

Psychological reviews--Russell et al (2003) and Izard (2009)

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8:12 AM

Izard, C. E. (2009). Emotion theory and research: Highlights, unanswered questions, and emerging issues. *Annual Review of Psychology*, 60(1), 1-25. doi:10.1146/annurev.psych.60.110707.163539. Cited by 26.

Russell, J. A., Bachorowski, J., & Fernández-Dols, J. (2003). Facial and vocal expressions of emotion. *Annual Review of Psychology*, 54(1), 329-349. doi:10.1146/annurev.psych.54.101601.145102. Cited by 186.

Russell et al (2003) summary

Minimal assumptions (Russell and Fernández-Dols 1997b):

- Facial and vocal changes occur everywhere and are coordinated with the sender's psychological state
- Most people can infer something of the sender's psychological state from those facial and vocal changes

Infants' cries used to be thought to be different for different states, but now it looks like it's just degree of distress.

★ Insistence that there are fixed links between facial/vocal expression and emotions is misplaced. (Kappas 2002: 10, Russell et al 2003).

Recommendations:

- Not limit studies to small list of emotions or a small set of signals
- Don't use static stimuli (with just pictures of faces, for example, you miss blinking and blushing)
- Joint occurrence is probably necessary, though I won't tackle it myself
- Processing of emotion-eliciting stimulus (Smith and Scott 1997, Scherer 2001)
- Many psychological approaches seem to miss the need for an audience (or underappreciated the researcher's role in filling that spot)

Encoding and decoding

Goffman (1959) is useful in thinking about different types of expressions of emotions.

- **Given:** produced for the purpose of communication
- **Given off:** side-effects of movements produced for other purposes

◆ Tomkins (1962) led the field for quite a while. His main claims:

- There are a few discrete basic emotions.
- They can vary in intensity.
- They consist of a single brain process, "whose triggering produces all the various manifestations (components) of the emotion, including its facial and vocal expression, changes in peripheral physiology, subjective experience, and instrumental action" (Russell et al 2003: 331).
- They are sharply distinguished from cognitions.
- The same message is encoded and decoded.

◆ The next stage of research after Tomkins started to look at how emotions weren't just broadcast to anyone, but directed. We might further see that they are directed at particular people. And of course, the receiving side "is more than a reflex-like decoding of a message" (Russell et al 2003: 331).

- See Owen et al (2002) for altering of receiver's affective state without encoding/decoding.
- Receivers' interests are not just detecting cues but distinguishing real ones from deceptive ones.

theories proposed as convincing enough to receive... they have... theorized to attribute emotions to the sender. The process of decoding has not been specified but has been characterized as innate (Izard 1994), easy (Ekman 1975), categorical (Calder et al. 1996), and immediate: "The initial translation of an expression into some meaning is likely to be so immediate that we are not aware of the process we go through" (Ekman 1997, p. 334).

In the typical study, a facial or vocal EE is presented to a receiver who then indi... Russell et al 2003: 332

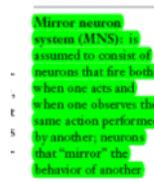
People are very consistent in what emotion is being signaled, but agreement is higher for facial than vocal expressions (Wallbott and Scherer 1986, Hess et al 1988). Note that both facial and vocal experiments use actors.

- Note also that there is a range of signals that achieve varying degrees of agreement.
- Ekman and Friesen (1978, table 11.1) have 65 different facial expressions that signal anger. Vocal findings are similar.
- When spontaneous rather than acted EEs are presented to receivers, the amount of agreement on a specific emotion drops or disappears (Motley & Camden 1988, Yik et al. 1998 for facial; Johnson et al. 1986, Exp. 1, Pakosz 1983 for vocal).
- Forcing choice from a short list also compromises the tasks. When free answers are allowed, agreement lowers further. At a minimum, lists should have a "none of the above" list.

