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Reflection, Sense of Belonging, and Empathy in Medical Education—Introducing a "Novel" *Model of Empathetic Development by Literature*

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ABSTRACT: Empathy, self-reflection, and inclusion of the medical humanities in medical education are increasingly gaining attention. This seems prudent, as studies indicate that high physician empathy is associated with better patient outcomes and could protect against physician burnout. In addition, utilizing self-reflection has been reported to surge diagnostic accuracy and increase the ability of clinical health care providers. Therefore, in medical education, there is a need to address these, however intricate, most important skills. Not oblivious to this, for decades many medical schools have reaped experience from the humanities, sprouting the field of the medical humanities. However, significant barriers encountered when teaching the medical humanities to medical students are of concern. Consequently, a theory-based, inclusive, representative, and intuitive approach to the teachings is coveted. The aim of this article is to describe and present such an approach. To this end, I introduce a novel *Model of Empathetic Development by Literature*, schematizing the path from reading a text to displaying an act of empathy. Ever mindful of the relevance and feasibility to medical students, this article reflects on thoughts and evidence behind the hypothesis; that sense of belonging, self-reflection, and empathy could be gained by reading and discussing literary fiction. Referring to both original research articles, books of popular science, and philosophical considerations, a clear line of reasoning for the inclusion of literary fiction in medical education is made. Thereafter, it is outlined, how—in a medical humanities course at Copenhagen University—specific literary excerpts are utilized to bring forth reflection on different aspects, circumstances, and conditions of being a physician, thereby kindling the medical students' sense of belonging to their profession. As such, this perspective piece demonstrates a concrete approach to how a literary educative technique could manifest.

KEYWORDS: empathy, reflection, medical education, literature and medicine, teaching methods

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Introduction

For years, empathy, self-reflection, and inclusion of the medical humanities in medical education have gained much attention in research.[1–3] Studies indicate that high empathy shown by the physician[4–8] as well as utilizing self-reflection in clinical health care[9,10] have advantages. Therefore, in medical education, there is a need to address and nurture these, however intricate, most important skills. Aiming to do this, medical schools have harvested knowledge and experience from the humanities, sprouting the medical humanities. This field fathoms an interdisciplinary sphere of literature, philosophy, religion, social sciences, the arts, and psychology, and their application to medical education and practice.[11]

Literary fiction is a key part of the medical humanities. For decades, most reputable medical schools have had medical humanities material on the curriculum,[12] for example, literary fiction. However, studies suggest that teaching the medical humanities encounters significant barriers,[13–17] such as "'old school' thinking that factual medical knowledge is all that is important,"[13] that somehow the humanities constitute "an appendage to the degree rather than an integral part,"[13] and that real value of the training is questionable.[16] Furthermore, students often consider such curricula as "nice to know," not "need to know."[17] Thus, there is a need to make teachings of the medical humanities more accessible, schematized, relatable, and feasible to medical students. The aim of this perspective piece is to present and describe such an approach used in a medical humanities course at the University of Copenhagen.

Student buy-in[18] and motivation[19] are essential in teaching and could possibly help counter the mentioned barriers. To increase credibility and encourage student buy-in, educators are advised to "share the evidence"[18] for their teachings. Hence, a walk-through is given of the arguments and research behind the hypothesis; that medical students could gain a sense of belonging, boost self-reflection, and foster empathy by reading and discussing literary fiction. To make the teachings concrete and systematic, I introduce a novel *Model of Empathetic Development by Literature* (Figure 1), sketching the path from reading literary fiction to performing an act of empathy.

Belongingness theory states it is vital for humans' social and psychological status and well-being to find themselves represented, recognized, and mirrored by others.[20–22] Research suggests that literature can play a part in fulfilling this basic human "need to belong."[23–27] Accordingly, in the context of the many common stressors and troublesome themes facing newly hatched doctors,[28] I make evident the ability of literature to craft this sense of belonging. Charting the teachings of the

