

Empathy development in medical education – A critical review

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Abstract

Physicians' empathy is generally regarded as important and attempts are made to foster empathy. However, research indicates that the medical students' empathy is often stunted during medical education, and our understanding of how empathy is modulated during medical education is limited. This critical review explores some relatively-neglected challenges in the literature on empathy development in medical education. There is a lack of adequate attention to physicians' disciplinary matrix, the medico-scientific formation of physicians is often neglected, the dichotomy between the science and the humanities lives on and the 'soft' side is often presented as an appendix. This may contribute to sustain a double-blinded, dichotomized clinical gaze – a clinical gaze that tends to separate biomedical aspects from human experience and understanding and to neglect existential aspects of both the physician and the patient. Empathy training and the humanities should not be situated outside the hard core of medicine, but rather foster critical discussions of the limits and strengths of biomedical paradigms throughout medicine. In this way, the gap between biomedicine and the humanities could be bridged, and empathy training could contribute both in developing physicians' general clinical perception and judgement and in preventing the widespread stunting of empathy.

Introduction

There is a growing body of research indicating that medical students' empathy and moral development are often stunted during medical school (Box 1). The differences between the expected and desired levels of empathy and the frequently observed levels of empathy in medical students are shown in Figure 1.

Similar tendencies have also been demonstrated during internship and residency (see e.g. Bellini et al. 2002; Mangione et al. 2002; Bellini & Shea 2005; Rosen et al. 2006; West et al. 2007). Although there are multiple ways to measure empathy (see e.g. Hemmerdinger et al. 2007; Pedersen 2009), these negative tendencies represent important challenges facing modern medical education, since some level of empathic understanding of the patient is a *sine qua non* to get to know the patient's needs and to help the patient in a satisfactory way.

Despite increasing interest in empathy training and the medical humanities, biomedical or natural scientific approaches still dominate medical education (Box 2). Furthermore, some qualitative research indicates that medical education at least sometimes allows or even encourages physicians to be unaware of their own and the patient's interpretations and experiences, for example, when 'patient cases' are constructed and discussed (Good & Good 1989; Wahlqvist et al. 2005). Thus, physicians may not pay adequate attention to how their education and frame of references may influence their perception and judgement. Given the biomedical dominance in medical education, it is reasonable to assume that the acquisition of biomedical knowledge has an

Practice points

- Empathy is often stunted during medical education.
- The influence of medical education on empathy is relatively neglected.
- Any medical understanding and practice include ambiguities and interpretations.
- Empathy training should not be situated outside the hard core of medicine.
- Empathy development should move beyond the dichotomy between biomedicine and the humanities.

important role in the shaping of physicians' perception and judgements – including empathy and moral judgement.

But how, then, does literature on empathy development in medical education address the possible influences of the dominating elements of medical education and the possible relations between empathy and other aspects of clinical understanding? This is the focus in this critical review, that is, the focus is not how targeted training (which generally constitutes a relatively small part of the medical education) may foster physicians' empathy. (For a recent review on targeted educational interventions, see Stepien and Baernstein (2006)).

The literature reviewed in this article was selected through a systematic literature search in Ovid MEDLINE(R) and PsycINFO (performed from May 2008 to March 2009). Publications discussing empathy development or presenting empirical research on empathy development in medical education were searched for (through subject headings related

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to empathy [AND] medical education; see Box 3. Language: English).

This generated 194 hits or publications. In addition, other publications were identified through 'unsystematic' database/internet searches, by reading reference lists and through information from colleagues. To select relevant publications, the title and abstract were examined, and when in doubt, the rest of the publication was read. Most of the publications

identified were reviews or empirical studies, but any kind of publications was reviewed (e.g. comments, editorials, case studies, personal experiences, books or book chapters) except short letters to the editor. Publications were excluded if empathy development was only a marginal or implicit topic or if the publications did not deal with medical education (i.e. medical school or post-graduate education) or did not use the terms 'empathy' or 'empathic'. Finally, more than 120 publications were selected for this review.

The selected publications were analysed through the following two questions that were formulated after doing a preliminary reading of the selected publications: (1) Does the publication discuss or explore how the acquisition of biomedical knowledge and skills may influence empathy (positively or negatively), and if yes, how? (2) Does the publication discuss or explore the possible relations between empathy and other aspects of clinical understanding, and if yes, how?

The literature on empathy development in medical education is quite extensive and varied (the term 'empathy' generates more than 9000 hits in Ovid MEDLINE(R)), and in this article I do not attempt to give an exhaustive or systematic review. Rather, my purpose is to focus on some common and important challenges and assumptions in the literature on empathy development in medical education which have not been given adequate attention, and thus hopefully inspire new ways to think about and to explore empathy development in medicine. There are multiple ways to define empathy, but generally, empathy in medicine may be described as appropriate understanding of the patient (Pedersen 2008).

