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The Evolution of Empathy Research: Models, Muddles, and Mechanisms

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Abstract

The word empathy enters the English language in 1909, translated incompletely from German by a British-born psychologist interested in introspection. In the ensuing 100+ years, the term has been defined in a range of different ways by researchers and scholars. The biopsychosocial framework developed by George Engel comes closest to capturing empathy as a biological, psychological and social phenomenon. In this paper, I explore the psychological and social/communicative dimensions of empathy. Psychologists ask the question, How does the *capacity* for empathy vary across individuals? By contrast, interaction scholars ask, How is empathy communicated from one person (a healthcare provider) to another (a sufferer)? A communication focus involves the accuracy and impact of empathic communication as evidenced in a *sufferer's* response. The two views of empathy, as a quality or capacity or as co-created in interaction, are contradictory, and are a source of confusion and contentiousness in the research literature. As in theoretical physics, where an as yet unresolved 80 year controversy has marked the debate about whether light is a particle or wave, research on empathy will likely remain paradoxical, unresolved and a source of creativity and innovation in the science and art of human caring.

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Introduction:

> "*It seems as though we must use sometimes the one theory [of matter] and sometimes the other, while at times we may use either. We are faced with a new kind of difficulty. We have two contradictory pictures of reality; separately neither of them fully explains the phenomena of light, but together they do.*"[1]

In their book**,** The Evolution of Physics, Einstein and Infeld describe a particularly thorny issue for theoretical physicists known as the particle duality problem.[1] The "problem" is that, according to the laws of classical physics, it is possible to describe light as particle-like, and *also* to describe it as wave-like. The duality is incorrigible because it invokes two contradictory definitions of the same phenomenon, a seeming impossibility in the physical world. A famous argument between two giants of the field, Niels Bohr and Albert Einstein, has failed to solve the duality problem some eighty years on.[2]

Contradictory models of the "same" phenomenon represents a scientific paradox, the tension of two opposites that, in principle, cannot be reconciled. About scientific paradoxes others have commented: "Essentially, every model is wrong but some are useful". [3] In this brief article, I will explore a paradox that is inherent in empathy research by describing two competing models, their utility and their limitations.

In the Beginning: The Challenge of Defining Empathy:

Ask most academicians who *don't* study empathy, "How old is the word empathy?" and you are likely to hear responses like, "hundreds or thousands of years old". In fact, the history of empathy is surprisingly brief. The English word "empathy" entered the lexicon in the early 20th Century although notions of compassion and concern for patients' well-being date back at least to the ancient Greek physicians.

Ancient ideals of caring non-withstanding, a precise definition of empathy as a contemporary concept in clinical practice and education has been elusive. For example, a recent query on Wikipedia returned 14 different competing, and sometimes contradictory, definitions. The lack of precision and consensus is especially troublesome for researchers who wish to employ systematic methods for studying a given phenomenon. Nor does a literal translation of the word empathy, from the Ancient Greek, *empatheia*, "physical affection, passion, partiality", and *pathos*, "passion" or "suffering", help in explaining the wide variation in contemporary definitions.

One reason for the confusion may be that the English term "empathy" actually has its origins in an incomplete translation of the German word, "Einfühlung", (roughly meaning, "to feel into,") which made its first appearance in an 1873 German doctoral thesis by Robert Vischer entitled, *On the Optical Sense of Form: A Contribution to Aesthetics*.[4] Vischer's thesis was rooted in the philosophical tradition of idealism and applied to understanding the built environment. Its original meaning had no connection whatsoever to human suffering and the capacity or ability to respond. The word "empathy" was coined in 1909 by Edward Tichener who was a British-born psychologist teaching at Cornell University. Tichener's definition of empathy was based on his philosophical musings about introspection, but was not based on empirical research.[4] Given its intellectual history, it is perhaps not that surprising that there continues to be so little agreement about how to define and study empathy.

Two Models, Two Methods, Two Truths?

Model 1: Empathic Capacity

Like theoretical physicists, medical educators and social scientists have been debating the nature of empathy and how to study it for the past five decades.[5] Some advocates believe that empathy is a cognitive phenomenon, a capacity that resides in the individual, varies, and is mutable. Researchers in this tradition, for example, have measured empathic capacity in medical students and found significant declines during the third year.[6] The third year coincides with immersion in clinical work where long hours, sleep deprivation, heavy workloads, negative role models and tending to very sick patients, may lower students' capacity for empathy. Reduced capacity is concerning because it suggests that third year students may be losing their ability to connect with their patients and treat them humanely. In addition to affecting psychological and social dimensions of care, recent studies have found a positive association between a widely used measure of cognitive empathy and biomedical outcomes of care in diabetes.[7]

The question of how empathic capacity plays out in actual clinical conversations is less clear in this research tradition. To be fair, for some researchers, the enactment of a behavior like empathy is less interesting than measuring variations in capacity. Understanding sociopathic behavior, for example, is more likely a matter of a lack of capacity for empathy than conversational competence. At the same time, it is worth noting that the tools used to measure empathic capacity in clinical conversations (where language is the medium of exchange), are not well suited to studying the dynamics of clinical encounters. This is because item response sets for most measures are based upon self-reported retrospective reconstructions (memories) of events and experiences. A brief example illustrates at least one of the methodological limitations of this approach:

As part of a physical diagnosis course at Wayne State University, we designed a small group experience in which second year students were videotaped conducting a brief interview with a standardized patient. Video review was the basis for feedback and discussion. Prior to seeing themselves on tape students were asked to report on their experience of the interview. Frequent responses included: "I was extremely nervous," "my voice was quavering," "my mouth felt like cotton and I could hardly speak," "I was shaking so hard I'm sure the patient could hear my knees knocking together". At this point, the faculty facilitator would hand the student the remote control and instruct them to stop the tape at *any* point at which they could see the behaviors they had reported. Almost without exception, and to their surprise, no visible evidence could be found on the tapes. In essence, what the students were experiencing internally and what they were expressing externally were two different things.