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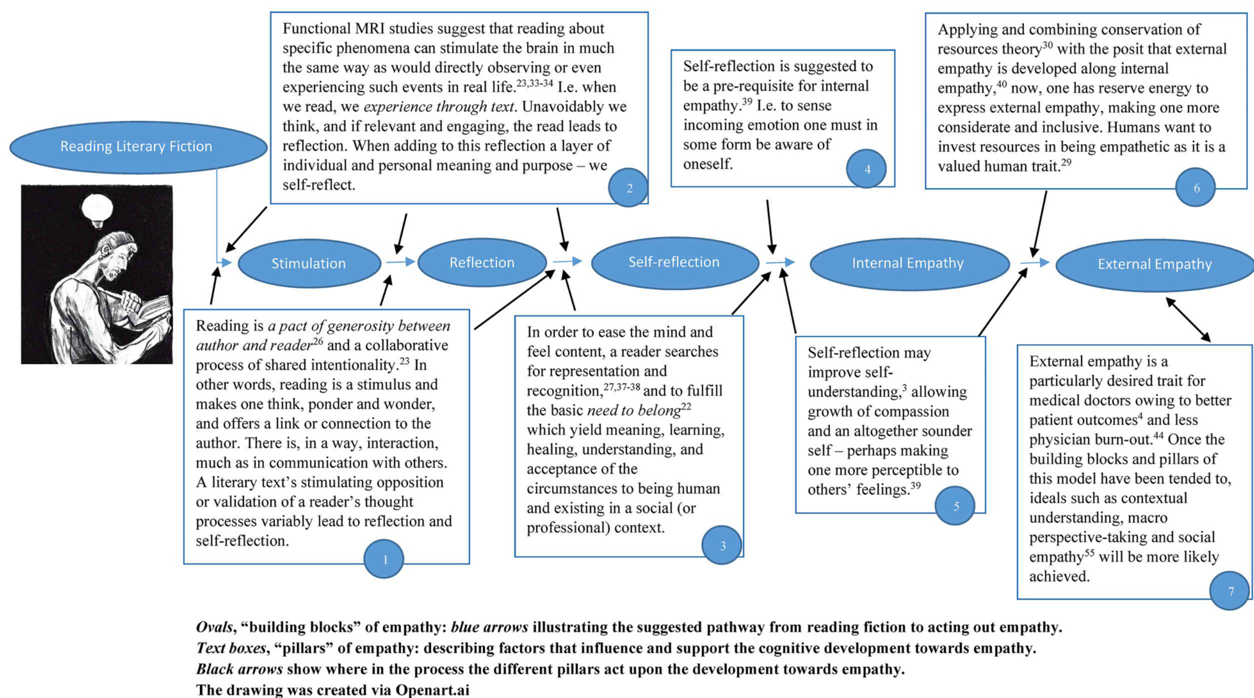

Figure 1. The Model of Empathetic Development by Literature, explicating the path from reading to performing an act of empathy.

medical humanities course it is shown which literary excerpts are utilized. Bringing forth reflection on the student-relatable stressors and themes, relevant literature supplies representation and motivation while kindling the medical students' sense of belonging. Ultimately favoring empathy, as suggested in the *Model of Empathetic Development by Literature.*

A Stance for Teaching Literature to Medical Students

A "Novel" Model of Empathetic Development by Literature

To put this article's reasoned conceptions into an easily digestible formula, I have created the *Model of Empathetic Development by Literature*. The model is intended to be self-explanatory, building on the reflections in this article, and with seven text boxes continually illuminating the progression toward an empathetic stance. Also, this manuscript is structured to follow and explicate the *Model of Empathetic Development by Literature* showing the underpinnings as to how literature can stimulate us and help us reflect, belong, and ultimately feel and express empathy.

Naturally, the complexity of empathy cannot be contained in a single model, however, the simplicity of a model can sometimes help facilitate a common understanding of things and make concrete what is otherwise elusive.

Two concepts mentioned in the text boxes should be noted here. First, that of compassion, which is a caring and good-natured response to the perception of suffering,[29] either other's or one's own (self-compassion). Compassion is a motive to *act* on perceived suffering and is thereby intimately linked to external empathy. Second, the conservation of resources theory[30] states that humans have limited resources to deal with exigent demands, and when faced with too many tasks a *loss spiral*[30] could set in, depleting one of resources. Though originally a theory on stress, the notion that when overloaded, unfulfilled, stressed, or burned out one will have less energy or resources to satisfy impending endeavors and tasks seem viable in many aspects. Applying the concept to empathetic development, one would have higher resources to show external empathy when self-reflection, self-understanding, and a sense of belonging are achieved. On the other hand, if you are short on these pillars or building blocks of empathy you might not have the vigor to perform empathetically.

Literature as a Stimulus and a Means to Belong

In psychological research, the basic human need to belong—to form positive and significant interpersonal relationships—is a well-established phenomenon.[20–22] The following quote from Baumeister's and Leary's widely cited 1995 article on the need to belong still rings true: "Existing evidence supports the hypothesis that the need to belong is a powerful, fundamental, and extremely pervasive motivation."[22] That is to say, it is vital to feel that one is not alone in the tasks, thoughts, endeavors, and predicaments of life. Testaments to this fundamental need to be part of unity are the efficacy of group therapy[22,31] as well as the disheartening repercussions of social exclusion, that is, bullying.[32]

Functional MRI studies suggest, that reading literature about specific phenomena can stimulate the brain in much (often, in attenuated form) the same way[23,33,34] as would directly observing or experiencing such events in real life. Meaning, when we read we *experience through text*. Paul B. Armstrong, professor at Brown University and author of the book *How Literature Plays with the Brain—The Neuroscience of Reading and Art*, states, "[…] reading is a fundamentally collaborative process." He argues that reading provides a "shared intentionality,"[23] as in that reading forms an alliance or connection between author and reader, thereby possibly helping to fulfill the need to belong.