The philosophical perspective from which the critique is formulated is predominantly hermeneutics (Gadamer 1989; Heidegger 1997). Although there are various perspectives within the hermeneutic tradition, the core insights conveyed by the philosophical hermeneutics developed by Hans-Georg Gadamer have been widely accepted, for example the importance of dialogue and critique in human understanding, and that understanding always involves interpretation which is influenced by the subject's horizon, where the subject's 'prejudices' and 'situatedness' are important constituents (including, for example, experience, practice, knowledge, social relationships, habits, history and culture).

The next paragraph is devoted to the first question above and the lack of adequate attention to the possible influences of the dominating elements of medical education on physicians' empathy. The acquisition of biomedical knowledge and skills are important elements in physicians' horizon. In the words of Thomas S. Kuhn, medical paradigms or the 'disciplinary matrix' – for example, shared beliefs, ways of thought,

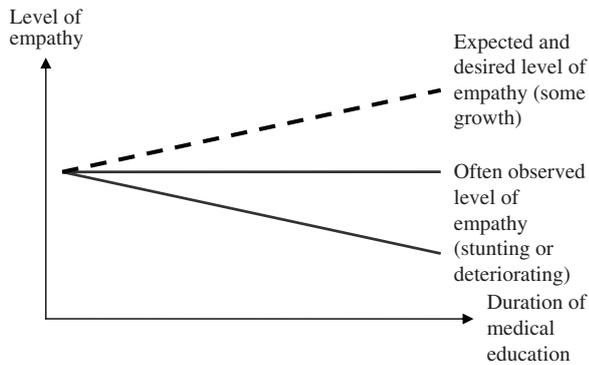


Figure 1. Levels of empathy in medical students.

Box 1. Research indicating that medical students' empathy and moral development are often stunted during medical school.

Chen et al. (2007)	Moorhead & Winefield (1991)
Craig (1992)	Newton et al. (2000)
Crandall et al. (2007)	Newton et al. (2008)
DiLalla et al. (2004)	Patenaude et al. (2003)
Diseker & Michielutte (1981)	Poole & Sanson-Fisher (1979)
Eron (1955)	Poole & Sanson-Fisher (1980)
Eron (1958)	Self et al. (1993)
Feudtner et al. (1994)	Spencer (2004)
Hojat et al. (2004)	Woloschuk et al. (2004)

Box 2. Publications indicating that biomedical or natural scientific approaches still dominate medical education.

Bertman & Krant (1977)	Foster & Freeman (2008)	Misch (2002)
Branch, Jr. (2000a)	Hunter et al. (1995)	Rosenberg & Towers (1986)
Branch, Jr. et al. (2001)	Kopelman (1995)	Schmidt (1998)
Branch, Jr. et al. (1998)	Korner (1993)	Shapiro et al. (2004)
Charon & Williams (1995)	McDonagh & Ljungkvist (1999)	Wear & Kuczewski (2004)
Coulehan et al. (2003)	Miller & Schmidt (1999)	Windish et al. (2005)
Draper & Louw (2007)		

Box 3. Subject headings used.

	Ovid MEDLINE(R)	PsycINFO
Empathy – subject heading	Empathy	Empathy
Medical education – relevant subject headings used	Education, medical; education, medical, continuing; education, medical, graduate; education, medical, undergraduate; clinical clerkship; internship and residency	Medical education; medical internship; medical residency; psychiatric training

Notes: All subject headings relating to medical education were used with 'explode' function and within each database they were combined with [OR]. The subject heading 'empathy' was used with the 'focus' function to limit the search to documents in which 'empathy' is considered the major point of this article.

values and techniques that account for the relatively unproblematic character of professional communication and for the relative unanimity of professional judgement (Kuhn 1996) – are the key ingredients of physicians' horizon and interpretations.

The subsequent paragraph is devoted to the second question above and the tendencies to dichotomize medical education (through neglecting the possible relations between empathy and other aspects of clinical understanding and presenting empathy as something quite different than other aspects of clinical understanding), to place empathy training and the humanities at the periphery, and to leave the objectivity of the hard core curriculum largely unchallenged. (The term 'humanities' is used broadly in this article, to include the humanities (philosophy, ethics, history, literature etc.), social sciences and behavioural sciences.) In the final paragraph, I suggest some strategies to retain and develop empathy throughout medical education.

There are some publications on empathy development in medical education that do not run counter to the critical remarks in this article or at least only to a very slight degree (e.g. Stempsey 1999; Tauber 2006). Furthermore, the publications criticized certainly include many positive contributions not mentioned in this review. However, after reading quite a few publications about empathy development in medical education, my impression is that the above-mentioned inadequacies seem to emerge repeatedly, and still they have not yet received adequate critical attention. Thus, there is a need for critical review and reflection, and that is what this article attempts to encourage through a critical analysis.