Likewise, what I may be feeling in terms of my capacity for empathy may be different in kind, not just degree, from what I express in a conversation with someone who is suffering. In other words, I may feel empathy without actually demonstrating it.

In summary, the underlying assumption and value of Model 1 is that it treats empathy as an individual capacity that has psychometrically sound properties allowing for measurement and analysis of variation across populations. As well, it is sensitive to external factors like stress, and is associated with some biomedical and functional outcomes of care in clinical practice. The challenge and paradox of Model 1 is that while a clinician might score well on a checklist of cognitive empathy, they might simultaneously leave a patient feeling an absence of empathic communication.

Model 2: Empathic Communication (EC)

On the other side of the coin, some researchers argue that empathy is a visible communication behavior that is enacted when a clinician recognizes and responds to another person's suffering. EC is achieved through conversational interaction comprised of talk, touch, eye gaze and other paralinguistic cues that are responsive to hints or frank expressions of emotion on the part of a patient/sufferer.[8] As compared with sympathy, which is seen as reflexive (and to a much greater degree under autonomic control), EC is seen as volitional (and to a much greater degree under conscious control).

In its most basic form, EC has four constituents:

1. Recognizing Emotions- The ability to "read" a sufferer's emotions and hints at emotion, often based on linguistic information, e.g., the use of words that have or imply positive or negative emotion. Non-verbal cues such as facial expression, body posture, eye gaze, and other extra-linguistic cues such as dress, odor, gait, etc. are also important elements of recognition.

2. Sorting- Drawing inferences and assigning meaning to the stream and structure of behavior as it emerges in interaction.

3. Responding- Enacting a response (e.g., empathy, reassurance, support) that is tailored and specific to local interactional context.

4. Listening for Evidence of Accuracy- While the capacity for empathy is viewed in Model 1 as a property of the *individual*, who has it to a greater or lesser degree, EC is viewed as an emergent property of the *interaction*. As a result, evidence for the effectiveness of an enacted behavior depends upon listening to the response it produces in the sufferer and acting accordingly.

Two examples illustrate how EC operates: one in which empathy is acknowledge as being accurate; the other in which a similar attempt at empathy is rejected.

Example 1: Accurate Empathy

1. Patient: My neighbor had the same thing (breast cancer) and she had to have
2. chemotherapy but she waited too long to see her doctor and it was too late
3. when she finally did.
4. Doctor: I can imagine that might be scary for you.
5. Patient: That's right. It IS scary, but I think I'm blessed because my cancer hasn't
6. come back. But I know if it does, I can go through the pain because I've
7. got my family and God on my side.

At lines 1-3, the sufferer mentions a neighbor who had the same condition as she (breast cancer) and goes on to state that unlike her, the neighbor waited until too long and presumably failed the treatment. The contrast between herself and her neighbor is what conversation analysts call a "bright side telling". That is, one point of the story is to illustrate the advantage the teller has compared with another who was less fortunate. At the same time, the story carries with it an implied emotional valence. At line 4, the doctor responds empathically, but cautiously, prefacing her hypothesis about the emotion it might be with a hypothetical, "I can imagine," followed by the emotion word, "scary". In lines 5-7 the patient emphatically acknowledges the accuracy of the doctor's hypothesis and goes on to provide additional information about her emotional state and

how she is coping. Both the emphatic acknowledgment and the progressivity of the topic are evidence of the doctor's accurate reading of the sufferer's implied emotional state and her choice of responses.

Example 2: Empathic Response Rejected

1. Pt: My husband of 67 years passed away last week.
2. Dr: Oh my goodness. I am so sorry. This must be awful for you having been
3. married for such a long time.
4. Pt: Well, actually, he had dementia for the last 15 years and it was hard work
5. tending to his needs at home because his insurance ran out. It was actually kind of
6. a relief when he passed.

In line 1, the sufferer asserts that she has recently experienced a loss. As in the first example, the emotion (positive/negative) is implied rather than explicit. The physician first expresses surprise, and then adds what clearly seems designed as an attempt to empathize with the sufferer based on the assumption that the loss implies a negative emotional state. At lines 4-6 the sufferer rejects the doctor's characterization as inaccurate and instead suggests that far from being awful it is actually a relief. Importantly, from an interactional perspective, an inaccurate reading of a sufferer's expressed or implied emotional state is less a "mistake" than a signpost for how to proceed in adjusting the conversation to the sufferer's needs, an approach that has been described as "moving beyond empathy" in the context of cancer care.[9]

To summarize, when considered in isolation (on a behavioral checklist, for example) both doctors would receive credit for making empathic statements. By adding the interactional context, however, it becomes apparent that the criterion for empathic accuracy/effectiveness lies in the sequence of exchanges not simply the words in isolation. The strength of Model 2 is its specificity in describing what might be true in local interactional circumstances; its weakness is that it is impossible to move from the particulars of one interaction and generalize to what might true for all interactions.

Conclusion:

Currently, the gulf between models of cognitive empathy and empathic communication remain widely divergent with muddled assumptions, claims and methods. Like the particle duality problem in theoretical physics, 50 years of study does not seem to have brought resolution or consensus to the problem. An emerging area of neurobiological research may hold a key to developing an integrated biopsychosocial model of empathy.[10] Until then, we can take solace in the fact that empathy researchers, like Bohr and Einstein, share a common core of scientific and personal respect for one another as we struggle with the paradox of how best to help healthcare professionals effectively respond to those who are suffering.

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