In her book, *The Psychology of Belonging*, psychologist and belonging researcher, Kelly-Ann Allen, agrees that belonging is not limited to strict interpersonal terms, but could be associated with "all manner of things"[24] and "are thus complex and dynamic agglomerations that are unique and special to each person."[24] Many have heard the phrase "a good book is like a good friend"—stimulating, scintillating, familiar—accounting for the belongingness hypothesis and regarding literature as a stimulus and a means to belong, quite possibly the phrase holds some truth to it. This is schematized in the *Model of Empathetic Development by Literature*, as the first step toward empathy must be a stimulus.

Though arduous to prove a causal relationship, many have hypothesized that reading strengthens our ability to understand other people.[25,35,36] With often lyrical finesse, several notabilities have made comments on this issue. Jean-Paul Sartre called reading "a pact of generosity between author and reader,"[26] suggesting the need for a bond or a common ground between the two. German philosopher Arthur Schopenhauer cautioned love of prose, claiming that continuous reading would "fill the head with a Babylonian confusion of tongues."[27] Therefore, some might find it a bit audacious to employ words of his in a written stance for literature. However, in his work *The Art of Literature*,[27] he also stated, "reading is thinking with someone else's head instead of one's own," thereby reminding us, that reading forces one to see things from another's point of view. In other words, it forces upon the reader perspective-taking, which is key for empathetic skill. More than two millennia before the belongingness hypothesis came into existence, Aristotle had a say on the matter: "[…] man is prone to representation beyond all others, and learns his earliest lessons through representation."[37] With this in mind, perhaps Goethe summarizes my argument best of all. In the introduction to his epic drama of unrequited love *The Sufferings of Young Werther* he proclaims to the reader, "And thou, good soul, who sufferest the same distress as he endured once, draw comfort from his sorrows; and let this little book be thy friend, if, owing to fortune or through thine own fault, thou canst not find a dearer companion."[38] It would appear that Goethe was abundantly aware that one finds comfort and sense of belonging in resemblance and representation. To paraphrase: if you are suffering from a broken heart, then *read* about a person suffering from a broken heart and you will feel recognized and comforted. You will catch a healing feeling of belonging.

Reflection and Self-reflection

In Plato's *Apology*, Socrates is said to have uttered words to the effect of "a life without reflection is pointless." I imagine this to be true, yet, there is no strict consensus on the definition of reflection or self-reflection. Mann et al.[3] list three different definitions of reflection that can be deduced into a form of purposeful critical thinking on complex matters leading to new understanding and learning. In order to *self-reflect*, we must add to reflection a layer of personal meaning and purpose. Studies have reported heightened diagnostic accuracy and increased ability of clinical health care providers when reflective thinking or self-reflective efforts were utilized.[9,10]

It seems reasonable, that probing or at least curiously connecting to one's own feelings is needed in order to assess incoming emotions from others. Therefore it has been theorized that self-reflection indeed is a pre-requisite of internal empathy.[39] In turn, there are suggestions that internal empathy, fosters or develops external empathy.[40,41] In accordance, Paloniemi et al[1] reported a positive correlation between empathy and self-reflection in a questionnaire study of dental and medical students. Thus, self-reflection is not just a valuable trait in and of itself. As schematized in the *Model of Empathetic Development by Literature* it could also strengthen our capacity for empathy.

Empathy

To discuss the definition of empathy as a phenomenon is not within the scope of this article. However, the distinction between two concepts can be useful. Firstly, that of internal/intrapersonal/self-empathy,[40,41] which is to sense incoming emotion and to understand the feelings of others (the so-called emotional and cognitive dimensions of empathy).[42] Secondly, that of interpersonal/external/shown empathy, which is the ability to somehow *act* empathetically on the inducements of the emotional and cognitive dimensions (so-called behavioral empathy).[42]

Empathy shown by physicians is important, as it is associated with lower patient anxiety, better clinical outcomes for patients, and lower malpractice liability.[4,5,43] Also, several studies have reported that low empathy correlates with burnout among medical students and physicians.[6–8,44]

Since some studies have shown empathy to decline during medical school[45,46] and a new qualitative study from Assing Hvidt et al[47] reports a lack of focus on the medical humanities in medical education in Denmark, emphasis on teaching the medical humanities and exploring teaching methods are called for. Systematic reviews suggest that empathy can be

taught and learned,[48,49] however, which teaching methods yield the best results and how to go about the teachings are still unclear.[50] Based on an analysis of studies reporting use of literature and arts to teach medical students empathy, Ziółkowska-Rudowicz et al[51] suggested that exposure to literary art "may trigger attitude change, foster understanding of the illness experience and enhance empathy for the patients." Thus, as schematized in the *Model of Empathetic Development by Literature*, using literature may be one method to facilitate reflection and foster empathy, which in turn may improve the patient–provider relationship.

