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ABSTRACT

This paper presents a theoretical model of empathy in which empathy is defined as a largely involuntary vicarious response to affective cues from another person or from his situation. The model has three components: affective, cognitive, and motivational. In the presentation of the affective component, five distinct models of empathic affect arousal are discussed in their approximate order of appearance developmentally. The discussion of the cognitive component includes a review of the development of the sense of other. In the presentation of the motivation component, the research on empathy and prosocial behavior is summarized. (JMB)

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A Three Component Model of Empathy

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I have for some time been constructing a theoretical model of empathy, defined as a largely involuntary vicarious response to affective cues from another person or from his situation (See Hoffman, 1975, 1976). In the model empathy has 3 components: an affective, a cognitive, and a motivational component. The focus is on empathic distress, which is pertinent to prosocial motivation, although I assume the model also bears on other empathically aroused affects. I will now briefly summarize the most recent version of the model bringing in relevant findings where possible (For a full treatment see Hoffman, In press a, b).

We begin with the affective component. There are at least 5 distinct modes of empathic affect arousal, which I will present roughly in order of their appearance developmentally.

1. First, there is evidence that 1- and 2-day old infants will cry in response to the sound of another infant's cry (Sagi & Hoffman, 1976; Simner, 1971). Furthermore, this reflexive cry is not merely a response to a noxious stimulus, since the infants do not cry as much to equally loud nonhuman sounds including computer simulated infant cries. Nor is it a simple imitative vocal response lacking an affective component. Rather, it is vigorous, intense, and in all observable respects resembles a spontaneous cry. Thus it must be considered as a possible early precursor of empathic arousal, though not a full empathic response since it lacks a cognitive component.

2. The second mode of empathic arousal, which requires some perceptual discrimination capability and therefore appears a bit later than the reflexive newborn cry, is a type of classical conditioning of empathy that results from the bodily transfer of the caretaker's affective state to the infant through physical handling. For example, when the mother experiences distress, her body may stiffen, with the result that the child (if he is being handled at that time) also experiences distress. Subsequently, the mother's facial and verbal expressions that initially accompanied her distress can serve as conditioned stimuli that evoke the distress response in the child. Furthermore, through stimulus generalization, similar expressions by other persons become capable of evoking distress in the child.

3. The third mode of empathic arousal is a more general variant of the classical conditioning paradigm. It does not require physical mediation through caretaker handling, and holds that cues of pain or pleasure from another person or from his situation can evoke associations with the observer's own past pain or pleasure, resulting in an empathic affective reaction (e.g., Humphrey, 1922). A simple example is the child who cuts himself, feels the pain, and cries. Later, on seeing another child cut himself and cry, the sight of blood, the sound of the cry, or any other distress cue or aspect of the situation having elements in common with his own prior pain experience can now elicit the unpleasant affect initially associated with that experience.

4. The fourth mode of empathic arousal is Lipps' idea that the expression of emotion in one individual is the innate adequate stimulus for the same emotion in the observer. According to Lipps (1906), the observer automatically imitates the other person with slight movements in posture and facial expression ("motor

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mimicry"), thus creating in himself inner cues that contribute, through afferent feedback, to his understanding and experiencing of the other person's affect. Though this theory has been ignored over the years, there is recent, modest support for it. The evidence for motor mimicry comes from studies showing that people engage in increased lip activity and increased frequency of eyeblink responses when observing models who stutter or blink their eyes (Berger & Hadley, 1975; Bernal & Berger, 1976). The evidence for afferent feedback is that various emotions appear to be accompanied by different patterns of facial muscle activity and different degrees of tone in the skeletal muscles (e.g., the loss in muscle tone which accompanies sadness is associated with characteristic postures which are diametrically opposed to those seen in a happy mood [Gelhorn, 1964; Izard, 1971]). There is also recent evidence that cues from one's facial musculature may contribute to the actual experience of an emotion. In a series of remarkable experiments by Laird (1974) subjects were instructed to contract their facial muscles, one at a time, and thus arrange them into positions that correspond to "smiles" or "frowns". For example, the experimenter touched the subject lightly with an electrode between the eyebrows and said "Pull your brows down and together ...good now hold it like that". The subjects reported feeling more angry when their faces were set in the frown position and more happy when their faces were set in the smile position even though they were unaware of frowning or smiling. They also reported that cartoons viewed when smiling were more humorous than cartoons viewed when frowning. Though further research is needed to find out if motor mimicry occurs not only for eyeblinks and stuttering but also for the facial muscle patternings associated with different emotions, the findings thus far justify considering it as a possible mechanism of empathic arousal.

