focus, narrow attentional focus

• Behavioral
  – Positive emotions → approach tendencies
  – Negative emotions → withdraw tendencies…
    … but also fight for anger - an approach behavior
Do Different Emotions Have Unique Signatures Across these Modalities?

• Physiological
  – Differences exist, but physiology alone unlikely to differentiate among all emotions
  – Jury still out on even the ‘basic’ emotions – but it appears that SOME may be distinguishable via ANS signatures
  – More ANS differences among negative than positive emotions
    • “just sit back and relax” does not require much metabolic support
    • + emotions as ‘undoers’ of ANS activation produced by - emotions (Levenson, 1994)

• Subjective
  – Yes – but difficult to characterize objectively
Anger

• Trigger:
  – Progress toward a goal hindered… esp. by other agent

• Cognitive:
  – Focus attention (very strong effect)
  – Assign blame to perceived causal agent
  – Overestimate likelihood of success
  – Try alternate strategies

• Physiological: ANS highly activated

• Behavioral:
  – Eagerness to act
  – Fight & aggression
  – Social: prevent (or facilitate) aggression
Fear

• Trigger:
  – Perceived danger to important self- or other-protective goals

• Cognitive:
  – “Tunnel vision” (attentional narrowing focus on threat)

• Physiological:
  – Mobilize energy level – ANS activated

• Behavioral:
  – Motivate flight & avoidance (& sometimes freeze)
  – Motivate protective behavior
Sadness / Depression

• Trigger:
  – Loss or inability to achieve important goal

• Cognitive:
  – Focus on negative evaluations of situation / self (past, present, future)
  – Slower, more deliberate & analytical processing… to prepare for alternative strategies

• Physiological - Lower ANS activity

• Behavioral:
  – Avoidance / withdrawal (resource conservation following (repeated) failure or adverse event)
  – Slower motor reactions
  – Social: Communicate need for help (can strengthen social bonds)
Emotions Are Not All Created Equal

• Different elicitors & behaviors.. Of course
• BUT also vary in:
  – Consistency/ diversity of elicitors & responses
  – Sustainability & decay
    • Anger decays most slowly after initial trigger
  – Infusive potential - generalization over time
    • Anger is very high
  – Contradictory action tendencies
    • Fear: flee or freeze?
  – Relative frequency
    • anger most frequently experienced… in the US (Lerner & Tiedmus, 2006)
  – Ability to capture attention
  – Accurate recognition (facial expression)
    • Anger most accurately recognized
Implications for Practice: Affective ‘Literacy’

“Emotions provide us with important information about our internal & external environments, & it may be necessary for individuals to identify & understand their emotions before they decide if & how to regulate them.” (Campbell-Sills & Barlow, 2007)
Affective Literacy

• Important element of emotional intelligence – awareness of own emotions

• Much of therapy focuses on helping clients ‘get to know’ their affective self
Emotional Awareness: Overcoming the Obstacles to Psychological Balance and Compassion

The Dalai Lama & Paul Ekman
Your Thoughts...

• How can more refined conceptualization of emotions promote affective literacy?

• Multi-modal emotion signatures:
  – Triggers / elicitors
  – Cognitions & cognitive processes & biases
  – Physiological
  – Behavioral / expressive

• Variable characteristics of emotions:
  – Diversity of elicitors & responses
  – Sustainability & decay
  – Infusive potential
  – Frequency
  – Ability to capture attention
Emotion Roles

Roles
- Social coordination
- Rapid communication of behavioral intent
- Attachment

Intrapsychic
- Motivation
- Homeostasis
- Adaptive behavior

Interpersonal

HOW?
Express emotions via:
- Facial expression
- Speech (content & properties)
- Gesture, Posture
- Specific actions

HOW?
- Emotion generation (appraisal)
- Emotion effects (processing biases)
- Global interrupt system
- Goal management
- Prepare for coordinated actions
Intrapsychic Roles

• Perform rapid, undifferentiated processing of salient stimuli (avoid danger, get food)

• Monitor & regulate goal-directed behavior
  – Re-prioritize goals when unexpected cues arrive

• Motivate behavior & learning
  – Implement reward & punishment
  – Enable boredom & curiosity

• Trigger & prepare for fixed behavioral routines
  – Distinct emotions linked to distinct desired behavior – “action tendencies”
  – Coordinate multiple systems necessary for adaptive behavior (cognition: attention; physiology: energy; motor: act)
Social Roles

• Coordinate activities among individuals
  – Coordination of group behavior
  – Mediation of relational behavior

• Facilitate rapid communication of internal state & behavioral intent (via visible, non-verbal cues)
  – Pleasure vs. displeasure (frown / smile)
  – Imminent attack vs. withdrawal

• Mediate attachment behavior

• Much similarity across cultures & species
  – Darwin – 1872: The Expression of the Emotions in Man and Animals
Core Affective Processes

Generation of Emotions

Effects of Emotions (on cognition & behavior)

Stimuli -> Emotions
Emotion Generation: A Bit of History

- Historical controversy regarding how exactly emotions are generated

- Alternative theories can be characterized by the causal role & location of the distinct modalities in the generation sequence
Peripheralist ("Feeling") Theories