Lack of adequate attention to physicians' disciplinary matrix

Although science and medicine strive to achieve objectivity, medical practice always includes human understanding and interpretations. In a philosophical hermeneutic perspective, physicians' understanding are always limited and made possible through 'prejudices' and practice conditions producing a certain horizon. In particular, biomedical knowledge and paradigms, which are often focused on physiological and biological phenomena, are very likely to influence physicians' perception and judgement, and how the physician evaluates the patient's problem. One example is when the patient presents various 'unexplainable' symptoms, and the physician concludes that 'there is nothing wrong with you, you are perfectly healthy' since clinical examination and test results are all negative.

Unfortunately, how the acquisition of medical knowledge and paradigms may influence physicians' empathy are often neither explored nor discussed in the literature on empathy development in medical education (Box 4). Thus, the constructive and distorting aspects of biomedical knowledge and paradigms in empathic understanding, and the possible gaps between the physician's and the patient's way of understanding, are often not adequately addressed.

Some researchers have attempted to explore possible relations between empathy scores and curricular reform ('PBL' vs. 'conventional pedagogical methods') or scores on

Box 4. Publications on empathy development in medical education that do not explore or discuss how the acquisition of medical knowledge and paradigms may influence physicians' empathy.

Ballon et al. (2007)
 Bellini et al. (2002)
 Bellini & Shea (2005)
 Bertman & Krant (1977)
 Blank (1976)
 Branch, Jr. (2000a)
 Branch, Jr. et al. (1998)
 Chowdhury et al. (1987)
 Cohen & Soloway (1984)
 Cole-Kelly (2006)
 Colliver et al. (1998)
 De Schweinitz (2008)
 De Valck et al. (2001)
 Dow et al. (2007)
 Easter & Beach (2004)
 Feighny et al. (1995)
 Fernández-Olano et al. (2008)
 Foster & Freeman (2008)
 Glaser et al. (2007)
 Glick (1985)
 Griffin (2006)
 Halpern (2007)
 Heiskell & Rychlak (1986)
 Henderson & Johnson (2002)
 Henry-Tillman et al. (2002)
 Herman (2000)
 Hojat et al. (2002)
 Hojat et al. (2005)
 Hornblow et al. (1988)
 Janssen et al. (2008)
 Kane et al. (2007)
 Khajavi & Hekmat (1971)
 Kliszcz et al. (1998)
 Klitzman (2006)
 Kramer et al. (1989)
 Kupfer et al. (1978)
 Lindy et al. (1980)
 Looi (2008)
 Lu (1995)
 Mangione et al. (2002)
 More (1996)
 Muslin & Val (1980)
 Pacala et al. (1995)
 Rider et al. (2008)
 Romm (2007)
 Rosen et al. (2006)
 Self et al. (1995)
 Shanafelt et al. (2005)
 Shapiro et al. (2006)
 Shapiro (2002)
 Shapiro et al. (2004)
 Sieminska et al. (2002)
 Squier (1990); Stepien & Baernstein (2006)
 Stratton et al. (2008)
 Tong (1997)
 Wear (2008)
 Wear & Kuczewski (2008a)
 Wear & Varley (2008)
 West et al. (2006)
 Wiecha & Markuns (2008)
 Winefield & Chur-Hansen (2000)
 Wolf et al. (1987)
 Yarnold et al. (1993)

medical knowledge or skill tests, but most of these studies are based solely on self-reported measures of empathy, and empathy in practice is very rarely measured (Box 5). Furthermore, medical knowledge tests are not sufficient to

scrutinize how the acquisition of medical knowledge and paradigms may influence empathy.

Sometimes physicians' lack of empathy is attributed to non-medico-scientific or alternative categories such as gender, social class, culture, or religion (Branch 2000a; DasGupta & Charon 2004; Benbassat & Baumal 2005). Such categories do certainly influence physicians' empathy, but the leading parts in physicians' understanding of the patient are probably medico-scientific knowledge and paradigms. And, importantly, medical schools are accountable for the effects and side effects of such knowledge and paradigms and are in a position to make appropriate changes. As indicated in the 'Introduction' section, an important challenge to physicians' empathy is that the dominating medico-scientific education and paradigms sometimes leave little place for filtering and framing processes. Thus, both scientific and non-scientific knowledge, values, practice conditions and experiences contributing to physicians' empathic understanding may be neglected.

However, some attempts have been made to highlight some of these aspects. For example, in one study in which attempts were made to improve residents' empathy (Seaberg et al. 2000), the following is stated:

Students often begin their training with considerable empathy and altruism; however, they are taught in medical school to focus on more objective aspects of patient care; to cure and rule out disease. The emotional distance between doctor and patient becomes worse during residency. The isolation, long hours of service, chronic lack of sleep, fear of failure and constant exposure to tragedy serve to extinguish any empathy and altruism that may be left. (p. 1433)

The focus in this and many other publications tapping on similar phenomena is on the negative impact of medico-scientific education on empathy, while possible positive influences are not explored (Box 6). Sometimes, it is even

Box 5. Research on the relations between empathy scores and curricular reform or scores on medical knowledge or skill tests.