5. The fifth mode of empathic arousal is that of imagining how it would feel if the stimuli impinging on the other person were impinging on oneself. In a study by Mathew & Stotland, 1973, nursing students watched a training film in which a severely ill patient, followed from the time of entry into the hospital, finally dies. Those who indicated previously that they often imagine themselves in the other person's place (in the movies, for example) showed more palmer sweat if they imagined themselves in the place of the dying woman. In another study (Stotland, 1969) subjects instructed to imagine how they would feel and what sensations they would have in their hands if exposed to the same painful heat treatment being applied to another person, gave more evidence of empathic distress, both physiologically and verbally, than subjects instructed to imagine how the <u>other</u> person felt when he was undergoing the treatment. This suggests to me that the process of imagining oneself in another's place may often produce an empathic affective response because it has the power to evoke associations between the stimuli acting on the other person and real events in the observer's own past in which he actually experienced the affect in question. Cognitive processes are obviously dominant in this type of empathic arousal since it is triggered by an imaginative restructuring of events. Cognitive dominance is also indicated by Stotland's (1969) finding that the palmer sweat response of subjects instructed to imagine themselves in the other's place did not begin to increase until as much as 30 seconds after the experimenter announced that the painful heat was being applied to the victim. This suggests that empathic affect may sometimes be linked to the imagined stimuli impinging on the self, rather than to the stimulus events as directly perceived. That is, the imagining process makes the empathic affect somewhat independent of the stimuli impinging on the model.

These five modes of empathic arousal do not, in my view, form a stage sequence. The first two probably operate in infancy and are superceded by the others. The remaining three, however, once operative, may continue to function throughout life, and indeed, all three may at times operate in the same situation.

Now for the cognitive component of empathy. First I should note that cognitive processes did enter into the discussion of the affective component. This is because cognition must often mediate between the facial and situational cues of the model, and the affect aroused in the observer. The role of cognitive mediation is even more apparent when the observer is empathically aroused by someone's verbal or written communication about his feeling or situation, or by information supplied about the model by a third person when the model is absent. What I mean by the cognitive component, however, is something more fundamental to empathy. That is, since empathy is a response to another person's situation the mature empathizer knows that the source of his affect is something happening to another person, and he has a sense of what the other person is feeling. The young child who lacks a self-other distinction does not have these cognitions. Thus how a person experiences empathy depends on the level at which he cognizes others, which undergoes dramatic changes developmentally. To summarize the research: for most of the first year, the child appears to experience a fusion of self and other. By about 12 months, he attains "person permanence" and becomes aware of others as physical entities distinct from the self. By 2 or 3 years, he acquires a rudimentary sense of others as having inner states independent of his own. And by midchildhood, he is aware that others have personal identities and life experiences beyond the immediate situation.

It seems clear to me that the level of cognizing others must be so intrinsic a part of empathic arousal that it alters the very quality of the observer's affective experience. More specifically, once a person is aware of others as distinct from the self, his empathic distress, which is a parallel response, that is, a more or less exact replication of the victim's actual feelings of distress, may be transformed at least in part into a more reciprocal feeling of concern for the victim. This transformation is in keeping with how people report they feel when observing someone in distress. Namely, they continue to respond in a purely empathic manner, to feel uncomfortable and highly distressed themselves, but they also have a feeling of compassion, or what I call sympathetic distress, for the victim, along with a felt desire to help because they feel sorry for him, not just to relieve their own empathic distress.

In young children, only a part of the empathic distress may be transformed into sympathetic distress. As a charming illustration, which I often cite, consider the child whose typical response to his own distress, beginning late in the first year, was to suck his thumb with one hand and pull his ear with the other. At 12 months, on seeing a sad look on his father's face, he proceeded to look sad and suck his thumb, while pulling his father's ear. With further advances in social cognition and a sharpened sense of the other, the transformation of empathic distress into sympathetic distress should become more complete, although there is evidence that an element of pure empathic distress may remain even in adulthood. This is suggested by Stotland's report that nurses often experience conflict between feelings of sympathy which include an intense desire to help their severely ill patients, and their own empathic distress which makes it difficult at times even to stay in the same room with them. Stotland's finding also suggests that sympathetic distress may be a more reliable prosocial motive than pure empathic distress.