Narrative Medicine, Patient Storytelling, and Social Empathy

Rita Charon, professor at Columbia University, has coined the term "narrative medicine." She argues that narrative skill and understanding can be learned, and that when one introduces doctors or medical students "to great literary texts […] we deepen our students' capacity to hear what their patients tell them."[52] I am enthused by the narrative-based approach set forth by Rita Charon. Persistent with this approach, in recent years "patient storytelling" has been used to raise understanding and feeling for the patient and his/her illness.[53] Patient storytelling seeks to harness personal stories of illness and patient outlooks in order to lead medical professionals toward improved perspective-taking and to increased levels of empathy.[54]

In her book *Social Empathy: The Art of Understanding Others*,[55] social policy analyst, Elisabeth A. Segal, writes that interpersonal empathy consists of five components: affective response, self-other awareness, affective mentalizing, perspective-taking, and emotion regulation. However, to achieve what she refers to as *social empathy*—a more comprehensive empathy—two more components are needed: contextual understanding and macro perspective-taking. "Social empathy has us look at context so we can fully understand the lived experiences of groups different from our own."[55] Accordingly, in an optimal medical setting, empathy is not just about relating to individual patients but also about the ability to relate to various groups and their health concerns. Consequently, social empathy helps physicians better understand the social determinants of health. This is of magnificent importance as marginalized patient groups and inequality in health care are crucial factors in many patient-doctor relations.

Both narrative medicine and patient storytelling can be viewed as methods to reach the level of social empathy. Both methods stress the significance of fully understanding our patients to best deliver optimal treatment.

The Premise

Based on the conceptions made, I dare to assume that literature can fill out a role in humans' basic need to belong. Therefore, I believe that medical students could benefit from a short tour de force in literary fiction. If applied correctly, perhaps, instead of feeling stranded in shivering solitude with this or that medical conundrum, a future doctor—remembering and finding representation in literature—might feel a sense of belonging, a solid sense of firm fellowship.

World literature offers boundless possibilities to boost medical students and physicians out from the abyss of seclusion and into the realm of communion, thereby fulfilling a need to belong. To demonstrate this, I selected four vexatious themes relevant and ever-present in medical practice, not least in the minds of young physicians: (a) guidelines versus the art of medicine, (b) mistakes, (c) inadequacy, powerlessness, and apathy, and (d) uncertainty, responsibility, and overtreatment. To heighten relatability and student motivation, the themes were based on three measures. First, a scientific article on the common stressors and strains of being a doctor,[56] which shows that the gravitas and heavy responsibilities of the job, high demands, unreasonable expectations, medicolegal threats as well as constraints, demands, and interference from government or administration were stressful factors of concern. Second, informal interviews with several Danish doctors taking a mandatory communications course during their first year out of medical school. Third, a new report[28] from Yngre Læger [Young Doctors] in Denmark that showed 49% of young doctors were worried to commence their first year out of medical school (their so-called "basic clinical training"). For many, this was due to the responsibility of being a doctor, expectations to the doctor role, fear of inadequacy, the risk of making mistakes, and the strain of working as a doctor.[28]

The three measures are the reason this article advocates literary excerpts that aim to yield a sense of belonging. Before we as medical professionals can hope to achieve social empathy, we must first be comfortable or at least accept the inherent fears, risks, expectations, and inadequacies of our profession. To some, the excerpts presented may seem somewhat canonical. This is not to say that pieces from minority writers or marginalized patients' stories are not important—they are indeed. As well as narrative medicine and patient storytelling. However, before we can begin to fathom contextual and macro perspective-taking aspects of empathy, we must in some form first self-reflect[39] in order to gain a sound understanding of ourselves.[3] To link the terms to Elisabeth A. Segal's five components of empathy, a reasonable amount of self-other awareness simply must be present, or social empathy will never be reached. Taking this into account, and trying to honor the themes pointed out by physicians themselves, this paper concentrates on the *representation of the doctor*, rather than on the feelings or thoughts of this or that patient.

Books and Excerpts

The following gives a brief overview of excerpts used in a class at a medical humanities course at Copenhagen University.

Heedful to the *Model of Empathetic Development by Literature*, to impart on the students a feel of representation, and ultimately lead to more empathetic doctors, the texts were specifically chosen to address the four themes.

Guidelines Versus the Art of Medicine

I use Moliere's 1673 play *The Imaginary Invalid.* The play, besides being a love story and a comedy, poses a substantial criticism of the established medical faculty and its products (doctors), who are ridiculed and exposed in a marvelous fashion. In the play, in order to accommodate future spending on health care, Argan, the protagonist and a severe hypochondriac, industriously tries to marry off his daughter to a doctors son, who is himself also a doctor. Here, old Dr Diafoiros explains to Argan why Dr Diafoiros Junior is an excellent catch:

> But, that which above all pleases me in him, and in which he follows my example, is that he attaches himself blindly to the opinions of the ancients, and that he never would understand or listen to the experiments of the pretended discoveries of our age in reference to the circulation of the blood, and other opinions of the same kind.[57]

In class, this quote leads to discussions and reflections upon humility, honesty, openness to new findings and the Hippocratic Oath.