Colliver et al. (1998)	Holm & Aspegren (1999)	West et al. (2007)
Hojat et al. (2002)	Hornblow et al. (1977)	
	Pedersen (2009)	

explicitly stated that 'biomedical knowledge cannot produce empathy' (Shapiro 2008).

As mentioned above, there are quite a few studies which indicate that empathy is stunted during medical education. However, most of these studies are based on quantitative measures using self-reports of various personal inclinations relatively far away from clinical practice, and we still have sparse knowledge about how medical education may modulate empathy and the consequences in clinical practice (Pedersen 2009).

The possible negative influences of the 'informal' and 'hidden' curriculum on the development of medical students' empathy and morality are relatively often mentioned in the literature on empathy development and professionalism in medicine (Box 7). However, we should also scrutinize how the dominating elements of the overt, formal and planned curriculum may influence physicians' empathy for good and bad. Unfortunately, such possible influences on physicians' empathy have not yet been paid adequate attention in the literature on empathy development in medical education.

The dichotomy between science and the humanities

The dichotomy between natural sciences and human sciences (Dilthey 1988) or the 'two cultures' (Snow 1959) seems to persist within medical education (Burger 2001; Misch 2002; Silber et al. 2004). Since the two sides are often not integrated and the biomedical side dominates, the 'soft' approaches are kept at the periphery of medical education and treated as add-ons, thus 'simply perpetuating the problem of the "second-class" citizen' (see, e.g. Schmidt 1998; Windish et al. 2005). Others have expressed concern that as long as the humanities

Box 7. Literature on the negative influences of the 'informal' and 'hidden' curriculum.

Allen et al. (2008)	Kumagai (2008)	Spencer (2004)
Cooke (2006)	Newton et al. (2008)	Stratton et al. (2008)
Hafferty (1998)	Shapiro (2008)	Wiecha & Marknus (2008)
Hafferty & Franks (1994)		
Hundert et al. (1996)		

Box 6. Reports focusing on the *negative* impact of medico-scientific education on empathy.

Batmanabane (2008)	Fine & Therrien (1977)	Poole & Sanson-Fisher (1980)
Benbassat & Baumal (2004)	Hojat et al. (2004)	Raz & Fadlon (2006)
Bertman & Krant (1977)	Holm & Aspegren (1999)	Reiser (1993)
Branch, Jr. (2000a)	Huggard (2003)	Rosenfield & Jones (2004)
Branch, Jr. (2000b)	Joachim (2008)	Sanson-Fisher & Poole (1978)
Cooke (2006)	Korner (1993)	Schatz (1995); Spencer (2004)
Coulehan & Williams (2001)	Kumagai (2008)	Spiro (1992)
Coulehan & Williams (2003)	Lewis (1984)	Spiro (1993)
DasGupta & Charon (2004)	MacLeod (2000)	Suchman et al. (1997)
Deloney & Graham (2003)	Marcus (1999)	Wear & Kuczewski (2004)
DiLalla et al. (2004)	McDonagh & Ljungkvist (1999)	Werner & Korsch (1976)
Elizur & Rosenheim (1982)	Muslin & Schlessinger (1971)	Woloschuk et al. (2004)
Evans et al. (1993)	Poole & Sanson-Fisher (1979)	
Evans et al. (1989)		

play a peripheral or subordinate role, it will just be seen 'as a kind of add-on and touchy-feely and not part of the proper doctor stuff' (Foster & Freeman 2008) and that empathy training seems like something 'tacked on' (Shapiro 2008).

Empathic understanding is needed not only to understand the patient's illness or emotional reactions, but also to understand adequately what is at stake for the patient and to diagnose and treat the patient adequately, to avoid acting against the patient's will, and to throw into relief the patient's and the physician's horizon. Furthermore, keeping empathic understanding separate from the natural scientific aspects of medicine helps to sustain a stubborn misconception; that is, empathic understanding is radically different from other aspects of clinical understanding. Thus, empathic understanding and the humanities should not be left to the 'other' culture, or presented as an appendix segregated from other aspects of clinical understanding and medical rationality.