A lively discussion centered on the question of universality (Ekman 1994; Izard 1994; Russell 1994, 1995). In an empirical response to that debate, Haidt & Keltner (1999) obtained evidence in the United States and India that was consistent with both proponents and critics. One interesting finding was a "gradient of recognition": Some emotions are more "recognizable" than others, and the gradient is

Definitions and examples

The tendency in psychology is to talk about things like smiles, chuckles, guffaws, smirks, frowns, and sobs as **expressions of emotion**. As Russell et al (2003: 330) point out, "signal" might work better. (Also used: symptom, symbol, manifestation, display, sign). In truth, the different things that we may want to call expressions of emotion are probably heterogeneous. The boundaries between them are pretty unclear.



Basic emotion: For Izard (2009: 7) it refers to affective processes generated by evolutionarily old brain systems upon the sensing of an ecologically valid stimulus.

- They are subject to developmental change (especially by language and its codes and the ability to communicate)
- Positive: **interest and joy**
- Negative: **Sadness, anger, disgust, fear**
- It's hard to generate basic emotions in the lab--usually people are just doing emotion schemas.
- Possibly also: **shame, guilt, contempt, love, attachment**

Emotion schema: emotion interacting dynamically with perceptual and cognitive processes to influence mind and behavior...often elicited by appraisal processes but also by images, memories, and thoughts, and various noncognitive processes such as changes in neurotransmitters and periodic changes in levels of hormones (Izard 2009: 8)

- Appraisal processes help provide the cognitive framework for the emotion component of emotion schemas (see Ellsworth and Scherer 2003 for a review about appraisal as emotion activation).
- Emotion schemas are influenced by individual differences, learning, and social and cultural contexts.
- But a sadness schema feels qualitatively identical to the basic emotion. They share some things in common.
- Frequently recurring emotion schemas may stabilize as emotion traits or as motivational components of temperament/personality traits.
- "Emotion schemas are causal or mediating processes that consist of emotion and cognition continually interacting dynamically to influence mind and behavior. It is the dynamic interaction of these distinct features (emotion and cognition) that enables an emotion schema, acting in the form of a situation-specific factor or a trait of temperament/personality, to have its special and powerful effects on self-regulation and on perception, thought, and action" (Izard 2009: 10)--but what about other person?

but finish smoothly and quickly. Simply sensing that the object in your path and just a step ahead of you is long, round, and moving may activate the basic emotion of fear and the accompanying high-intensity neurobiological reactions. However, if language, learning, and another 30 ms enable you to recognize and label the object as a harmless garden snake (i.e., construct an emotion schema), you might even take it gently into your hands rather than engage in extreme behavior. The concomitant change in

Izard 2009: 10

◆ Not much agreement on what **emotion** is, so I won't really be able to settle it. The general agreement in psychology seems to be the following, according to Izard (2009):

- Emotions have an infrastructure that includes neural systems dedicated, at least in part, to emotion processes and that emotions motivate cognition and action and recruit response systems.

 A lively discussion centered on the question of universality (Ekman 1994; Izard 1994; Russell 1994, 1995). In an empirical response to that debate, Haidt & Keltner (1999) obtained evidence in the United States and India that was consistent with both proponents and critics. **One interesting finding was a "gradient of recognition": Some emotions are more "recognizable" than others, and the gradient is steep enough that the recognizable fades into the unrecognizable. (Because the term "recognition" presupposes that the emotion is present in the stimulus to be recognized, a neutral term such as "attribution" would be preferable.) Attribution depends on the similarity between the sender's and the receiver's language and culture [see Russell (1991, 1994) and Elfenbein & Ambady (2002) for facial FEs; Scherer et al. (2001b) for vocal ones].** Attribution of the specific emotion predicted by Tomkins's (1962) theory also declines as one moves further from a Western cultural background. With participants isolated from Western ways, agreement that smiles indicate something positive is high, but agreement on what emotion to attribute to other facial expressions is low and may or may not exceed chance when method artifacts are eliminated (Russell 1994).

Russell et al 2003:333

📖 Interpretation depends on the receiver's current affective state (Niedenthal et al 2000).

The expression of emotion alters the degree of cooperation, dominance/submission, antagonism, etc of subsequent interactions (Zivin 1977, Tiedens 2001; see other references in Russell et al 2003: 335).

★ Maybe receivers are really just tracking valence (pleasure/displeasure) and activation (sleepy-hyperactive). For voice, activation dominates, valence is weak. For faces, both are easy.