A statement from Dr Diafoiros:

> The public is easy to deal with; you are responsible for your actions to no one; and provided you follow the current of the rules of your art, you need not be uneasy about what may happen [...] one is only obliged to treat people according to the rules.[57]

In the play, doctors are portrayed having a hypocritical approach to patients. Facets of double standards, discriminatory practice, and shirking of responsibilities are palpable. Scorn and contempt for the medical institution exudes from the pages. Due to the inexorable antipathy the reader builds up towards the doctors, it is a paradox, that basically, the doctor is right. In our line of work, we are committed to no more than treating people according to the rules. Or are we? In class, this is used to discuss and reflect upon conducting the art of medicine versus rigorously following political, administrative, or clinical guidelines.

Mistakes

I utilize Ray Bradbury's *Fahrenheit 451.*

Set in Bradbury's dystopian world where firemen burn books to keep the people free from emotions, Montag, a fireman, steals a book, reads, and finds himself on the run from the authorities. While absconding, Montag gets to know an old English professor and from him receives the following advice:

> You're afraid of making mistakes. Don't be. Mistakes can be profited by. Man, when I was younger I shoved my ignorance in people's faces. They beat me with sticks. By the time I was forty my blunt instrument had been honed to a fine cutting point for me. If you hide your ignorance, no one will hit you and you'll never learn.[58]

In class, this is used to discuss and reflect upon honesty and making mistakes.

Inadequacy, Powerlessness, and Apathy

I introduce Shakespeare's *Macbeth* and Albert Camus' *The Plague*.

The Bard's writings constitute an inexhaustible source of sensible sentences that envelop and touch upon most aspects and dilemmas of life. Indeed, also, medical life. Incased in conspiracy, murder, and high treason Macbeth's wife falls ill, and Macbeth calls the doctor:

> Macbeth: How does your patient, doctor?
> Doctor: Not so sick, my lord, As she is troubled with thick-coming fancies That keep her from her rest.
> Macbeth: Cure her of that. Canst thou not minister to a mind diseased, Pluck from the memory a rooted sorrow, Raze out the written troubles of the brain And with some sweet oblivious antidote Cleanse the stuffed bosom of that perilous stuff, Which weighs upon the heart?
> Doctor: Therein the patient must minister to himself.[59]

In class, this is a stepping-stone to discussions on feelings of inadequacy and powerlessness, high demands from patients and their families and to which extent a physician should involve himself in the patient's illness.

The Plague by Nobel Prize winner Albert Camus tells the gruesome tale of a city infested by the plague. In the quarantined North African city of Oran, Dr Rieux fights a relentless struggle against sickness, hopelessness, and death.

> Yes, plague, like abstraction, was monotonous; perhaps only one factor changed, and that was Rieux himself. [...] After these wearing weeks [...] Rieux had learnt that he need no longer steel himself against pity. One grows out of pity when it's useless. And in this feeling that his heart had slowly closed in on itself, the doctor found a solace, his only solace, for the almost unendurable burden of his days. This, he knew, would make his task easier, and therefore he was glad of it.[60]

In class, this quote is used to discuss hardening of the heart, cynicism, and apathy, and the balance between caring too little and too much.

Uncertainty, Responsibility, and Overtreatment

I apply J.K. Rowling's *Harry Potter,* Hjalmar Söderberg's *Doctor Glas* and Samuel Shem's *The House of God.*

In *Harry Potter and the Order of the Phoenix*, Arthur Weasley is bitten by Voldemort's snake Nagini. A young wizard healer

with experimental tendencies uses "stitches" to patch Arthur up. This is not a traditional wizard technique. It is experimental and is scoffed at by Mrs. Weasley, who thinks it sounds like Arthur has tried to thread his skin together instead of using a wand: "But even you, Arthur, wouldn't be that stupid."[61] In class, we reflect on the fact that what we do today as physicians may not be appropriate tomorrow. There is an inherent uncertainty in all we do, an uncertainty we must accept and cope with. In class, we talk about lessons from history such as the Thalidomide babies, HIV in blood products, use of lobotomies in psychiatry, and the Thorotrast scandal.