In the literature focusing on empathy development in medical education, there are some publications that mention possible relations between empathy and other aspects of clinical understanding; for example, the possible relations between empathy and clinical competence, diagnostic precision, self-reflection and recognizing one's own errors and the importance of imagination (which is often portrayed as an important constituent of empathy) when solving difficult problems (see, e.g. Colliver et al. 1998; Seaberg et al. 2000; Janssen et al. 2008; Joachim 2008). However, the possible relations between empathy and other aspects of clinical

understanding are very often not scrutinized or discussed only briefly or within a limited context (Box 8). Furthermore, presenting empathic understanding or the humanities as something quite different than medico-scientific understanding and rationality, or simply adding empathy training, medical humanities or psycho-social issues without challenging the objectivity of the dominating biomedical paradigms, is quite common (Box 9). One way to put it is to say that physicians not only need scientific training, but also need to 'cultivate the right attitudes', to include 'psychosocial elements' (Engel 1980), or to develop a sound 'ward culture' (Branch 2000a). It has even been asserted that physicians must 'dance and

Box 9. Literature that presents empathic understanding or the humanities as something quite different than medico-scientific understanding and rationality, or simply adding empathy training, medical humanities, or psycho-social issues without challenging the objectivity of the dominating biomedical paradigms.

Benbassat & Baumal (2004)	Korner (1993)	Shapiro (2008)
Bertman & Krant (1977)	Lu (1995)	Shapiro & Hunt (2003)
Branch, Jr. (2000a)	MacLeod (2000)	Spiro (1992)
Cohen & Soloway (1984)	McCracken (1987)	Squier (1990)
Cooper & Tauber (2005)	Misch (2002)	Windish et al. (2005)
Engel (1980)	Reiser (1993)	Winefield & Chur-Hansen (2000)
Feighny et al. (1995)	Schatz (1995)	
Herman (2000)	Shapiro et al. (2006)	

Box 8. Literature that does not scrutinize or only briefly discusses the possible relations between empathy and other aspects of clinical understanding.

Allen et al. (2008)	Henry-Tillman et al. (2002)	Reiser (1993)
Ballon et al. (2007)	Herman (2000)	Rider et al. (2008)
Batmanabane (2008)	Hojat et al. (2002)	Romm (2007)
Bellini et al. (2002)	Hojat et al. (2005)	Rosen et al. (2006)
Bellini & Shea (2005)	Hojat et al. (2004)	Rosenfield & Jones (2004)
Benbassat & Baumal (2004)	Holm & Aspegren (1999)	Schatz (1995)
Bertman & Krant (1977)	Hornblow et al. (1988)	Seaberg et al. (2000)
Blank (1976)	Hornblow et al. (1977)	Self et al. (1995)
Branch, Jr. (2000b)	Huggard (2003)	Shanafelt et al. (2005)
Branch, Jr. et al. (1998)	Janssen et al. (2008)	Shapiro et al. (2006)
Chowdhury et al. (1987)	Joachim (2008)	Shapiro (2008)
Cohen & Soloway (1984)	Kane et al. (2007)	Shapiro (2002)
Cole-Kelly (2006)	Khajavi & Hekmat (1971)	Shapiro & Hunt (2003)
Colliver et al. (1998)	Kliszcz et al. (1998)	Shapiro et al. (2004)
Cooke (2006)	Klitzman (2006)	Sieminska et al. (2002)
DasGupta & Charon (2004)	Korner (1993)	Spencer (2004)
De Schweinitz (2008)	Kramer et al. (1989)	Spiro (1992)
De Valck et al. (2001)	Kumagai (2008)	Squier (1990)
Deloney & Graham (2003)	Kupfer et al. (1978)	Stepien & Baernstein (2006)
DiLalla et al. (2004)	Lewis (1984)	Stratton et al. (2008)
Dow et al. (2007)	Lindy et al. (1980)	Tong (1997)
Easter & Beach (2004)	Looi (2008)	Wear (2008)
Evans et al. (1993)	Lu (1995)	Wear & Kuczewski (2008a)
Evans et al. (1989)	MacLeod (2000)	Wear & Varley (2008)
Feighny et al. (1995)	Mangione et al. (2002)	Werner & Korsch (1976)
Fernández-Olano et al. (2008)	Marcus (1999)	West et al. (2006)
Fine & Therrien (1977)	McDonagh & Ljungkvist (1999)	West et al. (2007)
Foster & Freeman (2008)	More (1996)	Wiecha & Markuns (2008)
Glaser et al. (2007)	Muslin & Schlessinger (1971)	Winefield & Chur-Hansen (2000)
Glick (1985)	Muslin & Val (1980)	Wolf et al. (1987)
Griffin (2006)	Newton et al. (2008)	Yarnold et al. (1993)
Halpern (2007)	Pacala et al. (1995)	
Heiskell & Rychlak (1986)	Poole & Sanson-Fisher (1980)	
Henderson & Johnson (2002)		

Box 10. Literature on empathy development in medical education that does not explore or barely touches upon how the physician's prejudices, situatedness and paradigms influence biomedical perception, judgment and practice.

