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## Analyzing the “nature” and “specific effectiveness” of clinical empathy: A theoretical overview and contribution towards a theory-based research agenda

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### ABSTRACT

**Objective:** To establish sound empirical evidence that clinical empathy (abbreviated as CE) is a core element in the clinician–patient relationship with profound therapeutic potential, a substantial theoretical-based understanding of CE in medical care and medical education is still required. The two aims of the present paper are, therefore, (1) to give a multidisciplinary overview of the “nature” and “specific effectiveness” of CE, and (2) to use this base as a means of deriving relevant questions for a theory-based research agenda. **Method:** We made an effort to identify current and past literature about conceptual and empirical work focusing on empathy and CE, which derives from a multiplicity of disciplines. We review the material in a structured fashion. **Results:** We describe the “nature” of empathy by briefly summarizing concepts and models from sociology, psychology, social psychology, education, (social-)epidemiology, and neurosciences. To explain the “specific effectiveness” of CE for patients, we develop the “Effect model of empathic communication in the clinical encounter”, which demonstrates how an empathically communicating clinician can achieve improved patient outcomes. Both parts of theoretical findings are synthesized in a theory-based research agenda with the following key hypotheses: (1) CE is a determinant of quality in medical care, (2) clinicians biographical experiences influence their empathic behavior, and (3) CE is affected by situational factors. **Conclusion:** The main conclusions of our review are twofold. First of all, CE seems to be a fundamental determinant of quality in

medical care, because it enables the clinician to fulfill key medical tasks more accurately, thereby achieving enhanced patient health outcomes. Second, the integration of biographical experiences and situational factors as determinants of CE in medical care and medical education appears to be crucial to develop and promote CE and ultimately ensuring high-quality patient care. Practice implications: Due to the complexity and multidimensionality of CE, evidence-based investigations of the derived hypotheses require both well-designed qualitative and quantitative studies as well as an interdisciplinary research approach.

## INTRODUCTION

While clinicians acknowledge the value of empathy as a core element in high-quality patient care [1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16], [17], [18], [19] and [20], there is still a lack of providing sound empirical evidence that empathy deserves an unchallenged place in medical care and medical education. One explanation for the insufficient empirical findings is a rare synthesizing of existing multidisciplinary empathy theories, which could, in turn, lead both to a better understanding, operationalisation, and measurement of empathy as well as the ability to derive theory-guided research questions. In this way, we might be able to study clinical empathy (abbreviated as CE) through the systematic testing of theory-guided hypotheses [21]. The latter could provide sound empirical evidence of the profound therapeutic potential of CE, thus, bridging the gap between patient-centered medicine and evidence-based medicine [22]. For those reasons, the two objectives of the present paper are (1) to give a multidisciplinary theoretical overview of the “nature” and the “specific effectiveness” [23] of CE and (2) to use this theoretical base as a means of deriving relevant questions for an evidence-based empirical research in the future.

## METHOD

To reach these two study objectives, we made an effort to identify current and past literature about theories and empirical results concerning the “nature” and “specific effectiveness” of empathy and CE. So, Section 3.1 gives a multidisciplinary overview of the key theories on the “nature” of empathy, which are particularly relevant for application to CE. By reviewing prior empirical studies of CE, we develop a model in Section 3.2, which describes the “specific effectiveness” of CE. However, the content of Sections 3.1 and 3.2 are mostly independent of each other: Section 3.1 should give the reader an idea what CE is, whereas Section 3.2 should clarify, how an empathically communicating clinician can achieve improved patient outcomes. Nevertheless, both parts are required to discuss relevant research questions on CE comprising them into an agenda for future research (Section 4).