🔍 ○ Oh! Thinking of language in terms of activation (not valence) helps explain Potts' data.

Russell et al (2003) talk about all the different meanings of laughter. We might think of them as describing an **indexical field**:

- anger and anxiety (Darwin 1872),
- self-deprecation (Glenn 1991/1992),
- being the object of attention (Martin and Gray 1996),
- appeasement/submission (Deacon 1997, Adams and Kirkevold 1978, Dovidio et al 1988, Grammer and Eibl-Eibesfeldt 1990) and
- sexual interest (Grammer 1990, Grammer and Eibl-Eibesfeldt 1990, Dunbar 1996).
- To join these together we might say that laughter elicits cooperation and positive relationship with a specific receiver (Owren and Bachorowski 2001).

Izzard (2009) summary

Izzard (2009) is the researcher behind Differential Emotions Theory.

★ "Emotion and cognition, though often treated correctly as having functionally separate features and influences...are interactive and integrated or mingled in the brain...This thesis is consistent with the long-standing recognition of the high degree of connectivity among the brain's neural structures and systems. I hypothesize that emotions will have substantial and measurable effects on cognition and action when the stimulus or situation is a personally or socially significant one." (Izzard 2009: 3)

▪ This contrasts with extreme constructivist positions like Barrett (2006), which "define or locate emotion at the level of perception and apparently have no place for the idea of interactions among distinct features of emotion (e.g., motivation/feeling) and cognition (e.g., higher-order conceptual processes)." (Izzard 2009: 3)

▪ DET is similar to componential-dynamic approaches (Ellsworth 1994, Scherer 2000) from the standpoint that it sees things in terms of continuously changing aspects or configurations of mental processes. This means you don't really have pure cognitive or pure emotion states.

▪ Izzard goes over his seven principles (page 3), but the most interesting for us are:

□ References to adaptiveness have to do with interlocutors and situations.

★ □ Consciousness and awareness are also made relative to other people. (This is probably supported by evidence that infants experience/express emotions long before they have a concept of self (Izzard et al 1995) and emotion also happens in children without a cerebral cortex (Merker 2007).)

★* □ "The emotion of interest is continually present in the normal mind under normal conditions, and it is the central motivation for engagement in creative and constructive endeavors and for the sense of well-being. Interest and its interaction with other emotions account for selective attention, which in turn influences all other mental processes." (Izzard 2009: 4)

★* □ Emotion feeling should be viewed as a phase (not a consequence) of the neurobiological activity or body expression of emotion. (Izzard 2009: 4). Like any other neurobiological activity, it varies in intensity.

□ Perceptual and conceptual processes and consciousness itself are more like effects of emotions than sources of their origin..."Emotion feelings can be activated and influenced by perceptual, appraisal, conceptual, and noncognitive processes (Izzard 1993), but cannot be created by them" (Izzard 2009: 5).

□ Behavior is goal-oriented

Izzard believes there is a critical need to distinguish:

- Basic positive and basic negative emotions
- Brief basic emotion episodes and emotion schemas

settle it. The general agreement in psychology seems to be the following, according to Izard (2009):

- Emotions have an infrastructure that includes neural systems dedicated, at least in part, to emotion processes and that emotions motivate cognition and action and recruit response systems.

Access consciousness: "A level of awareness that includes verbally reportable content" (Izzard 2009: 5). May be synonymous with Giddens' discursive consciousness, I think.

Entrainment: Harmonious synchronization of neural processes.

References to check out

and researchers have verified at the behavioral and neural levels the positive effects of linking words to discrete emotion expressions and feelings. (L. Greenberg & Pavio 1997, Izard 1971, Izard et al. 2008a, Kennedy-Moore & Watson 1999, Lieberman et al. 2007). Major among the

See these references from Izard (2009: 15)

See Schröder (2000) about the emotion of vocal outbursts ("yuck!")

See also Cognitive-Affective Personality System (CAPS) by Mischel and Shoda 1995, 1998. Izard 2009: 9 says why DET's a little better.

Consider **memes** (Dawkins 1989), which "serve unique adaptive functions in social interactions" (Izzard 2009: 18).