In both *Doctor Glas*, published 1905, and in *The House of God* from 1979 there are accounts of the doctor being a killer, as a means to cure. *Doctor Glas* is written in diary form, and Doctor Glas—a general practitioner in Stockholm—divulges in ink what befalls his heart and mind about this and that. A diary note from the doctor:

> For I have seen so much … Cancer, lupus, blindness, paralysis … How many unfortunates have I not seen, whom I, without any hesitation, would have given one of these pills [sugared cyanide], had I not, as well as other good people, allowed mercy to step into the background of personal interests and the respect of the police. And obverse—how much useless and hopelessly festered material of man have I not, in the line of duty, helped to conserve—I have not even been ashamed to accept payment for it.[62]

This is used to discuss overtreatment, euthanasia, responsibility, when is treatment useless—and who decides this?

Conclusion—or Take Home Message

To sum up, there are research studies suggesting that teaching the medical humanities to medical students is advantageous in that it increases self-reflection, empathy, and in turn patient care. How to go about the teachings is not clear and barriers to the teachings are of significant concern. Therefore, a call for a practicable and accessible teaching method is evident.

In this perspective piece, I have presented a literature-fuelled approach to stimulate medical students' reflections and discussions on the works, complications, and dilemmas inherent in the life of a physician. By first providing a walk-through of the evidence as well as the psychological and philosophical background for the teachings, and then, by choosing literary excerpts showcasing student-relatable themes, I believe the described method of applying literature to medical education helps to hatch more reflected, sounder, and more empathetic doctors. To make the teachings systematic and feasible to medical students I have presented a schematic *Model of Empathetic Development by Literature,* explicating the path from reading a text to displaying an act of empathy.

I am planning to do a precourse/postcourse evaluation of the students' empathy using the interpersonal reactivity index.[63] However, as for now, this is but my perspective on things. As Bradbury would have said: feel free to beat me with sticks.

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Ethics

Not applicable.

Consent

Not applicable.

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REFERENCES

1. Paloniemi E, Mikkola I, Vatjus R, Jokelainen J, Timonen M, Hagnäs M. Measures of empathy and the capacity for self-reflection in dental and medical students. *BMC Med Educ*. 2021;21(1):114. DOI: 10.1186/s12909-021-02549-3.
2. Sulzer SH, Feinstein NW, Wendland CL. Assessing empathy development in medical education: a systematic review. *Med Educ*. 2016;50(3):300–310. DOI: 10.1111/medu.12806.
3. Mann K, Gordon J, MacLeod A. Reflection and reflective practice in health professions education: a systematic review. *Adv Health Sci Educ Theory Pract*. 2009;14(4):595-621. DOI: 10.1007/s10459-007-9090-2.
4. Derksen F, Bensing J, Lagro-Janssen A. Effectiveness of empathy in general practice: a systematic review. *Br J Gen Pract*. 2013;63(606):e76-e84. doi:10.3399/bjgp13X660814.
5. Flickinger TE, Saha S, Roter D, et al. Clinician empathy is associated with differences in patient-clinician communication behaviors and higher medication self-efficacy in HIV care. *Patient Educ Couns*. 2016;99(2):220-226. DOI: 10.1016/j.pec.2015.09.001.
6. Greenmyer JR, Montgomery M, Hosford C, et al. Guilt and burnout in medical students. *Teach Learn Med*. 2022;34(1):69-77. DOI: 10.1080/10401334.2021.1891544.
7. Wang Q, Wang L, Shi M, et al. Empathy, burnout, life satisfaction, correlations and associated socio-demographic factors among Chinese undergraduate medical students: an exploratory cross-sectional study. *BMC Med Educ*. 2019;19(1):341. DOI: 10.1186/s12909-019-1788-3.
8. Yuguero O, Ramon Marsal J, Esquerda M, Vivanco L, Soler-González J. Association between low empathy and high burnout among primary care physicians and nurses in Lleida, Spain. *Eur J Gen Pract*. 2017;23(1):4-10. DOI: 10.1080/13814788.2016.1233173.
9. Mamede S, Schmidt HG, Penaforte JC. Effects of reflective practice on the accuracy of medical diagnoses. *Med Educ*. 2008;42(5):468-475. DOI: 10.1111/j.1365-2923.2008.03030.x.
10. Mlinar Reljić N, Pajnkihar M, Fekonja Z. Self-reflection during first clinical practice: the experiences of nursing students. *Nurse Educ Today*. 2019;72:61-66. DOI: 10.1016/j.nedt.2018.10.019.
11. Aull F, New York University School of Medicine.
12. Wershof Schwartz A, Abramson JS, Wojnowich I, Accordino R, Ronan EJ, Rifkin MR. Evaluating the impact of the humanities in medical education. *Mt Sinai J Med*. 2009;76(4):372-380. DOI: 10.1002/msj.20126.
13. Litva A, Peters S. Exploring barriers to teaching behavioural and social sciences in medical education. *Med Educ*. 2008;42(3):309-314. DOI: 10.1111/j.1365-2923.2007.02951.x.