## RESULTS

### Analyzing the “nature” of empathy

#### *Empathy as an affective event*

[Empathy has its origin in the German word *Einfühlung* (“feeling into”) [24]. Lipps [25] and [26] established *Einfühlung* as a standard term in psychology and, a few years later, Titchener sought to translate Lipps’ term *Einfühlung* by coining the word empathy in English based on the Greek *empathēin* [27]. Since then various authors, who see empathy first and foremost as an affective action [28], [29], [30], [31], [32], [33], [34] and [35] have attempted to define empathy. Friedlmeier summarizes their attempts as follows: “Empathy is an

affective reaction that stems from the perception of another emotional state or situation of another person, that involves vicariously experiencing another person's situation and that is characterized by attention paid to another person's emotions" [36, p. 33]. The majority of the aforementioned authors agree with this definition. Additionally, they are of the same opinion that a prerequisite for an affective understanding of empathy is a developed self-awareness. Only through self-awareness it is possible to see the behavior of the observed person as an expression of his emotional state and to make a mental distinction between oneself and the "other self" [37, p. 170]. Hence, the majority of the authors with an affective-oriented approach presuppose that, during the empathic event, there is something that can be characterized as a partial identification of the observer with the observed. This aspect also becomes clear especially in Carl Rogers' definition, which describes empathy as being the ability "to sense the client's private world as if it were your own, but without losing the 'as if' quality" [38, p. 284]. According to this definition, the differentiation between one's own experience and the experience of another is the decisive criterion for defining affective empathy [39]. Furthermore, it is important to note that affective empathy is evoked or at least positively influenced by similarity, familiarity, or affection and that empirical studies confirm this [40], [41], [42], [43], [44] and [45].

#### *Empathy, sympathy, and compassion*

Sympathy is an area conceptually associated with affective empathy. It consists of the emotional response and thus, the experience of another person's suffering. However, a high level of sympathetic responsiveness cannot be equated with a high level of empathy. First of all, it has been discussed that empathy is rather an intellectual attribute (to know another person's concern better), whereas sympathy is rather an emotional state of mind (to feel another person's emotions better) [2], [27] and [46]. Second, when experiencing empathy, individuals are able to disentangle themselves from others, whereas individuals experiencing sympathy have difficulty maintaining a sense of whose feelings belong to whom [47] (see also Section 3.1.3).

Kohut's [48] and Batson's [49] differentiation between empathy and compassion also reflect the abovementioned distinction. Kohut [48] was eager to emphasize that, for him, empathy is a form of understanding and a "value-neutral" mode of observation; it should not be confused with being nice, kind, compassionate or loving. Batson [49] has described empathy as feeling a vicarious emotion that is congruent with, but not necessarily identical to, the emotion of another. As such, this vicarious emotion typically constitutes such other-oriented emotions as compassion, tenderness, sympathy and the like [49] and [50].

According to Hojat [2], it is the distinction between sympathy and empathy, in particular, which has significant implications for the relationship between patients and clinicians, because joining the patient's emotions can impede clinical outcomes (see Section 3.2). However, a clinician who is merely sympathetic in the clinical encounter can interfere with clinical objectivity and professional effectiveness [2]. Hojat's [51] general conclusion is, therefore, that sympathy must be restrained in clinical situations, whereas empathy does not require a restrictive boundary.

Nevertheless, it has to be acknowledged here that not everyone agrees with CE as having such primary importance to the clinician-patient relationship (see e.g. [52]).

#### *Empathy as a cognitive event*

Research on perspective and role taking deals with an ability based on cognitive functions. This ability comprises the abilities to understand, judge and analyze as well as the ability to assess the behavior, experiences and the present state of another person [39]. Kohler [53] was one of the first to argue in a more cognitive vein. Rather than continuing to focus on "feeling into" the experiences of another, he held that empathy was more the understanding of the other's feelings than the sharing of them.

Investigations relevant to a cognitive understanding of empathy project a considerably homogeneous image, which may be attributed primarily to the fact that related studies can essentially be associated with two main research traditions: The continuation of Mead's [54] "symbolic interactionism" and of Piaget's [55] theory of cognitive development. The term "role taking", coined by Mead is a process of understanding and anticipating the actions and reactions of another individual. It implies that an individual produces the perspectives of another person within himself: "The immediate effect of such role taking lies in the control which the individual is able to exercise over his own response. ... It is the ability of the person to put himself in other people's places that gives him his cues as to what he is to do in a given situation" [54, p. 301].