Some good references for analyzing emotion outside of actors:

- Gregory and Webster 1996
- Trouvain and Barry 2000

📖 Is emotion a form of **information**? Clore et al 2001, Schwarz and Clore 1983

Third, many psychologists remain reluctant to attribute to emotion a significant causal role in ordinary as well as critical thinking, decision making, and action despite a growing body of evidence to the contrary" (e.g., Bechara et al. 2000, De Martino et al. 2006, Lerner & Tiedens 2006, Miller 2006, Naqvi et al. 2006). Fourth,

See these references from Izzard (2009)

Potential resources on consciousness? Lambie and Marcel 2002, Merker 2007

The theory of basic emotions has also been cogently criticized (Turner & Ortony 1992), and new conceptions of emotion have emerged (Russell 2003). **These conceptions include an emphasis on multicomponent dynamic processes, faced with cognition (Scherer 2001, Smith & Kirby 2001), with a looser, more malleable and context-dependent relation among the components (Bradley & Lang 2000b) and with a role for broad primitive affective dimensions such as pleasure-displeasure and activation (Russell & Feldman-Barrett 1999, Davidson 2000).**

Get these references from Russell et al 2003: 331

Miscellaneous

I think of OT and its ideas of constraints for creativity and re-rankings. Expectations, differences for learning, attentions. Meter and correspondence? Rose and Walker's correspondence theory is about partial correspondence. Interesting!

Idea that interest is basic and constant needs testing.

Labeling does seem to help, and that's why clinicians have been helping with emotion labels for years.

The difficulty in describing emotion feelings: Langer 1967/1982 (maybe Langer says it's possible?, the ref is given as a cf).

Spontaneous vs. volitional smiles?

? LTAS for long-term average spectrum, better measure?

Measurements of vocal acoustics are guided by the source-filter model developed in the 1950s.

"Psychoanalysis offers a major explanation of the complex manner in which object choices, object losses, and psychosexual stages are related to behavior through unconscious processes of **reaction formation, repression, projection, and identification**" (Rabow 1983: 568).

In the brain and cognition

What's involved:

- Brain stem
- Amygdala (fear, for example)
- Insula
- Anterior cingulate
- Orbitofrontal cortices
- See Damasio 2003, Lane et al 1997, Panksepp 2003a, b

But Izard still wants to keep emotion and cognition separate, though I don't understand why. For him, though, emotion remains primarily about motivation. "Cognition (particularly about goal concepts that typically have an emotion component) may be conceived as having a motivational aspect, but it remains primarily about knowledge." (Izard 2009: 18).

Sender's cognitive state also includes (Smith and Scott 1997):

- * ▪ Attention
- Uncertainty
- Puzzlement
- Determination
- Anticipated effort
- * ▪ Registration of novelty
- Sense of control
- I note that that these have emotional consequences and entanglements based on cultural expectations.

Continuously, consciousness, MNS

★ Emotions are, at the bottom, **sensations**. That generates a state of consciousness, so it's always registers in phenomenal consciousness. (Izard 2009: 12)

- * Izard recruits the notion of continual emotion-cognition interaction as a way to explain **selective attention**, which is necessary for exploration, learning, as well as higher-order cognition and sequences of organized behavior (Izard 2009: 18).
 - The idea of continuous emotion is difficult to prove, though technology may be getting closer. See also Bacon 1620/1968.

Russell (2003) proposed that core affect is continuous in the brain and provides information on the pleasure/displeasure and arousal value of stimuli. In contrast, I have maintained that a discrete emotion or pattern of interacting emotions are always present (though not necessarily labeled or articulated) in the conscious brain (Izard 1977, ch. 6; Izard 2007a,b). Barrett

Izard 2009: 4

★ "Dividing the mind and all mental processes into two domains--**conscious and unconscious**--might be the greatest oversimplification in current psychological science" (Izard 2009: 17). He proposes levels of awareness.

- How can an **inaccessible** level of consciousness about an emotion remain functional and motivational without being symbolized and made accessible to reflective consciousness via language? (Izard 2009: 13's question).
- Once you can talk about it, you can use it in emotion management, self-regulation, other executive functions (Izard et al 2008a).
- Low intensity doesn't mean unconscious.
- Swanson would say that a behavioral process is unconscious if the person (a) has never been aware of it or (b) has ceased to be aware of it through interference from others (Rabow 1983: 571).
- "While both Swanson and Parsons believe that meaning and affect are important for the organization of social action, at no point for these authors can meaning be (as it could for Freud) unconscious" (Rabow 1983: 566).