• Physiological responses "precede & determine emotional experience"

• Emotion is the interpretation of a physiological / bodily state
  – Emotion is "the feeling of bodily changes" (James, 1884)
  – "we feel sorry because we cry, angry because we strike, afraid because we tremble, & [it is] not that we cry, strike, or tremble, because we are sorry, angry, or fearful"

• See bear → run → feel adrenalin & self running
  -→ interpret as fear
Variations on a Theme

• BUT - Subjective feelings alone can’t differentiate among the many emotions we can experience

SO

• Additional brain structures added to help differentiate (hypothalamus) (Cannon, Papez – early 1900’s)

• Facial musculature added – “facial feedback theories” (Tomkins, Izard, Ekman)
  – Smile → feel happy
Cognitive Appraisal Theories (1)

- Emotions result from cognitive interpretations (appraisal) of stimuli (events & situations)
  - Internal & external; real & recalled & imagined
  - "Nothing is good or bad but thinking makes it so"
    ... BUT - not necessarily conscious, deliberate thinking!

- Emotions arise when stimuli match particular ‘emotion elicitors’
  - Large, approaching object $\rightarrow$ triggers fear
  - Unhelpful customer service person $\rightarrow$ triggers anger
  - Child wins a contest $\rightarrow$ triggers pride, joy
Cognitive Appraisal Theories (2)

• Dominant theoretical perspective on emotion generation

• Two views:
  – Appraisal is the antecedent of emotions
  – Appraisal is the cognitive component of emotions – NOT an antecedent

• Multiple stages with distinct functions
  – Primary - situation assessment – “What’s going on?”
  – Secondary - coping assessment – “What can I do about it?”
Cognitive Appraisal Theories (3)

• Appraisal processes vary in their degree of complexity and cognitive involvement, ranging from:
  – Low-level, ‘hardwired’, species-specific triggers
  – Complex, culture-specific, idiosyncratic triggers

• Typically 3 levels proposed
  – Conceptual
  – Schematic
  – Sensorimotor (hardwired, species-specific)

  – Processing interacts at all levels
Emotion Generation via Appraisal (1)

Stimuli \rightarrow \text{Appraisal Process} \rightarrow \text{Emotions}

Appraisal Dimensions

Recalled

Perceived

Imagined
Emotion Generation via Appraisal

Appraisal Process

Stimuli → Appraisal Dimensions → Emotions

Goals (desires, values, standards)
Beliefs, Expectations
Emotion Generation via Appraisal

**Appraisal Process**

**Stimuli** → **Appraisal Dimensions** → **Emotions**

**Domain-Independent Appraisal Dimensions**

- Novelty
- Valence
- Goal / Need relevance
- Goal congruence
- Agency
- Coping potential
- Social and self norms and values
STIMULI

Novelty

Valence

Goal relevance

Agency

Outcome probability

Goal congruence

Urgency

Coping potential

Norms

FEAR

- high
- low
- high
- other
- high
- low
- v. high
- low
- high
- low
Appraisal & Coping

• Agent’s ability to handle the situation is an important component of appraisal

• Coping strategies divided into:
  – Problem focused
    • Task
    • Social support
  – Emotion focused
    • Denial of problem
    • Venting (to control emotion)
    • Sour grapes (reappraisal of the desirability of the original goal)
Implications for Practice:

Emotion Regulation & Re-Appraisal
Established ER Strategies

• Suppression

• Re-appraisal

• Modification of action tendencies
Re-Appraisal (1)

• “If you are distressed by anything external, the pain is not due to the thing itself, but to your estimate of it; and this you have the power to revoke at any moment.”Marcus Aurelius, Meditations

• “realistic & evidence-based re-interpretations” (Barlow)
  – NOT “Pollyanna-style” rationalizations

• Upset because flunked test
  – NOT – “It didn’t matter anyway”
  – BUT - “It does matter, but not the end of the world, and I can study harder next time… and this is how I will do it”
Re-Appraisal (2)

• Modify cognitive appraisal to:
  – Induce different emotion
  – Reduce intensity of distressing emotion

• Does re-appraisal work?
  – Associated with higher + affect; lower – affect
  – Associated with improved sense of well-being
Your Thoughts...

• How could we use the specific ‘appraisal variables’ to improve re-appraisal strategies?

• Appraisal variables:
  – Novelty
  – Goal relevance
  – Outcome probability
  – Agency
  – Norms
  – Valence
  – Goal congruence
  – Urgency
  – Coping potential

• How could we take advantage of multiple-modalities to facilitate emotion regulation?
Emotion Effects on Cognition & Behavior

Effects of Emotions (on cognition & behavior)

Stimuli

Emotions
Emotion Effects

• Effects on behavior
  – Expressive behavior (face, gestures…)
  – Action selection (specific behavior – fight, flee, freeze)

• Effects on cognition
  – Attention & memory processes
  – Perception
  – Cognitive processes (learning, planning, decision-making…)
Emotion ---+ Expression & Behavior