When taking a look at empirical research that deals with Piaget's [55] definition of "perspective taking", we also see a considerably uniform image. Here, the ability to role take is seen as an indication of overcoming childhood egocentrism. The ability of a child to see his own perspective as one of many possible perspectives is understood here as an essential condition for the ability to understand that other people can have other opinions, to comprehend how conflicts within interpersonal interactions can arise, and to recognize ways for taking the right approach to such information.

Hence, we can conclude that a prerequisite for both affective and cognitive empathy is that an individual should not be overly preoccupied with himself and his own concerns, because, if the experience is to a greater extent focused on the individual himself, then the willingness to help the other person decreases [56] and [57].

#### *Empathy as a behavior: social and emotional competence*

Wallbott [58] goes a step further by alluding the closeness of many empathy models to the concept of interactive competence, a concept which has been explored by a number of authors using both survey studies and behavioral samplings [59], [60] and [61].

In the view of Wallbott, interactive competence focuses on three main components: "First of all, the knowledge of social factors, rules and norms; secondly, the ability to act appropriately according to them; and finally, the nonverbal sensitivity or ability to recognize cues and to handle them appropriately, especially with respect to the other person's affectivity and emotions" [58, p. 371]. By adverting to empirical research on interactive competence, Wallbott ultimately alludes to two essential aspects of this topic: The impossibility of subjectively experiencing empathy without the aspect of intersubjectivity and the appreciation of empathy as a competence.

According to this characterization, empathy can more or less be used consciously and with a specific purpose. In this light, it can also be seen as a sort of tool that can be "acquired, measured, updated, topped up and handed on" [62, p. 239]. This definition also corresponds to the "general competence model" [63], which is made up of instrumental and social competence. According to this model, social competence develops from a combination of practical and social intelligence, with the latter being defined as "a person's ability to understand and to deal effectively with social and interpersonal objects and events. Included in this construct are variables such as role taking, empathic judgment, person perception" [63, p. 449]. Work and organizational psychological research, in turn, sees social competence as a key qualification for everyday work life and as a prerequisite for action [64], both of which are necessary for meeting demands in communication and cooperation [65].

Mead [54] also described empathy as an element of social intelligence. This definition is also reflected in the notion of emotional intelligence originally introduced by Salovey and Mayer [66] and later by Goleman [67], who proposed that empathy, as an ability to recognize emotions in others, is one domain of emotional intelligence. The hypothesis that empathy has a significant conceptual overlap with measures of emotional intelligence and social skills has been supported [68].

### *Empathy as a requirement for social support*

One further root of empathy is the human tendency to seek human connections and relationships. That is, “from infancy onward, relationships are vital; no human survives birth and develops normally without the physical and emotional engagement of a caregiver” [1, p. 883]. This evolutionary need has survival advantages and depends on our ability to understand others and to communicate our understanding [2] and [69]. It can be fulfilled by social institutions such as marriage, family, friends, and a social support network, which also includes the relationship between the patient and clinician [2]. However, it is the empathic connection, which is a requirement for a working social support system, described as the interpersonal resource people use to share understanding and emotions in order to develop a sense of belonging [2].

### *Empathy as a function of gender differences*

Empirical studies [2], [69], [70] and [71] consistently show that “women are endowed with a greater capacity for empathy than men because they begin demonstrating more sensitivity to social stimuli and emotional signals at an early age and because of their care-oriented qualities resulting from evolutionary history and social learning” [2, p. 141]. Therefore, it seems reasonable to hypothesize that gender differences concerning empathy could influence male and female clinicians behavior in clinical practice and in the clinician–patient relationship. Some empirical studies have confirmed this [7], [72], [73], [74], [75] and [76]. Hojat concludes [2], [77] and [78] that female physicians are, e.g., more likely than male physicians engaging patients in positive talk and discussing psychosocial issues in health and illness, using more positive statements, engaging in more verbal exchanges with patients, spending longer time with them, and are more prevention-oriented.