14. Carr JE, Emory EK, Errichetti A, Johnson SB, Reyes E. Integrating behavioral and social sciences in the medical school curriculum: opportunities and challenges for psychology. *J Clin Psychol Med Settings*. 2007;14(1):33-39.
15. Kollmer Horton ME. The orphan child: humanities in modern medical education. *Philos Ethics Humanit Med*. 2019;14(1):1. DOI: 10.1186/s13010-018-0067-y.
16. Lehmann LS, Kasoff WS, Koch P, Federman DD. A survey of medical ethics education at U.S. and Canadian medical schools. *Acad Med*. 2004;79(7):682-689. DOI: 10.1097/00001888-200407000-00015.
17. De Visser R. Psychology in medical curricula: "need to know" or "nice to know"? *The European Health Psychologist*. 2009;11:20-23.
18. Edwards EJ, Bannatyne AJ, Stark AC. Twelve tips for teaching brief motivational interviewing to medical students. *Med Teach*. 2018;40(3):231-236. DOI: 10.1080/0142159X.2017.1369503.
19. Filgona J, Sakiyo J, Gwany DM, Okoronka AU. Motivation in learning. *Asian J Educ Soc Stud*. 2020;10(4):16-37. https://doi.org/10.9734/AJESS/2020/v10i430273.
20. Rego A, Souto S, Cunha MP. Does the need to belong moderate the relationship between perceptions of spirit of camaraderie and employees' happiness? *J Occup Health Psychol*. 2009;14(2):148-164. DOI: 10.1037/a0014767.
21. Barbour EK, Smallwood SW, Hurt Y. Examining social activity, need to belong, and depression among college students. *J Am Coll Health*. 2021:1-9. DOI: 10.1080/07448481.2021.1967357.
22. Baumeister RF, Leary MR. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull*. 1995;117(3):497-529.
23. Armstrong PB. *How Literature Plays with the Brain – The Neuroscience of Reading and Art*. Baltimore, MD, USA: The Johns Hopkins University Press; 2013:171-172.
24. Allen K-A. *The Psychology of Belonging*. New York, NY, USA: Routledge; 2020.
25. Schmidt M. how reading fiction increases empathy and encourages understanding. Discover Magazine. Accessed July 4, 2023. https://www.discovermagazine.com/mind/how-reading-fiction-increases-empathy-and-encourages-understanding.
26. Sartre J-P. *Qu'est-ce que la littérature? [What Is Literature?]*. Paris, France: Gallimard; 1948.
27. Schopenhauer A. *The Essays of Arthur Schopenhauer, The Art of Literature*. Saunders BT, trans. Salt Lake City, UT, USA: Gutenberg Ebook; 2004. Accessed July 4, 2023. gutenberg.org/cache/epub/10714/pg10714.html.
28. Yngre Læger [Young Doctors]. KBU-undersøgelsen April 2022 [Basic Clinical Training Survey April 2022]. læger.dk, Yngre læger; 2022, p. 4.
29. Riess H. The science of empathy. *J Patient Exp*. 2017;4(2):74-77. DOI: 10.1177/2374373517699267.
30. Hobfoll SE. Conservation of resources. A new attempt at conceptualizing stress. *Am Psychol*. 1989;44(3):513-524. DOI: 10.1037//0003-066x.44.3.513. PMID: 7777651.
31. Krishna M, Jauhari A, Lepping P, Turner J, Crossley D, Krishnamoorthy A. Is group psychotherapy effective in older adults with depression? A systematic review. *Int J Geriatr Psychiatry*. 2011;26(4):331-340. DOI: 10.1002/gps.2546.
32. Armitage R. Bullying in children: impact on child health. *BMJ Paediatr Open*. 2021;5(1):e000939. DOI: 10.1136/bmjpo-2020-000939.
33. Rowe DJ. The "novel" approach: using fiction to increase empathy. *Virginia Libraries*. 2018;63(1).
34. Carr L, Iacoboni M, Dubeau MC, Mazziotta JC, Lenzi GL. Neural mechanisms of empathy in humans: a relay from neural systems for imitation to limbic areas. *Proc Natl Acad Sci USA* 2003;100(9):5497-5502. doi:10.1073/pnas.0935845100.
35. Kidd DC, Castano E. Reading literary fiction improves theory of mind. *Science (New York, NY)*. 2013;342(6156):377-380. doi:10.1126/science.1239918.
36. Mar RA, Oatley K, Hirsh JB, Paz DJ, Peterson JB. Bookworms versus nerds: exposure to fiction versus non-fiction, divergent associations with social ability, and the simulation of fictional social worlds. *J Res Pers*. 2006;40(5):694-712. DOI:10.1016/j.jrp.2005.08.002.
37. Aristotle. *Poetics*. SuperSummary.com.
38. Goethe JW. *Den unge Werthers lidelser*. Garff A, trans. Lademann Forlagsaktieselskab. p. 1.