This brings us to our next topic, the motivational component of empathy, and, more specifically, to the relation between empathic distress and prosocial action. I agree with other writers that empathic distress may often function as a prosocial motive because it is an aversive state which can often best be alleviated by giving help to the victim. I do not regard empathic distress as an egoistic motive, however, because with the transformation of empathic into sympathetic distress the

conscious aim of the person's action is changed from relieving his "own" empathic discomfort to relieving the distress perceived in the other. His motive to help is now more genuinely prosocial.

I have recently reviewed, and will now briefly summarize the research on empathy and prosocial behavior. First, the correlational research can only be described as inconclusive. For example, in preschool samples, empathic children appear to be more apt to comfort others in distress but they also have been found to be more aggressive (Murphy, 1937; Feshbach & Fechbach, 1969); and empathy has not been found to correlate with cooperative behavior (Levine & Hoffman, 1975). A possible explanation for this weak pattern of findings in preschool children is suggested in the study by Levine and Hoffman in which it appears that the empathic capability of young children may not often be engaged because their attention is easily captured by other, more or less irrelevent situational demands such as the emperimenter's instructions.

A recent study of 5-year olds by Kameya (1976) is worth noting. He found no correlation between empathy and any of several measures of prosocial behavior. However, among the subjects who volunteered to color pictures for hospitalized children (one of the prosocial measures), those who actually took the pictures with them and showed signs of following through on their promise did have high empathy scores. This was the only altruism index involving considerable self-sacrifice (the subjects were told they would have to do the coloring during two successive recess periods while the other children were playing). This suggests that although empathy may not often be engaged in young children, when it is engaged it may serve as a rather effective prosocial motive.

The experimental research, all on adults, together with some naturalistic observations of children in preschool settings, provides far more consistent support for the relation between empathic arousal and prosocial action. The findings can be summarized, and arranged developmentally, as follows: (a) very young children typically respond empathically to another's distress but often do nothing or act inappropriately, probably because they lack the necessary cognitive and behavioral skills, (b) older children and adults also respond empathically but this is usually followed by appropriate helping behavior; (c) with children as well as adults there appears to be a drop in empathic arousal following an act of helping, and a continuation of the arousal if there is no overt attempt to help. These findings as a group fit exactly the pattern we would expect if empathic, or sympathetic distress did serve as a prosocial motive.

Empathic arousal does not of course guarantee altruistic action. Competing egoistic motives, for example may often override altruistic motives (e.g., Hoffman, 1970; Staub, 1970). Furthermore, since empathic distress may under certain conditions be extremely aversive, it might direct the observer's attention to himself and thus actually decrease the likelihood of an altruistic act. Consider one of Kameya's experimental groups who were presented with several stories involving children who were ill, dperived, in pain, or combinations of these. They took turns playing each of the roles and then discussed the feelings of the story children. In this experimental group empathy (based on the Feshbach-Roe measure) was found to relate <u>negatively</u> to one of the helping behaviors. Kameya suggests that the experimental treatment, though designed to improve the children's role-taking skills, may have instead evoked extreme empathic distress, especially in the high empathy subjects, thus accounting for the negative relation. Perhaps there is an optimal range of empathic arousal--determined by the individual's level of distress tolerance--within which he is most responsive to others. Beyond this range, he may be too self-preoccupied to

help. Or, he might employ certain perceptual and cognitive strategies to reduce the empathic distress itself. Here is an illustrative quote from one of Bandura and Rosenthal's (1966) adult subjects who were given a strong dose of epinephrine before observing someone being administered electric shocks.

> "After the first three or four shocks, I thought about the amount of pain for the other guy. Then I began to think, to minimize my won discomfort. I recall looking at my watch, looking out the window, and checking things about the room. I recall that the victim received a shock when I was thinking about the seminar, and that I didn't seem to notice the discomfort as much in this instance".

This quote illustrates at once the involuntary dimension of empathic arousal, the empathic discomfort produced in the observer, and the use of defensive strategies to reduce the discomfort. This is obviously an important problem that needs further, more systematic work at all ages.

In conclusion, the theoretical model is as yet loose and tentative. Though consistent with available data, tests of hypotheses derived specifically from it need to be made. For example, is empathic distress transformed into sympathetic distress as the child begins to acquire a sense of the other as distinct from the self? Do childrearing practices that direct the child's attention to other people's feelings (e.g., inductive discipline techniques) contribute to sympathetic distress and altruistic behavior? or, do they contribute to a tendency to be empathically over-aroused and to use strategies designed to reduce the resulting aversive state?

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