### *Neurophysiological indicators of empathy*

Alongside empathy research in the above-mentioned fields, neurophysiological studies have indicated that empathy serves as a function of nerve cell activities in the brain. These cells (neurons) in the brain can control a certain action (e.g., behavior or emotion) in the body and can even be activated if the same action is observed in another person. Known as mirror neurons, these nerve cells respond spontaneously, involuntarily and even without thinking. Mirror neurons use the neurobiological inventory of the observer in order to make him feel what is taking place in the person that he is observing by way of inner simulation (also known as the “Theory of Mind” [2]). Various experiments conducted by the so-called “social neurosciences” document the functioning of the mirror neurons with regard to the empathic perception of the other person [2], [47], [79], [80], [81] and [82]. The functioning of mirror neurons is, therefore, an essential prerequisite for empathy [80].

According to Bauer's [80] hypothesis, the ability to empathize is greatly dependent upon the mirror neurons being made to function sufficiently by interpersonal experiences. In the process, Bauer makes a distinction between primary and secondary acquisition of empathy. Primary acquisition is mainly a matter of it being difficult for a child to develop its own emotional resonance when it lacks the experience of others (e.g., parental figures) responding to its emotions. Hojat's study overview [2] (see also [69]) on the conditions for the development of empathy during childhood reflects Bauer's hypothesis. He concluded that both the motivation for prosocial behavior and the ability to have empathic relationships are the result of early socio-emotional exchange and lead to the development of an internal working model (“mental script”) and to the regulation of emotions, both of which function as guides to interpersonal relationships. Bowlby's [83] attachment theory supports these findings: Experiencing the world as friendly and caring or as hostile and uncaring becomes an influential property of the child's cognitive structure, serving primarily as an unconscious motivational force that significantly influences the adult's interpersonal relationships and the capacity for empathic engagement [83] and [84].

However, according to Bauer's second hypothesis [80], even an ability to empathize that is already available (secondary acquisition) can suffer severe damages namely from extreme experiences of heartlessness and brutality. Moreover, fear, tension and stress can massively reduce the signal rate of the mirror neurons: "Once pressure, fear and stress are present, everything that depends on the system of mirror neurons stops functioning: the ability to empathize, to understand others and to perceive subtleties" [80, p. 71].

The material presented in this Section 3.1 is the first pillar of the theory-based research agenda of CE and its implications are discussed in Sections Sections 4.1.2 and 4.1.3.

### **Analyzing the "specific effectiveness" of clinical empathy**

Figure 1 shows the "Effect model of empathic communication in the clinical encounter", which should help to clarify how an empathic communicating clinician can achieve improved patient outcomes. Attempts at explaining this mechanism of CE are still fairly rare yet, especially with regards to patient outcomes. Only Squier's [10] "Model of empathic understanding and adherence to treatment regimens" sheds light on the specific effectiveness of CE in terms of patient adherence. In our model (initial version see [85] M. Neumann, M. Wirtz, E. Bollschweiler, S. Mercer, M. Warm and J. Wolf et al., Determinants and patient-reported long-term outcomes of physician empathy in oncology: a structural equation modelling approach, *Patient Educ Couns* 69 (2007), pp. 63–75. We aim to revise and expand upon Squier's model. This model is a mixture of further empirical results and theory-based hypotheses marked by two kinds of arrows in Fig. 1.

#### **[FIGURE 1]**

In order to analyze the "specific effectiveness" of CE, we choose the definition of Mercer and Reynold's [86], because it is based on an emotive, moral, cognitive, and behavioral dimension and so reflects our theoretical assumptions on the "nature" of CE (see Section 3.1). The authors define CE as ...the ability

1. to understand the patient's situation, perspective and feelings (and their attached meanings),
2. to communicate that understanding and check its accuracy and
3. to act on that understanding with the patient in a helpful (therapeutic) way [86, p. S10].

According to this definition, we assume in our model that an empathic communicating clinician [7] and [86] can achieve various positive effects. For instance, the patients will talk more about their symptoms and concerns (see Fig. 1, arrow 1) [10], [87], [88], [89] and [90], thereby helping the clinician to collect more detailed medical and psychosocial information about them (arrow 2) [91], [92], [93], [94], [95], [96] and [97]. This important information obtained by the clinician then leads to a more accurate medical and psychosocial perception and ultimately to a more accurate diagnosis of typical [12], [88], [95] and [98] and atypical diseases [95], [99], [100], [101], [102] and [103] (arrow 3). What is more, this information helps the clinician to understand the individual needs of the patient and respond to them appropriately (arrow 4) [104]. One result of this is an enhanced patient-clinician communication, providing illness-related information [105] and allowing for patient participation and education (arrow 6) [86], [106] and [107]. Additionally, the clinician can support his patients "in a helpful (therapeutic) way" [86] by means of specific medical and/or psychosocial therapies (arrow 5). The end result is that patients may experience improved long-term outcomes (e.g., health status, psychological state, enablement, self-management) (arrow 7). Moreover, it is assumed that these effects of CE are more likely to take place on a cognitive and action-oriented level.