39. Tikkanen S, Stiles WB, Leiman M. Achieving an empathic stance: dialogical sequence analysis of a change episode. *Psychother Res*. 2013;23(2):178-189. DOI: 10.1080/10503307.2012.752115.
40. Barrett-Lennard GT. The recovery of empathy–toward others and self. In: Bohart AC, Greenberg LS, eds. *Empathy Reconsidered: New Directions in Psychotherapy*. Washington DC, USA: American Psychological Association; 1997:103-121.
41. Jackson E. Internal empathy, cognitive labeling, and demonstrated empathy. *J Humanist Couns Educ Dev*. 1986;24(3):104-115.
42. Yamada Y, Fujimori M, Shirai Y, Ninomiya H, Oka T, Uchitomi Y. Changes in physicians' intrapersonal empathy after a communication skills training in Japan. *Acad Med*. 2018;93(12):1821-1826. DOI: 10.1097/ACM.0000000000002426.
43. Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM. Physician patient communication. The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*. 1997;277(7):553-559. DOI: 10.1001/jama.277.7.553.
44. Wilkinson H, Whittington R, Perry L, Eames C. Examining the relationship between burnout and empathy in healthcare professionals: a systematic review. *Burn Res*. 2017;6:18-29. DOI: 10.1016/j.burn.2017.06.003.
45. Newton BW, Barber L, Clardy J, Cleveland E, O'Sullivan P. Is there hardening of the heart during medical school? *Acad Med*. 2008;83(3):244-249. DOI: 10.1097/ACM.0b013e3181637837
46. Chen D, Lew R, Hershman W, Orlander J. A cross-sectional measurement of medical student empathy. *J Gen Intern Med*. 2007;22(10):1434-1438. DOI: 10.1007/s11606-007-0298-x.
47. Assing Hvidt E, Ulsø A, Thorngreen CV, Søndergaard J, Andersen CM. Weak inclusion of the medical humanities in medical education: a qualitative study among Danish medical students. *BMC Med Educ*. 2022;22(1):660. DOI: 10.1186/s12909-022-03723-x.
48. Fragkos KC, Crampton PES. The effectiveness of teaching clinical empathy to medical students: a systematic review and meta-analysis of randomized controlled trials. *Acad Med*. 2020;95(6):947-957. DOI: 10.1097/ACM.0000000000003058.
49. Teding van Berkhout E, Malouff JM. The efficacy of empathy training: a meta-analysis of randomized controlled trials. *J Couns Psychol*. 2016;63(1):32-41. DOI: 10.1037/cou0000093.
50. Kidd MG, Connor JT. Striving to do good things: teaching humanities in Canadian medical schools. *J Med Humanit*. 2008;29(1):45-54. DOI: 10.1007/s10912-007-9049-6.
51. Ziółkowska-Rudowicz E, Kładna A. Empathy-building of physicians. Part III. Students exposure to literature, theatre, film and the arts. *Polski Merkuriusz Lekarski: Organ Polskiego Towarzystwa Lekarskiego*. 2010;29(173):331-335.
52. Charon R. *Narrative Medicine – Honoring the Stories of Illness*. Oxford, England: Oxford University Press; 2008.
53. Roebotham T, Hawthornthwaite L, Lee L, Lingard LA. Beyond catharsis: the nuanced emotion of patient storytellers in an educational role. *Med Educ*. 2018;52(5):526-535. doi:10.1111/medu.13510.
54. Kagawa Y, Ishikawa H, Son D, et al. Using patient storytelling to improve medical students' empathy in Japan: a pre-post study. *BMC Med Educ*. 2023;23(1):67. DOI: 10.1186/s12909-023-04054-1.
55. Segal EA. *Social Empathy: The Art of Understanding Others*. New York, NY, USA: Columbia University Press; 2018.
56. Riley GJ. Understanding the stresses and strains of being a doctor. *Med J Aust*. 2004;181(7):350-353. DOI: 10.5694/j.1326-5377.2004.tb06322.x.
57. Moliére. *The Imaginary Invalid*. Laun H, trans. Garden City, NY, USA: Dover Thrift Editions/Dover Publications, INC.; 2004:39-40.
58. Bradbury R. *Fahrenheit 451*. New York, NY, USA: Del Rey Books; 1991:104.
59. Shakespeare W. *The Illustrated Stratford*. London, England: Chancellor Press; 1991 (Macbeth, p. 794).
60. Camus A. *The Plague*. Stuart Gilbert, trans. London, England: Hamish Hamilton; 1948:76-77.
61. Rowling JK. *Harry Potter and the Order of the Phoenix*. 5. London, England: Bloomsbury; 2014.
62. Söderberg H. *Doktor Glas*. Jørgen ÅH, trans. Copenhagen, Denmark: Gyldendals Tranebøger; 1964:61-62 [My own translation from Danish to English].
63. Davis M. Measuring individual differences in empathy: evidence for a multidimensional approach. *J Pers Soc Psychol*. 1983;44:113-126. Doi: 10.1037/0022-3514.44.1.113.