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|-------------------------------|------------------------------------|--------------------------------|
| Allen et al. (2008) | Henry-Tillman et al. (2002) | Poole & Sanson-Fisher (1980) |
| Ballon et al. (2007) | Herman (2000); Hojat et al. (2002) | Reiser (1993) |
| Batmanabane (2008) | Hojat et al. (2005) | Rider et al. (2008) |
| Bellini et al. (2002) | Hojat et al. (2004) | Romm (2007) |
| Bellini & Shea (2005) | Holm & Aspegren (1999) | Rosen et al. (2006) |
| Benbassat & Baumal (2004) | Hornblow et al. (1988) | Rosenfield & Jones (2004) |
| Bertman & Krant (1977) | Hornblow et al. (1977) | Schatz (1995) |
| Blank (1976) | Huggard (2003) | Seaberg et al. (2000) |
| Branch, Jr. (2000b) | Janssen et al. (2008) | Self et al. (1995) |
| Branch, Jr. et al. (1998) | Joachim (2008) | Shanafelt et al. (2005) |
| Chowdhury et al. (1987) | Kane et al. (2007) | Shapiro et al. (2006) |
| Cohen & Soloway (1984) | Khajavi & Hekmat (1971) | Shapiro (2008) |
| Cole-Kelly (2006) | Kliszcz et al. (1998) | Shapiro (2002) |
| Colliver et al. (1998) | Klitzman (2006) | Shapiro & Hunt (2003) |
| Cooke (2006) | Korner (1993) | Shapiro et al. (2004) |
| DasGupta & Charon (2004) | Kramer et al. (1989) | Sieminska et al. (2002) |
| De Schweinitz (2008) | Kumagai (2008) | Spencer (2004) |
| De Valck et al. (2001) | Kupfer et al. (1978) | Spiro (1992) |
| Deloney & Graham (2003) | Lewis (1984) | Squier (1990) |
| DiLalla et al. (2004) | Lindy et al. (1980) | Stepien & Baernstein (2006) |
| Dow et al. (2007) | Looi (2008) | Stratton et al. (2008) |
| Easter & Beach (2004) | Lu (1995) | Tong (1997) |
| Evans et al. (1993) | MacLeod (2000) | Wear & Varley (2008) |
| Evans et al. (1989) | Mangione et al. (2002) | Werner & Korsch (1976) |
| Feighny et al. (1995) | Marcus (1999) | West et al. (2006) |
| Fernández-Olano et al. (2008) | McDonagh & Ljungkvist (1999) | West et al. (2007) |
| Fine & Therrien (1977) | More (1996) | Wiecha & Markuns (2008) |
| Foster & Freeman (2008) | Muslin & Schlessinger (1971) | Winefield & Chur-Hansen (2000) |
| Glaser et al. (2007) | Muslin & Val (1980) | Wolf et al. (1987) |
| Glick (1985) | Newton et al. (2008) | Yarnold et al. (1993) |
| Griffin (2006) | Pacala et al. (1995) | |
| Halpern (2007) | | |
| Heiskell & Rychlak (1986) | | |
| Henderson & Johnson (2002) | | |

smell flowers and sing – not just on vacation, and not just to relax or get away, but to be good doctors' (McDonagh & Ljungkvist 1999). However, simply adding alternative approaches or attitudes to the curriculum is likely to have a limited impact, given the power and dominance of biomedical knowledge and paradigms and the tendency to take the objectivity and neutrality of biomedical perception and judgement for granted.

In the literature on empathy development in medical education, there are some publications which mention that (a) any 'facts' are selected, value-laden and interpreted, (b) physicians are situated individuals with certain prejudices and biases that influence *any* interaction they have with patients, and (c) our understanding of reality is built upon our experiences that in turn shape our ideas about what is valued as knowledge, the need to assess oneself and one's attitudes, to tolerate ambiguity and to acknowledge one's partial, biased and incomplete knowledge. (see, e.g. Muslin & Schlessinger 1971; Reiser 1993; Tong 1997; Branch 2000b; Sieminska et al. 2002; Rosenfield & Jones 2004; Spencer 2004; Ballon et al. 2007; Wear 2008; Wear & Kuczewski 2008a). However, how the physician's prejudices, situatedness and paradigms influence biomedical perception, judgement and practice is very often not explored or barely touched upon (Box 10). Instead, there seems to be a tendency not to challenge or critically discuss the objectivity of biomedical understanding.

However, reflections on one's own interpretations and values, and the influence the observer has on any observations

are needed everywhere in medicine, including the biomedical sphere (Burger 2001). Thus, physicians' paradigms should not be left untouched or concealed within aspirations to get out of the 'hermeneutic circle', for example, through clinging to a positivistic stance. The tendencies to neglect the relations between empathy and the acquisition of biomedical knowledge and paradigms, the possible relations between empathy and other aspects of clinical understanding and not to critically discuss the objectivity of biomedical perception and judgement may contribute to sustain the resistant dichotomy between the humanities and biomedicine, and thus separating empathy development from other aspects of medical education and clinical understanding.