In addition to the aforementioned effects of CE, it is postulated that parallel affective-oriented effects also exist (arrows 8 and 9). Here, CE causes more emotional reactions among patients, such as the feeling that one is being listened to, valued as an individual, understood and accepted. These affective-oriented effects are based on the "basic need of the

individual... to be known and understood” [108] and [109]. “To feel known and understood is a dimension of caring and being cared for, both of which can be seen as derivative and emergent from biological processes” and are phylogenetically and ontogenetically critical for survival [108], [1] and [69] S.D. Preston and F. de Waal, Empathy: its ultimate and proximate bases, *Behav Brain Sci* 25 (2002), pp. 1–72.[69]. For a patient, the feeling of being understood by the clinician does not only mean that the clinician is his intellectual equal. It is just as important for the clinician to understand patients as fellow human beings, to understand their human aspects: “Should the physician lack human understanding and should the patient not feel understood, this could then signal a lack of reliance and trust; additionally, the patient would lack the ability and the desire to cooperate with the physician; both of these qualities are critical in assisting the physician to achieve his goal” [108, p. 9].

It is assumed that the patient's emotional reactions described here (arrows 8 and 9) can influence short-term and/or intermediate outcomes such as satisfaction, compliance, and trust (arrow 10). Interactions between the cognitive and affective-oriented effects of CE are also postulated (arrow 11) [110]. However, the supposed analytical distinction between both the effects of CE and their outcomes shows that, in most cases, the affective-oriented effect alone cannot lead to improved long-term outcomes. Nevertheless, depending on the kind of disease (e.g., psychosomatic diseases, palliative care) or concern in question, it may indeed be possible for the affective-oriented effect alone to lead directly to improved long-term outcomes (arrow 12), indirectly via the short-term and/or intermediate outcomes (arrow 13). The model developed in this Section 3.2 is the second pillar of the research agenda and its inferences are discussed in the following Section 4.1.1.

## DISCUSSION

Towards a theory-based research agenda on the “nature” and “specific effectiveness” of clinical empathy.

### *Clinical empathy as a determinant of quality in medical care*

The most important assumption of our “Effect model of empathic communication in the clinical encounter” (Figure 1) is that CE has strong positive effects on patients’ health outcomes. It is, therefore, assumed that CE is a key determinant of high-quality patient care. This model also demonstrates that being empathic is a necessary clinical procedure [111] that enables the clinician to accurately fulfill core medical tasks, such as “anamnesis, diagnosis, education, information, and therapy” [111, p. 7].

Against this background, a first step in future research should be for various disciplines to discuss, improve and expand upon this model on the theory level. Advanced qualitative methods should be used to conduct an initial validation of the model from the perspective of patients (with different kinds of diseases) and clinicians (from multiple professions and specialties). The qualitative procedure used in the study conducted by Norfolk et al. [112] appears to be a good example for performing such a validation.

In a second step, future interdisciplinary research should quantitatively evaluate the validated model in experimental and prospective study designs considering the perspective of the patient, the clinician, and the interaction between the two. In this context, it seems to be important to examine whether CE can treat causes (prevention) and/or symptoms (curing) because its ability to treat one or both of these aspects can help to accurately define its health effectiveness and also to examine its cost effectiveness [16] and [113].

However, recent explorative studies [85] and [106] verify, in part, the effects described in our model. In these studies, CE is a prerequisite for informing patients sufficiently and is, in this way, also an indirect determinant to improve patients’ health outcomes.