Facial expression

Gestures

Posture

Behavior

Emotion

Blah blah blah
Effects on Expression & Behavior

• Reasonably well understood …
  … from an “external” perspective

• Individual, contextual & cultural variability

• Variability in expression proportional to emotional complexity (= magnitude of cognitive component)
  – Fear: flee / freeze
  – Grief: ?
  – Schadenfreude: ??
  – Agape: ???
Effects on Cognition

• Emotion & cognition function as closely-coupled information processing systems
  – Complex feedback interactions

• Emotions influence fundamental processes mediating high-level cognition:
  – Attention speed & capacity
  – Working memory speed & capacity
  – Long-term memory recall & encoding
    • Mood-congruent recall (Bower, 1981; Bower, 1986)

• Influence on processing & contents and structure of memory
  – Transient biases influence processing
  – Long-term biases result in differences in long-term memory content & structure
Examples of Affective Biases

• Anxiety
  – Narrows attentional focus
  – Bias toward detection of threatening stimuli
  – Bias toward interpretation of ambiguous stimuli as threats
  – Promotes self-focus

• Anger
  – Increases risk tolerance
  – Bias toward impulsive action
  – Bias toward attribution of hostile intent in others

• Positive emotions
  – Increase estimates of degree of control
  – Overestimate of likelihood of positive events
  – Focus on “big picture”

• Biases can be adaptive or maladaptive, depending on context
The Delusion of Happiness

Dysphoric individuals have more accurate perceptions of reality (risks, expectations)
Implications for Practice:

Affective Biases on Attention, Perception & Cognition
Two Sides of Affective Biases

• In clients

• In clinicians
Affective Biases in Emotional Disorders

• Depression
  – Negative evaluation of self, world, future

• Anxiety (catastrophizing)
  – Overestimation of probability of negative event
  – Overestimation of consequences of these events

  – Focus on threat
  – Interpretation of ambiguous cues as threats
Affective Biases in Clinical Work

• Confirmation bias
  – We all have our favorite theories

• Availability bias
  – What we recall easily we believe
    • My last client had xxx; was helped by yyy

• We are human – we have moods & associated biases
  – Too positive?
  – Too negative?
  – Focusing on the wrong topic?
Your Thoughts?

• How might knowledge of specific affective biases on cognition help your clinical practice?

• Can you identify your own biases in clinical practice?
Individual & Cultural Differences

• “All people are the same. Some people are the same. No person is the same.” (Revelle, 1995)

• We are all the same
  – “Basic” emotions
  – Similarities in triggers and expression across people, cultures

• We are all different
  – Sensitivity & reactivity / affective dynamics
  – Social emotions – idiosyncratic triggers
  – Expression – cultural differences
Some Questions

• Does everyone benefit from writing about experienced trauma?

• Is someone inhibited or just not as emotionally expressive?

• Is emotion expression always a good idea?
  – Anger?
“Take Home” Message

• Significant individual & cultural differences exist
• ... in triggering of complex emotions
• ... in regulation
• ... in expression
• ... in distress tolerance

• Differences due to:
  – Neurophysiological differences – temperament, reactivity
    • Evidence that BPD individuals more reactive
  – Cognitive-affective schemas – experience & individual & cultural norms
    • Influence emotion generation – type & intensity
    • Influence type & nature of affective expression & behavior
Outline

• Historical perspective
• Affective science research
• Implications for clinical practice
• Broader relevance – “take home” messages
• Conclusions
Broader Relevance

• Education & Training:
  – Add affective science to SW curricula
  – Promote training in emotional intelligence & ‘affective health’ skills in schools

• Encourage research
  – Numerous open questions
  – Encourage multi-disciplinary collaborations
  – Promote mechanism-based perspective

• Policy
  – Support affective education & research
  – Reimbursement for prevention – ‘affective literacy’
Outline

• Historical perspective
• Affective science research
• Implications for clinical practice
• Broader relevance – “take home” messages
• Conclusions
Summary

• Emotions mediate key survival functions in biological agents
  – Mediate interpersonal behavior
    • Communicate behavioral intent
    • Mediate attachment
  – Coordinate mental & physical processes
    • Recognize & respond to threat
  – Coordinate multiple systems

• Emotions exert profound influences on cognitive processes
  – Fundamental processes: attention & memory (speed, capacity, encoding, recall)
  – Higher-level processes: decision-making, learning, planning
Conclusions

• Emotions are fundamentally adaptive… but can become distorted
  – Due to trauma, attachment failures, genetics

• Multi-modal phenomena
  – Either / or thinking unlikely to be productive
  – Closely linked with cognition

• Emerging theories & findings support
  – Increasing understanding of mechanisms
  – More accurate assessment of affective dysfunction
  – More targeted treatment approaches
  – Customization of treatment
So Where Does This Leave Us?

• Better informed – early misconceptions about emotions corrected

• Skepticism is essential
  – Today’s news can be tomorrow’s hype
  – Much new understanding, much we don’t know

• Optimistic – more refined theories & more data coming
The Nature of Emotions
Thank you!

Questions? Comments?
Emerging Affect Theories & Their Relevance for Psychotherapy

Eva Hudlicka, PhD, MSW, LICSW
therapy21st.net

April 4, 2014
NASW Symposium
Framingham, MA