"Several factors have contributed to the general neglect of phenomenal consciousness in psychological theory and research. The first is a long-standing reluctance to acknowledge the extent to which emotions drive cognition and action and the possibility that some of the driving emotions register only in phenomenal consciousness" (Izard 2009: 16).

📖 **Unconsciousness** as a dustbin for unexplainable: Kihlstrom 1999, see also Bargh and Morsella (2008).

- Usually it's about unawareness, not with sensation and virtually nonphysical, making it kind of Cartesian dualism.
- Parsons tried to make the unconscious knowable and reconcile psychoanalysis and sociology. Maybe see Bocock for someone actually likely to try to bring in the unconscious? See also Miller and Swanson (1960).
- Gabriel, Y. 1982. The fate of the unconscious in the human sciences. *Psychoanal. Q.* 51:246-83.
- Platt, G. M. 1980. Thoughts on a theory of collection action: Language, affect, and ideology in revolution. In *New Directions in Psychohistory*, ed. M. Albin, pp. 69-94. Lexington, MA: Lexington Books.

🔗 There's also a notion that emotions are **episodic** and afterwards the mind is free for purely rational processes. Against pure **reason**: Creighton 1921, Langer 1967/1982.

📖 For more about the mirror neuron system: Dapretto et al 2006, Keysers and Perrett

kind of prescience. Feelings may predict the effect of future simulations by anticipating the link between future critical situations and subsequent emotion experiences and needs, e.g., danger → fear → safety or loss → sadness → social support (cf. Langer 1967/1982, Vol. 1, p. 101). Such anticipatory activities can facilitate the socialization processes associated with the learning of emotion-related social skills in an imagined or "as if" world.

Izard 2009: 6

From the structure of emotions it is possible to explain the unique development of personality while simultaneously accounting for social order. He maintained that all levels of the personality-id, ego, and superego-are open to the internalization of the commonly shared objects, symbols, rules, and values of society. Thus id impulses and affects are not a direct or independent expression of drives or instincts but can only be symbolically generated and adapted to a particular social order. In this view, there is no antagonism. The id does not function independently, having no demands and wishes of its own.

Rabow (1983: 566)

2004.

- ★ "The MNS apparently translates one's sensory-perceptual experiences and accompanying conceptions of the expressions and movements of others into patterns of neural activity in the observer...This neural activity and its products help the observer to understand and predict the thoughts and feelings of the observed person" (Izard 2009: 19).

In general, receivers mimic emotional expressions (Hatfield et al 1992). And they alter the receiver's self-reported affect (Bachorowski and Owren 2001). (So do sirens, thunder, infant's cries, etc.) Context alters affect (Neumann and Strack 2000).

- Faces do this even when presented nonconsciously (Dimberg et al 2000). For consciously seen: Wild et al 2001.

★ **Imitation** may activate the neural and sensory motor processes that increase the likelihood of experience the emotion (and action tendencies) of the other person. See Izard 1990 and Niedenthal 2007.

- 📖 ▪ For the idea that emotions are contagious, see Hatfield et al 1993, Tomkins 1962.
- Attention grabbing and motivational power

! "The motivational, cue-producing, and informational functions of feelings enable them to entrain, or simplify and organize, what might become (particularly in challenging situations) an overwhelming number of impulses into focused cognitive processes and a few adaptive actions" (Izard 2009: 6).

- ! ▪ "Such feeling-mediated entrainment of impulses across situations and developmental time facilitates the formation of feeling-cognition-action patterns that constitute individuation--the organization of traits and their assembly into a unique personality" (Izard 2009: 6).

* Izard hypothesizes that "the brain automatically generates the emotion of interest to capture and sustain attention to particular objects, events, and goals. This mode of operation is standard when the brain is not responding to internal or external conditions that activate other emotions, emotion schemas, or emotion-cognition-environment interactions (Izard 2007a; cf Panksepp 2003a,b)." (Izard 2009: 18)