### *Biographical experiences as determinants of clinical empathy*

An important question that already Lipps [25] and [26] and many other authors raised is, whether a person can only empathize with the feelings and emotions of another that he himself has already felt. Closely related to this question are also the findings of Hojat's overview [2], which conclude that the motivation for prosocial behavior and the ability to have empathic relationships are a result of early socio-emotional exchange and lead to the development of an internal working model as well as to the regulation of emotions, both of which function as guides to interpersonal relationships. The results of Lipps' and Hojat's research are also consistent with those of Piaget [55]: The ability to decentralize or set aside the original egocentric perspective is an integral part of social development and a precondition for the development of the ability to role-take and with it the ability to empathize [54]. Additionally, neurophysiological studies broach the topic of the biographical development of empathy and demonstrate that disturbances during primary acquisition (i.e., upbringing, childhood) and/or secondary acquisition (i.e., life experiences, working conditions) can impede the formation and functioning of the mirror neurons necessary for empathic behavior. Studies of medical residents in the USA seem to support the hypothesis of secondary acquisition of CE because they show that residents' self-perceived empathy deteriorates during their experiences in the medical system [114], [115], [116], [117] and [118].

Based on these theoretical findings, the following key research questions concerning the biography of clinicians arise: To what extent and with which interventional methods can CE continue to be acquired and positively influenced during adulthood once it has already potentially been disrupted by experiences during childhood and/or adulthood or simply not awakened at all? If the latter is possible, can clinicians with limited empathy be motivated to behave empathically and by what means (e.g., financial/non-material incentives)? Furthermore, is a subsequently learned empathic ability authentic or does it give a patient the impression that it is an artificial and superficial behavior (i.e. a routine checklist of empathic actions that a clinician is simply required to go through)? Do clinicians need to have previous experience being patients themselves or to witness their family/friends being patients in order to be more empathic? Answering these research questions can have great implications for medical education and medical care considering that CE seems to be a determinant of quality in medical care (see Section 4.1.1). Cohort follow-up studies should investigate these research questions with medical students, starting from their first years of study and going through their first years of hospital residency. The verification of Bauer's hypotheses of primary and secondary acquisition of empathy [80] (see Section 3.1.7) should be a substantial part of this kind of research.

In this context, further important research questions, concerning empathy as a function of gender differences (see Section 3.1.6), arise: To what extent and with which interventional methods can empathy be positively influenced in male clinicians, considering the possibility that women are endowed with a greater capacity for empathy due to their evolutionary and social learning history? If the latter is possible, does it require specific educational approaches based on the gender differences? Answers to these two research questions could have potentially significant implications for the education of clinicians.

Due to the aforementioned significance of the biographical aspects of CE, experimental research should investigate whether it may be useful to integrate the biographical background into medical education and communication training. Here, the training of clinicians' self-awareness, defined as "insight into how one's life experiences and emotional make-up affect one's interactions with patients, families, and other professionals" [119, p. 502], seems to be a promising method [120].

When looking at these biographical research questions as a whole, we find ourselves faced with a new topic of discussion, which has recently been approached by Young and Salmon [62]. They argue that the concept of skill or competence (see Section 3.1.4) separates the quality of communication from the individual communicator. That is, considering the aforesaid hypothesized biographical experiences as determinants of CE, we have to analyze

to which extent CE can be defined as a competence and how much the individual with his/her biography has to be focused in the communicator.

#### *Situational factors as determinants of clinical empathy*

In addition, findings from neurophysiological experiments (see Section 3.1.7) indicate that we also feel joy and fear unconsciously, semi-automatically just by seeing a person exhibit such emotions. In other words, the observation of positive or negative emotions can influence one's own mood positively or negatively and consequently can arouse distress. Research in the field known as “sociophysiology” confirmed these findings: Emotional distress in one person can automatically trigger similar distress in another person [121]. With regards to clinical practice, this means that the more a clinician is confronted with the distress of patients, the more he himself undergoes distress. Here, preparing clinicians with training in coping/emotion-regulating strategies may be a possible way of intercepting distress and taking preventative measures against burnout for example. Especially self-awareness and mindfulness practice [62], [119] and [120], but also Balint groups [23] and [122], discussions of meaningful experiences [119], supervision, and individual coaching/mentoring may be effective in aiding clinicians. Interdisciplinary studies should evaluate the effect of these or other stress-reducing interventional methods on clinicians, their empathy, and patients' health outcomes.