The dominating medical paradigms tend to focus on objective biomedical truths and methods, while less objective aspects of human existence and understanding receive less attention. Some have even argued that '... what is not derived from the scientific paradigm is viewed as secondary, subjective and unreliable' (Shapiro 2008, p. 4). Nevertheless, how physicians focus their attention and think when diagnosing and treating diseases, symptoms or patients has been largely neglected (Groopman 2007), and as long as the objectivity of biomedicine is not adequately scrutinized and biomedical facts overshadow other relevant information, the asymmetric dichotomy shelters the natural scientific or biomedical side from broader perspectives on human existence and understanding. Thus, the dichotomy and the lack of adequate attention to physician's disciplinary matrix in the literature on empathy development in medical education, may contribute to

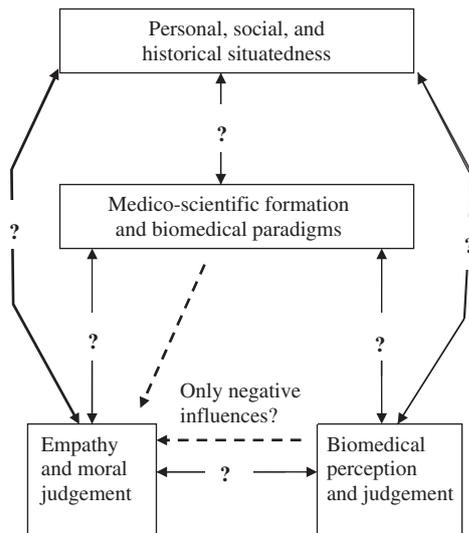


Figure 2. The missing links in the medical discourse of empathy training.

sustain a double-blinded, dichotomized clinical gaze – a clinical gaze that tends to separate biomedical aspects from other aspects of human experience and that often neglects the interpretational, moral and existential aspects of both the patient and the physician. In other words, the asymmetric dichotomy and the lack of adequate attention to physicians' horizon may not only undermine appropriate understanding of the patient, but may also contribute to hide important influences on physicians' perception and judgement.

Figure 2 attempts to sum up some of these influences or the missing links or relatively neglected relations in the literature on empathy development in medical education (see the question marks in Figure 2).

Importantly, these missing links unite various aspects of physicians' clinical understanding that probably cannot and should not be separated, but still often seem to be drifted apart in the literature on empathy development in medical education. In a philosophical hermeneutic perspective, medicine includes both scientific and humanistic aspects, and these aspects are never isolated from each other. Furthermore, empathy and other aspects of clinical understanding are closely intertwined and there is a continuous interaction between physicians' clinical understanding and physicians' horizon. Thus, there are several missing links in the literature on empathy development in medical education that should be further explored, in order to be able to train more reflective and empathic physicians.

Retaining and developing empathy through bridging the gap between biomedicine and the humanities

The most important task may not be to develop medical students' empathy, but to prevent the development of a double-blinded, dichotomized clinical gaze. Thus, the main task should be to explore and discuss the ideals and assumptions that are central to medico-scientific paradigms,

Box 11. Clinical situations where biomedical perspectives are necessary but not sufficient.

- End-of-life care (Sayers & Perera 2002; van Oorschot & Simon 2006)
- Clinical prioritisations (Pedersen et al. 2008)
- When available treatment is considered futile (Schneiderman et al. 1990; Truog et al. 1992)
- Treating marginalized patients (e.g. elderly patients, psychiatric patients, drug addicts, the poor and uninsured and illegal immigrant) and patients and diseases that fall between two stools (Elizur & Rosenheim 1982; Griffith III & Wilson 2001; Christison et al. 2002; Griffith & Wilson 2003; Varkey et al. 2006; Wear & Kuczewski 2008b)
- Considering patient preferences for information and involvement (Murtagh & Thorns 2006)
- Disagreements and conflicts

and to instil firmly throughout medical education that any observation and understanding is always already interpreted and situated. Even the hard core of biomedicine cannot escape the ambiguous and interpretive aspects of human understanding and knowledge (Brawer 2006). Any application of biomedical knowledge is already interpreted and value-laden, envisaging what kind of help is good for the patient. If the dominating medical paradigms assume that the question about how to treat the patient ought to be given one single objective answer, or that there is one single objective perspective or method to find this answer, the motivation to explore alternative perspectives and answers, and to engage in empathic understanding, critical reflection and dialogue, will be eroded. Thus, one should go beyond the recalcitrant dichotomy between biomedicine and the 'soft' side to establish a common ground that allows for the universality of prejudices and situatedness in human understanding.

Today, publications on empathy development in medical education often present empathy training as a compensatory strategy or technique at the soft side of the asymmetric dichotomy, and relatively rarely foster a critical and constructive discussion of the hard core of medical rationality. If the literature on empathy development in medical education mainly presents soft add-ons, it may cloak medicine's hard edges instead of drawing attention to the systems and paradigms shaping these hard edges. Rather than presenting the humanities as an additional or 'other' perspective, we should challenge the dominating paradigms in the hard core of medical education through fostering critical discussion on the nature, limits and possibilities of medical understanding and knowledge, thus establishing the common ground where dialogue and empathic understanding are needed.