Neurophysiological studies identified even further situational factors such as pressure, fear and distress reducing massively the signal rate of mirror neurons and which enable us to empathize with others [79] and [80]. Already in 1973, Darley and Batson [123] demonstrated this effect in their famous “Good Samaritan” experiment: The test persons were less helpful to the “victim”, when they were in hurry. Bensing et al. [21] have recently discussed different organizational demands and stressors of physicians and recommend a broader focus of communication research such as on the organizational context (see also [124]). First research attempts in this field are summarized by West and Shanafelt [125] in their current overview article, which indicates that promoting enhanced well-being in physicians may enhance their ability to provide empathic care to patients. Therefore, further studies in other countries and different health care organizations should both replicate these findings with similar and additional interventions and evaluate, in particular, their effects in relation to an enhancement of patients' health outcomes.

Within the context of the situational determinants of CE, future research should also focus on the broader social environment, in which health care has to be provided, because we can take into consideration societal changes, especially those taking place, particularly in the industrialized world [2], which either directly or indirectly lead to loneliness and social isolation. Thus, another essential research question would be whether clinicians are confronted with patients expecting to find a substitute for their own lack of social support (see Section 3.1.5), which in turn may result in the need for increased empathy. If this is the case, we must then analyze whether clinicians can manage these changes on their own or whether they need complementary services to help them to cope with these new tasks. Such is already the case in oncology, where complementary services are provided in the form of psychosocial services. Discussing and investigating these research questions appears to be crucial in preventing the mental, physical and emotional exhaustion of clinicians, which may result in negative influences on CE and quality in patient care (see Section 3.2).

#### **Limitations of this review**

To illustrate the limitations of this review, we use Balint's famous metaphor of “the doctor as a drug” [23]. Accordingly, we have to consider that this review is selective and focused on studying the “nature” and “specific effectiveness” of CE. Future “pharmacological” studies on CE should theoretically and empirically examine “the curative dosages, the form and frequency” as well as the “risks and side effects” of CE. In addition, the main question as to “chemical elements or compounds” of CE should be investigated in detail.

Moreover, further studies should also analyze other important questions on the “nature” of CE, which could not be discussed here. One of these is whether or not a distinction should be made between the conceptualization of empathy in medical care and models that have been discussed intensively in client-centered therapy and psychoanalysis and that consider empathy to be a core component of their therapy [126] and [127].

Furthermore, an extensive examination of the issue of empathic motivation [112] and [128] as a determinant of CE should be done in the future integrating the results of the current paper. Moreover, a serious analysis and discussion of methods evaluating and measuring empathy is also still needed to make studies more comparable and evidence-based. A first attempt was made by Hermmerdinger et al. [129], which has to be expanded in the future.

## CONCLUSION

In this paper, we proposed to expand the focus of empathy theories in order to attain an enhanced understanding, operationalisation and measurement of CE and to incorporate these theories into a theory-based research agenda on the “nature” and “specific effectiveness” of CE. The main conclusions of our theoretical analyses are the following hypotheses:

1. CE is a fundamental determinant of quality in medical care because it enables the clinician to fulfill key medical tasks more accurately, thereby leading to enhanced health outcomes.
2. A broad range of biographical experiences influences the development and promotion of CE. This has great implications for medical education and medical care considering that CE is a core determinant of quality in medical care.
3. Situational factors have a strong impact on the promotion of CE. This has also great implications for the organization of work and organizational development in medical care considering that CE is a core determinant of quality in medical care.

## Practice implications

To strengthen the evidence base of CE, investigations of these hypotheses require not only well-designed qualitative and quantitative studies but also interdisciplinary research teams due to the complexity and multidimensionality of CE. We would, therefore, like to invite researchers from various disciplines to participate in an interdisciplinary discussion of these issues as well as to critically reflect upon, expand and revise our findings.

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**FIGURE**

Figure 1. Effect model of empathic communication in the clinical encounter [85]. Note: , based on empirical and theoretical considerations; , hypothesised relationship.