How then, can we raise physicians' awareness of the possibilities and limits within biomedical paradigms and understanding, and to raise the awareness of the patient's and the physician's situatedness and morality? One possibility is to emphasise clinical encounters where biomedical perspectives are necessary, but not sufficient. Some examples are listed in Box 11.

Importantly, it is not enough to discuss how empathy and moral perspectives may improve the way physicians handle such situations. One should also address how biomedical paradigms, knowledge (or the lack of knowledge), professional interests and research priorities may frame physicians' perception and judgement. Furthermore, to emphasise the

Box 12. Perception and judgement in medicine.

- Framing effects in medicine (Tversky & Kahneman 1981; McKinlay et al. 1996)
- The hermeneutics of medicine and practical reason (Gadamer 1989; Svenaeus 2000; Aristotle et al. 2002; Brawer 2006)
- Paradigms, tacit knowledge and values in medicine (Polanyi 1958; Kuhn 1996; Coulehan & Williams 2001, 2003)
- Frequently missed diagnoses, blind spots, misunderstandings, misattributions and mistakes in medicine (Groopman 2007)
- Various interpretations among various physician specialists (Falkum & Forde 2001) Personality and specialty interest (Hojat & Zuckerman 2008) Hierarchies of diagnosis, specialties and tasks (; Griffith III & Wilson 2001; Christison et al. 2002; Griffith & Wilson 2003; Førde et al. 2006; Album & Westin 2008)
- Physicians' vs. patients' understanding (Boyle 1970; van Dulmen 2002; Rodriguez & Young 2006)
- Risk, uncertainty and ignorance in medicine (Rortveit & Strand 2001)
- Documentation of interpretational, moral and existential aspects in the patient's file (Tauber 2006)
- The role of expert knowledge and common sense in medical practice
- What kind of information and conditions attract physicians' attention, and what do not? (Griffith III & Wilson 2001; Christison et al. 2002; Griffith & Wilson 2003)
- How does medical education and training influence the way physicians assume responsibility for the patient? (Griffith III & Wilson 2001; Griffith & Wilson 2003)

omnipresence of interpretations in medicine, and to foster a general awareness of the possibilities and limits of biomedical perspectives, more overarching themes should be integrated throughout medical training. Some examples are listed in Box 12.

Some may object that these suggestions are not new to medical education. However, to my knowledge, these themes are rarely integrated throughout medical education and often not included in the literature on empathy development in medical education.

If medical training, clinical rounds and other formative situations generally do not open up for the physicians' situatedness and interpretations – and the patients' experiences, preferences and values – medical students are likely to neglect interpretational, existential and moral aspects on both sides of the table. Furthermore, if objectivity is taken for granted, there is little or no need for empathy, reflection and dialogue. On the other hand, if the framing effects and fallibility in any medical understanding is acknowledged, physicians' perception and judgement become more important and less self-evident. In particular, empathy development – or how to develop an appropriate understanding of the patient – becomes of paramount importance. Furthermore, tendencies towards epistemological hubris may be reduced and the fear of not knowing may become less threatening.

There is a need to further discuss and explore how the acquisition of medical knowledge and paradigms may influence physicians' empathy and other aspects of clinical understanding. Importantly, based upon the available empirical research, we cannot conclude that medical knowledge, examining symptoms, clinical examination, or effective diagnosing and treatment cannot play a positive role in physicians' empathy (Pedersen 2009). Medical knowledge, history taking and examination can, at least sometimes, foster empathic understanding and be effective in reassuring the patient that the physician cares for the patient and understands the patient's problem (Carsen & Roskin 1984; Allen et al. 2008).

Conclusion

Any attempt to escape our historical and social situatedness will inevitably lead to limited insight, tunnel vision and neglect of important aspects that bring about understanding. To avoid developing a double-blinded, dichotomized clinical gaze,

physicians need to reflect on the horizon from where they understand the patient. This, of course, does not only apply to empathic understanding; it applies to any medical epistemology and morality.

A strong focus on biomedical information may surely be life-saving and health promoting, but neglecting the patient's lifeworld makes it more difficult for the physician to understand the patient appropriately. Furthermore, neglecting the physician's paradigms, prejudices and situatedness may prevent important frames of reference from being acknowledged, and may undermine physicians' self-understanding, thus making it more difficult to identify and clear up misunderstandings. Encouraging medical students to empathise with their patient – for example, by placing themselves in the patient's shoes – is in vain if interpretational, existential and moral aspects tend to be neglected on both sides of the table. The literature on empathy development in medical education and the medical humanities should not be situated outside the hard core of medicine, but rather foster reflection on the ambiguities and interpretations in all medical knowledge and practice and establish a common ground where empathy is not isolated from other aspects of clinical understanding.

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